



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL MODIFICATION
COLUMBIANA COUNTY**

CERTIFIED MAIL

Street Address:

122 S. Front Street

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049

Application No: 02-18111

Fac ID: 0215090011

DATE: 11/30/2006

American Standard Inc
Jim Hobbs
605 South Ellsworth Ave
Salem, OH 44460

Enclosed Please find a modification to the Ohio EPA Permit To Install referenced above which will modify the terms and conditions.

You are hereby notified that this action of the Director is final 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 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

Sincerely,

Michael W. Ahern, Manager
Permit Issuance and Data Management Section
Division of Air Pollution Control

CC: USEPA

NEDO



Permit To Install
Terms and Conditions

Issue Date: 11/30/2006
Effective Date: 11/30/2006

FINAL ADMINISTRATIVE MODIFICATION OF PERMIT TO INSTALL 02-18111

Application Number: 02-18111
Facility ID: 0215090011
Permit Fee: **\$550**
Name of Facility: American Standard Inc
Person to Contact: Jim Hobbs
Address: 605 South Ellsworth Ave
Salem, OH 44460

Location of proposed air contaminant source(s) [emissions unit(s)]:
605 South Ellsworth Ave
Salem, Ohio

Description of proposed emissions unit(s):
Administrative modification to change the baghouse pressure drop ranges for four units.

The above named entity is hereby granted a modification to the permit to install described above pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this modification does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described source(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 included in the application, the above described source(s) of pollutants will be granted the necessary operating permits.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Part I - GENERAL TERMS AND CONDITIONS

A. Permit to Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- 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 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 appropriate Ohio EPA District Office or local air agency. 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.)

3. Records Retention Requirements

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.

4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon

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the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. 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, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

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 of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of 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 emissions unit(s) that is (are) served by such control system(s).

6. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

7. 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.

8. Termination of Permit to Install

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. 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.

9. Construction of New Sources(s)

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The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. 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 the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install 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.

10. 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.

11. Applicability

This Permit To Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

12. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

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13. Source Operation and Operating Permit Requirements After Completion of Construction

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the emissions unit(s) covered by this permit.

14. Construction Compliance Certification

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

15. 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 this Permit to Install.

B. Permit to Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

Pollutant Tons Per Year

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Particulate	16.27
OC	133.26
VOC	73.18
NOx	18.88
CO	15.84
SO2	0.10
Styrene	9.95
MEK	5.0
Total HAPs	15.0

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emission Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emission limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
K001 - Smallware Department Finish Coat Line vented to 2 dust collectors (ES-05 and ES-06). This operation includes a primary and auxiliary spray booth, drying oven, and curing furnace.	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07
	OAC rule 3745-17-11

OAC rule 3745-31-05(C)

Applicable Emission
Limitations/Control Measures

Emissions from this emissions unit shall not exceed the following limitations from process operations:

particulate emissions (PE) shall not exceed 0.47 pound per hour and 2.06 tons per year from dust collectors ES-05 and ES-06; and

visible particulate emissions shall not exceed 10% opacity as a six-minute average.

Emissions from the combustion of natural gas in the drying oven and curing furnace shall not exceed the following limitations:

PE shall not exceed 0.01 pound per hour and 0.05 ton per year;

organic compound (OC) emissions shall not exceed 0.06 pound per hour and 0.27 ton per year;

volatile organic compound (VOC) emissions shall not exceed 0.03 pound per hour and 0.14 ton per year;

nitrogen oxide (NOx) emissions shall not exceed 0.57 pound per hour and 2.50 tons per year;

carbon monoxide (CO) emissions shall not exceed 0.48 pound per hour and 2.10 tons per year; and

sulfur dioxide (SO₂) emissions shall not exceed 0.003 pound per hour and 0.01 ton per year.

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

See Sections A.2.a and A.2.b below.

2. Additional Terms and Conditions

2.a During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- i. 6.10 tons of VOC per month;
- ii. 0.83 ton of styrene per month;
- iii. 0.42 ton of methyl ethyl ketone (MEK) per month; and
- iv. 1.25 tons of total aggregate HAPs per month.

2.b After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- i. 73.18 tons of VOC;
- ii. 9.95 tons of styrene;
- iii. 5.0 tons of MEK; and
- iv. 15.0 tons of total aggregate HAPs.

B. Operational Restrictions

1. The permittee shall operate the dust collectors (ES-05 and ES-06) whenever this emissions unit is in operation.
2. The pressure drop across each of the dust collectors (ES-05 and ES-06) shall be maintained within the following ranges while the emissions unit is in operation:

ES-05: 2.2 to 5.5 inches of water

ES-06: 5.0 to 7.5 inches of water

3. The permittee shall burn only natural gas in the drying oven and curing furnace serving this emissions unit. The emissions from natural gas combustion are permitted at the potential usage of natural gas in all of the drying ovens contained in this permit.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain daily records that document any time periods when the dust collectors were not in service while the emissions unit was in operation.
2. The permittee shall properly operate and maintain equipment to monitor the pressure drop across each of the dust collectors (ES-05 and ES-06) while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each of the dust collectors on a daily basis.
3. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of the other fuel burned in this emissions unit.
4. At the end of each month the permittee shall collect, calculate, and record the rolling, 12-month VOC emissions from all of the VOC-containing (non-frit) coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, and cleanup materials applied in the emissions units contained in this permit, including emissions units: P010, P011, P012, P013, P014, P015, P016, R008, R012, R013, R014, R015, R018, R022, and R023. Two tons of VOC emissions shall be added to the rolling, 12-month emissions records, to represent the potential annual VOC emissions from the combustion of natural gas in the drying ovens, curing furnaces, and the thermal oxidizer, permitted in the following emissions units: K001, R005, R008, R009, R018, R019, R020, and R022.
5. At the end of each year the permittee shall collect and record the total tons of frit coatings applied in this emissions unit, to be used in the annual demonstration of compliance with the particulate emission limitation from overspray, by applying the annual tons of frit coating employed in the calculation of the estimated emissions contained in Section E.2.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify each day when the dust collectors were not in service while the emissions unit was in operation.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all

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periods of time during which the pressure drop across the dust collectors did not comply with the allowable range specified above.

3. The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. The reports shall include the type and quantity of fuel used.
4. During the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports which identify any month during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 6.10 tons of VOC per month;
 - b. 0.83 ton of styrene per month;
 - c. 0.42 ton of MEK per month; and
 - d. 1.25 tons of total aggregate HAPs per month.
5. After the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports which identify any rolling, 12-month period during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 73.18 tons of VOC;
 - b. 9.95 tons of styrene;
 - c. 5.0 tons of MEK; and
 - d. 15.0 tons of total aggregate HAPs.
6. All deviation reports shall be submitted quarterly as required in the General Terms and Conditions of this permit.
7. The permittee shall submit any calculated exceedance of the limitation(s) on particulate emissions from overspray from the frit and non-OC/VOC coatings applied in emissions units K001, R005, R009, R019, and R020, as determined in the annual calculation required in Section E.2 of this permit. This report shall be included in the 4th quarter

exceedance report if it is determined an exceedance has occurred.

E. Testing Requirements

1. Emission Limitation:
0.47 pound per hour of particulate emissions (total from dust collectors ES-05 and ES-06)

Applicable Compliance Method:

This limit represents the estimated controlled potential emissions of this emissions unit, calculated as follows:

$$(107 \text{ parts/hr}) \times (2.5 \text{ lbs coat/part}) \times (100\% - 30\% \text{TE}) \times (25\% \text{ to filter}^*) \times (100\% - 99\% \text{ control for ES-05 and ES-06}) = 0.47 \text{ lb/hr}$$

If required by the Ohio EPA, compliance with the allowable particulate emission limitation shall be determined in accordance with U.S. EPA Reference Methods 1 through 5 of 40 CFR Part 60, Appendix A.

* it is estimated that a minimum of 75% of the overspray is collected in the reclaim trough

2. Emission Limitation:
2.06 tons per year of particulate emissions (total from dust collectors ES-05 and ES-06)

Applicable Compliance Method:

The annual emission limitation is based on the allowable hourly emission rate (0.47 lb/hr) multiplied by the maximum possible operating hours (8,760 hrs/yr), and divided by 2,000 lbs/ton. In order to demonstrate compliance with the annual particulate emission limitation from frit coatings, the following calculation shall be performed at the end of each year:

$$PE = (FC \times 70\% \text{ overspray} \times 25\% \text{ to filter} \times 1\% \text{ lost from filter})$$

where:

PE = total estimated particulate emissions from overspray, in tons of PE per year
FC = total annual frit coating usage in this emissions unit, in tons per year

3. Emission Limitations, from natural gas combustion:

0.01 pound per hour of particulate emissions;
0.06 pound per hour of OC emissions;
0.03 pound per hour of VOC emissions;
0.57 pound per hour of NO_x emissions;
0.48 pound per hour of CO emissions; and
0.003 pound per hour of SO₂ emissions.

Applicable Compliance Method:

Compliance with the hourly emission limitations from natural gas combustion may be demonstrated by multiplying the appropriate AP-42 emission factors from "Compilation of Air Pollutant Emission Factors", Tables 1.4-1 and 1.4-2 (7/98) for natural gas, by the maximum hourly natural gas usage rate of the drying oven and curing furnace. If required, the permittee shall demonstrate compliance with the hourly emission limitations in accordance with the appropriate U.S. EPA test methods specified in 40 CFR Part 60, Appendix A.

4. Emission Limitations, from natural gas combustion:

0.05 ton per year of particulate emissions;
0.27 ton per year of OC emissions;
0.14 ton per year of VOC emissions;
2.50 tons per year of NO_x emissions;
2.10 tons per year of CO emissions; and
0.01 ton per year of SO₂ emissions.

Applicable Compliance Method:

The annual emission limitations are based on the allowable hourly emission rates multiplied by the maximum possible operating hours (8,760 hrs/yr), and divided by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitations, compliance will also be shown for the annual emission limitations.

5. Emission Limitation:

10% opacity, as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A, using the methods and procedures specified in OAC rule 3745-17-03(B)(1) or other U.S. EPA approved test method with prior approval from the Ohio EPA.

6. Emission Limitations:

During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following

emission limitations:

- a. 6.10 tons of VOC per month;
- b. 0.83 ton of styrene per month;
- c. 0.42 ton of MEK per month; and
- d. 1.25 tons of total aggregate HAPs per month.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

7. Emission Limitations:

After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- a. 73.18 tons of VOC;
- b. 9.95 tons of styrene;
- c. 5.0 tons of MEK; and
- d. 15.0 tons of total aggregate HAPs.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

F. Miscellaneous Requirements

The requirements of this Permit to Install (02-18111) shall supersede the requirements for this emissions unit contained in Permit to Install number 17-1263 issued on December 20, 1995. The following terms and conditions are federally enforceable requirements: A, B, C, D, E, and F.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emission Limitations and/or Control Requirements

- The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emission limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emission Limitations/Control Measures</u>
P010 - Acrylics Whirlpool Assembly Operation	OAC rule 3745-31-05(A)(3)	Emissions from this emissions unit shall not exceed the following limitations: organic compound (OC) emissions shall not exceed 25.5 pounds per hour and 82.1 tons per year; volatile organic compound (VOC) emissions shall not exceed 17.4 pounds per hour and 55.8 tons per rolling, 12-month period; and methyl ethyl ketone (MEK) emissions shall not exceed 1.52 pounds per hour and 4.86 tons per rolling, 12-month period.
	OAC rule 3745-21-07(G)	See Section A.2.a below.
	OAC rule 3745-31-05(C)	See Sections A.2.b and A.2.c below.

2. Additional Terms and Conditions

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PTI A

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Emissions Unit ID: **P010**

- 2.a** This emissions unit shall not employ photochemically reactive materials as defined in OAC rule 3745-21-01(C)(5).

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- 2.b** During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:
- i. 6.10 tons of VOC per month;
 - ii. 0.83 ton of styrene per month;
 - iii. 0.42 ton of methyl ethyl ketone (MEK) per month; and
 - iv. 1.25 tons of total aggregate HAPs per month.
- 2.c** After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:
- i. 73.18 tons of VOC;
 - ii. 9.95 tons of styrene;
 - iii. 5.0 tons of MEK; and
 - iv. 15.0 tons of total aggregate HAPs.

B. Operational Restrictions

None.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information on a daily basis for each material employed in this emissions unit:
 - a. the company identification for each adhesive, sealer, and cleanup material employed;

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- b. the number of gallons and density or pounds of each adhesive employed;
- c. the number of gallons or pounds of each sealer employed;
- d. the number of gallons or pounds of each cleanup material employed;
- e. the OC and VOC content of each adhesive employed, in pounds per gallon, grams per liter, or in weight percent;
- f. the MEK content of each adhesive employed, in pounds per gallon or in weight percent;
- g. the OC and VOC content of each sealer employed, in pounds per gallon, grams per liter, or in weight percent;
- h. the OC and VOC content of each cleanup material employed, in pounds per gallon, grams per liter, or in weight percent;
- i. the daily OC and VOC emissions from all adhesives employed, in (or converted to) pounds per day, i.e., the sum of "b" x "e" for each adhesive applied;
- j. the daily MEK emissions from all adhesives employed containing MEK, in pounds per day, i.e., the sum of "b" x "f" for each adhesive applied;
- k. the daily OC and VOC emissions from all sealers employed, in (or converted to) pounds per day, i.e., the sum of "c" x "g" for each sealer applied;
- l. the daily OC and VOC emissions from all cleanup materials employed prior to any credit for recovered cleanup materials, in (or converted to) pounds per day, i.e., the sum of "d" x "h" for each cleanup material applied;
- m. the daily OC and VOC emissions from all cleanup materials following the credit* for recovered cleanup materials, in (or converted to) pounds per day, calculated by subtracting the daily average VOC and/or OC credit(s) for recovered cleanup materials, as calculated in C.2.k below, from the total emissions calculated from the daily usage of cleanup material in "C.1.l" above, and also documented from the product of "C.1.l" x "C.2.j";
- n. the total number of hours the emissions unit was in operation, i.e., hours/day;

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Emissions Unit ID: P010

- o. the average hourly OC and VOC emission rates for all materials employed in this emissions unit, in pounds per hour, i.e., $(\text{"i"} + \text{"k"} + \text{"m"})/\text{"n"}$ for both pollutants; and
- p. the average hourly MEK emission rate for all adhesives employed in this emissions unit, in pounds per hour, i.e., $\text{"j"}/\text{"n"}$.

* The daily credit for recovered cleanup material, applied to the emissions in "C.1.m" and recorded in "C.2.k", shall be calculated from the last drum shipped containing cleanup material recovered from this emissions unit.

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2. If a credit for recovered cleanup material is used in the calculation of the monthly and/or the rolling, 12-month emissions from this emissions unit or if a recovery credit is used as a factor in daily emission calculations, the permittee shall maintain the following records for the recovered cleanup material and a log for the recovery drum(s)/tank(s) (recovery vessel(s)). The recovery log shall contain the identification number for each recovery vessel, the material it contains (i.e., acetone), the dates of the first and last addition of recovered cleanup material, the emissions units from which the cleanup material was recovered (emissions units P010, P016, R008, and/or R022) or emissions unit P010 if not sharing recovery with other emissions units, the weight of the recovered material at shipment (including and excluding the weight of the recovery vessel), and the date the vessel was shipped off-site. Each recovery vessel shall be marked or labeled with the identification number documented in the log. The following information shall be recorded, calculated, and maintained for this emissions unit if an emissions credit is to be used for recovered cleanup materials:
 - a. the date cleanup material is first added to each recovery vessel and the recovery vessel's identification number/code;
 - b. the date of the last day cleanup material is added to each recovery vessel before it is shipped (referenced with its identification number/code);
 - c. the date each recovery vessel (referenced with its identification number/code) is shipped off site;
 - d. the number days the recovery vessel (referenced with its identification number/code) accumulated cleanup material, determined from "a" and "b" above;
 - e. the number of gallons or liters and weight* of the cleanup materials contained in each recovery vessel (referenced with its identification number/code) when it is shipped off site;
 - f. the OC and VOC content of the recovered cleanup material, as determined from the most recent lab test results from a representative sample of the recovered material; and until such test results are received, the minimum OC and VOC** content of the cleanup material collected, in pounds per gallon, grams per liter, or percent by weight;
 - g. the total emissions credit for each recovery vessel shipped during the month (referenced with its identification number/code), in pounds of OC and/or VOC

- per recovery vessel, i.e. "e" x "f";
- h. the number of gallons or weight of the cleanup material applied in emissions unit P010, between the date each recovery vessel was first used ("a") to the date cleanup material was last added prior to shipment ("b"), i.e., the sum of the usage as recorded in C.1.d for each such day;
 - i. if sharing a recovery vessel, the total number of gallons or total weight of the cleanup material applied in emissions unit P010 plus the same solvent's use in the emissions unit(s) sharing the recovery vessel and credit, between the date each recovery vessel was first used ("a") to the date cleanup material was last added prior to shipment ("b"), i.e., the sum of the daily cleanup material usage between and including these dates for the individual emissions units sharing the recovery vessel, from each individual emissions unit's records for solvent/cleanup usage in Sections C.1 or C.3 in emissions units R008 and R022;
 - j. the percent of the cleanup material lost and not recovered (% of each, if more than one solvent is applied and recovered), calculated for each recovery vessel shipped (referenced with its identification number/code), calculated as the difference between the total usage of the cleanup material applied in the emissions units sharing the recovery vessel ("i"), or if the vessel is not shared, the total usage applied in emissions unit P010 alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, minus the total recovered cleanup material in the recovery vessel at shipment ("e"), divided by the total usage of the cleanup material applied in the emissions units sharing the recovery vessel ("i") or applied in emissions unit P010 alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, i.e., $[(i - e) / i]$ or $[(h - e) / h]$;
 - k. the daily average OC and/or VOC credit for cleanup material recovered from emissions unit P010, calculated based on each recovery vessel shipped:
 - i. calculated for emissions unit P010 alone (if the recovery vessel contains only cleanup material recovered from emissions unit P010) by dividing the total VOC and/or OC recovery credit by the number of days it took to fill the vessel, i.e., "g"/"d"; or
 - ii. if sharing a recovery vessel, the calculated portion of the emissions credit, calculated in "g", to be credited to the daily average emissions from emissions unit P010 in pounds, i.e., "g"/"d" times the cleanup material

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usage in emissions unit P010 (recorded in "h") divided by the cleanup material usage in all the emissions units sharing the recovery vessel and credit (recorded in "i"), i.e., ("g"/"d") x ("h"/"i"); and

- I. the total VOC and/or OC credit for all recovery vessels shipped during the month and containing cleanup materials applied in this emissions unit (sum of all recovery vessels shipped between first and last day of the month, as recorded in "g") (referenced with its identification number/code); and if sharing the vessel with other emissions units, the portion of the emissions calculated in "g" above to be credited to the monthly emissions from emissions unit P010, in pounds or tons/month,

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calculated as "g" times the monthly cleanup material usage in emissions unit P010 (recorded in "h") divided by the cleanup material usage in all the emissions units sharing the credit ("i"), i.e., ("g") x ("h"/"i").

The permittee shall take a representative sample of the first full drum of recovered cleanup material collected following the issuance of this permit, which shall be tested at an outside laboratory for the OC and VOC content. A representative sample of the recovered cleanup material shall be re-tested once every five years and following any change in the adhesives and/or cleanup materials applied, using a representative sample from the first full drum following the change. Solvent soaked rags may not be included in any recovery credit to emissions.

* The weight and gallons of recovered cleanup material, to be applied in calculations of emissions, shall be recorded at the time it is shipped off-site and shall not include the weight of the recovery vessel, which shall remain closed/sealed at all times except during material additions and/or preparation for off-site recovery or disposal.

** Until testing results documenting a higher OC and VOC content are received, the lowest OC and VOC content of the range provided by the manufacturer of the cleanup material shall be used in calculating the credit for the recovered materials.

3. The permittee shall collect and record the following information, including the calculations, on a monthly basis for this emissions unit:
 - a. the monthly total OC and VOC emissions, calculated as the sum of emissions from all adhesives (sum of C.1.i), sealers (sum of C.1.k), and cleanup materials (sum of C.1.l) employed in this emissions unit during the month, and subtracting the credit to these emissions for recovered cleanup material shipped during the month, i.e., the total OC and VOC emissions minus the total emissions credit, recorded in C.2.l above, for all recovery vessels shipped during the month; and
 - b. the monthly total MEK emissions from all adhesives employed in this emissions unit, i.e., the sum of the daily emissions from C.1.j.

4. At the end of each month the permittee shall collect, calculate, and record the following rolling, 12-month emissions:
 - a. the rolling, 12-month VOC emissions from all of the VOC-containing (non-frit) coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, and cleanup materials applied in the emissions units

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contained in this permit, including emissions units: P010, P011, P012, P013, P014, P015, P016, R008, R012, R013, R014, R015, R018, R022, and R023; and two tons of VOC emissions shall be added to the rolling, 12-month emissions records, to represent the potential annual VOC emissions from the combustion of natural gas in the drying ovens, curing furnaces, and the thermal oxidizer, permitted in the following emissions units: K001, R005, R008, R009, R018, R019, R020, and R022;

- b. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - c. the rolling, 12-month styrene emissions from emissions units R008 and R022; and
 - d. the rolling, 12-month total combined HAP emissions, based upon a summation of the following:
 - i. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - ii. the rolling, 12-month styrene emissions from emissions units R008 and R022;
 - iii. the rolling, 12-month emissions of MDI from emissions units R012, R013, R014, R015, R018, and R023; and
 - iv. any other HAP(s) documented in the product data for coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, cleanup materials, or other process materials employed, and calculated as the emissions for a rolling, 12-month period.
5. The permittee shall keep the following records on all materials employed in this emissions unit:
- a. the identification of the chemical compound and its physical state; and
 - b. for any liquid organic materials, whether or not the material is a photochemically reactive material, as defined in OAC rule 3745-21-01(C)(5).

D. Reporting Requirements

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1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:
 - a. an identification of each day during which the average OC emissions from the emissions unit exceeded 25.5 pounds per hour and the actual average hourly OC emissions for each such day;
 - b. an identification of each day during which the average VOC emissions from the emissions unit exceeded 17.4 pound per hour and the actual average hourly VOC emissions;
 - c. an identification of each day during which the average MEK emissions from the emissions unit exceeded 1.52 pounds per hour and the actual average hourly MEK emissions;
 - d. an identification of each day during which a photochemically reactive material was employed in this emissions unit and the actual OC emissions for each such day;
 - e. an identification of each month during which the rolling, 12-month MEK emissions from this emissions unit exceeded 4.86 tons; and
 - f. an identification of each month during which the rolling, 12-month VOC emissions from this emissions unit exceeded 55.8 tons.
2. During the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any month during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 6.10 tons of VOC per month;
 - b. 0.83 ton of styrene per month;
 - c. 0.42 ton of MEK per month; and
 - d. 1.25 tons of total aggregate HAPs per month.
3. After the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any rolling, 12-month period during

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which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:

- a. 73.18 tons of VOC;
 - b. 9.95 tons of styrene;
 - c. 5.0 tons of MEK; and
 - d. 15.0 tons of total aggregate HAPs.
4. All deviation reports shall be submitted quarterly as required in the General Terms and Conditions of this permit.
 5. The permittee shall also submit annual reports that specify the total volatile organic compound emissions from this emissions unit for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

E. Testing Requirements

1. Emission Limitations:
25.5 pounds per hour (daily average) and 82.1 tons per year of OC emissions

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.1.

2. Emission Limitations:
17.4 pounds per hour (daily average) of VOC emissions

Applicable Compliance Method:

Compliance may be demonstrated through the record keeping requirements specified in Section C.1. If required, the permittee shall conduct, or have conducted, emission testing for this emissions unit (P010) using Methods 1 through 4 and Method 18, 25, or 25A (as appropriate) of 40 CFR Part 60, Appendix A.

3. Emission Limitations:
55.8 tons per rolling, 12-month period of VOC emissions

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.1.

4. Emission Limitations:
1.52 pounds per hour (daily average) and 4.86 tons per rolling, 12-month period of MEK emissions

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.1.

5. Emission Limitations:
During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

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- a. 6.10 tons of VOC per month;
- b. 0.83 ton of styrene per month;
- c. 0.42 ton of MEK per month; and
- d. 1.25 tons of total aggregate HAPs per month.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

6. Emission Limitations:

After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- a. 73.18 tons of VOC;
- b. 9.95 tons of styrene;
- c. 5.0 tons of MEK; and
- d. 15.0 tons of total aggregate HAPs.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

7. Emission Limitations:

1.25 tons of total aggregate HAPs for the first 12 months and 15.0 tons of total aggregate HAPs per rolling, 12-months for emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023 combined.

Applicable Compliance Method:

The HAP emissions, MEK, from the adhesive(s) applied in this emissions unit shall be

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calculated monthly per Section C.3, using the daily records for total adhesive usage and the MEK content of the adhesive.

F. Miscellaneous Requirements

The requirements of this Permit to Install (02-18111) shall supersede the requirements for this emissions unit contained in Permit to Install number 17-1552 issued on July 2, 1997. The following terms and conditions are federally enforceable requirements: A, C, D, E, and F.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emission Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emission limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emission Limitations/Control Measures</u>
P011 - Smallware Finishing Station 1. This operation uses cleaning solvent rags for wipe cleaning of parts.	OAC rule 3745-31-05(A)(3)	Emissions from this emissions unit shall not exceed the following limitations: organic compound (OC) emissions shall not exceed 1.23 pounds per hour and 1.79 tons per year; and volatile organic compound (VOC) emissions shall not exceed 0.49 pound per hour and 0.72 ton per rolling, 12-month period.
	OAC rule 3745-21-07(G)	See Section A.2.a below.
	OAC rule 3745-31-05(C)	See Sections A.2.b and A.2.c below.

2. Additional Terms and Conditions

- 2.a This emissions unit shall not employ photochemically reactive materials as defined in OAC rule 3745-21-01(C)(5).
- 2.b During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008,

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R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- i. 6.10 tons of VOC per month;
- ii. 0.83 ton of styrene per month;
- iii. 0.42 ton of methyl ethyl ketone (MEK) per month; and
- iv. 1.25 tons of total aggregate HAPs per month.

2.c After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- i. 73.18 tons of VOC;
- ii. 9.95 tons of styrene;
- iii. 5.0 tons of MEK; and
- iv. 15.0 tons of total aggregate HAPs.

B. Operational Restrictions

None.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information on a daily basis for each material employed in this emissions unit:
 - a. the company identification for each cleaning solvent employed;
 - b. the number of gallons or pounds of each cleaning solvent employed;
 - c. the OC and VOC content of each cleaning solvent employed, in pounds per gallon or in weight percent;

- d. the daily OC and VOC emissions from all cleaning solvent(s) employed prior to any credit for recovered cleanup material, in pounds per day, i.e., the sum of "b" x "c" for each cleaning solvent applied;
- e. the daily OC and VOC emissions from all cleaning solvent(s) following the credit* for recovered cleaning solvent(s), in pounds per day, calculated by subtracting the daily average VOC and OC credits for recovered cleaning solvent(s), as calculated in C.2.k below, from the total emissions calculated from the daily usage of cleaning solvents in "C.1.d" above, and also documented from the product of "C.1.d" x "C.2.j";
- f. the total number of hours the emissions unit was in operation, i.e., hours/day; and
- g. the average hourly OC and VOC emission rates for all cleaning solvent(s) employed in this emissions unit, in pounds per hour, i.e., "e"/"f" for both pollutants.

* The daily credit for recovered cleanup material, applied to the emissions in "C.1.e" and recorded in "C.2.k", shall be calculated from the last drum shipped containing cleaning solvent recovered from this emissions unit.

2. If a credit for recovered cleaning solvent is used in the calculation of the monthly and/or the rolling, 12-month emissions from this emissions unit or if a recovery credit is used as a factor in daily emission calculations, the permittee shall maintain the following records for the recovered cleaning solvent and a log for the recovery drum(s)/tank(s) (recovery vessel(s)). The recovery log shall contain the identification number for each recovery vessel, the material it contains (i.e., Saf T Kleen), the dates of the first and last addition of recovered cleaning solvent, the emissions units from which the cleaning solvent was recovered (emissions units P011, P012, P013, and/or P015) or emissions unit P011 if not sharing recovery with other emissions units, the weight of the recovered cleaning solvent at shipment (including and excluding the weight of the recovery vessel), and the date the vessel was shipped off-site. Each recovery vessel shall be marked or labeled with the identification number documented in the log. The following information shall be recorded, calculated, and maintained for this emissions unit if an emissions credit is to be used for recovered cleaning solvent:
 - a. the date cleaning solvent is first added to each recovery vessel and the recovery vessel's identification number/code;

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- b. the date of the last day cleaning solvent is added to each recovery vessel before it is shipped (referenced with its identification number/code);
- c. the date each recovery vessel (referenced with its identification number/code) is shipped off site;
- d. the number days the recovery vessel (referenced with its identification number/code) accumulated cleaning solvent, determined from "a" and "b" above;
- e. the number of gallons and weight* of the cleaning solvent contained in each recovery vessel (referenced with its identification number/code) when it is shipped off site;
- f. the OC and VOC content of the recovered cleaning solvent, as determined from the most recent lab test results from a representative sample of the recovered solvent; and until such test results are received, the minimum OC and VOC** content of the cleaning solvent collected, in pounds per gallon or percent by weight;

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- g. the total emissions credit for each recovery vessel shipped during the month (referenced with its identification number/code), in pounds of OC and/or VOC per recovery vessel, i.e. "e" x "f";
- h. the number of gallons or weight of each cleaning solvent applied in emissions unit P011, between the date each recovery vessel was first used ("a") to the date cleaning solvent was last added prior to shipment ("b"), i.e., the sum of the usage as recorded in C.1.b for each such day;
- i. if sharing a recovery vessel, the total number of gallons or total weight of the cleaning solvent applied in emissions unit P011 plus the same solvent's use in the emissions unit(s) sharing the recovery vessel and credit, between the date each recovery vessel was first used ("a") to the date cleaning solvent was last added prior to shipment ("b"), i.e., the sum of the daily cleaning solvent usage between and including these dates for the individual emissions units sharing the recovery vessel, from each individual emissions unit's (that could possibly be sharing the recovery vessel) term for solvent/cleanup usage in Sections C.1;
- j. the percent of the cleaning solvent lost and not recovered (% of each if more than one solvent is applied and recovered), calculated for each recovery vessel shipped (referenced with its identification number/code), calculated as the difference between the total usage of the cleaning solvent applied in the emissions units sharing the recovery vessel ("i"), or if the vessel is not shared, the total usage applied in emissions unit P011 alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, minus the total recovered cleaning solvent in the recovery vessel at shipment ("e"), divided by the total usage of the cleaning solvent applied in the emissions units sharing the recovery vessel ("i") or applied in emissions unit P011 alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, i.e., $[(i - e) / i]$ or $[(h - e) / h]$;
- k. the daily average OC and/or VOC credit for cleaning solvent recovered from emissions unit P011, calculated based on each recovery vessel shipped:
 - i. calculated for emissions unit P011 alone (if the recovery vessel contains only solvent recovered from emissions unit P011) by dividing the total VOC and/or OC recovery credit by the number of days it took to fill the vessel, i.e., "g"/"d"; or
 - ii. if sharing a recovery vessel, the calculated portion of the emissions credit,

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calculated in "g", to be credited to the daily average emissions from emissions unit P011 in pounds, i.e., "g"/"d" times the cleaning solvent usage in emissions unit P011 (recorded in "h") divided by the cleaning solvent usage in all the emissions units sharing the recovery vessel and credit (recorded in "i"), i.e., ("g"/"d") x ("h"/"i"); and

- I. the total VOC and/or OC credit for all recovery vessels shipped during the month and containing cleaning solvent applied in this emissions unit (sum of all recovery vessels shipped between first and last day of the month, as recorded in "g") (referenced with its identification number/code); and if sharing the vessel with other emissions units, the portion of the emissions calculated in "g" above to be credited to the monthly emissions from emissions unit P011, in pounds or tons/month, calculated as "g" times the monthly cleaning solvent usage in emissions unit P011 (recorded in "h") divided by the cleaning solvent usage in all the emissions units sharing the credit ("i"), i.e., ("g") x ("h"/"i").

The permittee shall take a representative sample of the first full drum of recovered cleaning solvent collected following the issuance of this permit, which shall be tested at an outside laboratory for the OC and VOC content. A representative sample of the recovered cleaning solvent shall be re-tested once every five years and following any change in the cleaning solvent(s) applied, using a representative sample from the first full drum following the change. Solvent soaked rags may not be included in any recovery credit to emissions.

* The weight and gallons of recovered cleaning solvent, to be applied in calculations of emissions, shall be recorded at the time it is shipped off-site, and shall not include the weight of the recovery vessel, which shall remain closed/sealed at all times except during material additions and/or preparation for off-site recovery or disposal.

** Until testing results documenting a higher OC and VOC content are received, the lowest OC and VOC content of the range provided by the manufacturer of the cleaning solvent shall be used in calculating the credit for the recovered materials.

3. At the end of each month the permittee shall collect and record (including the calculations) the monthly total OC and VOC emissions, calculated as the sum of emissions from all cleanup solvents (sum of C.1.d) employed in this emissions unit during the month, and subtracting the credit to these emissions for recovered cleaning solvent shipped during the month, i.e., the total OC and VOC emissions minus the total emissions credit, recorded in C.2.I above, for all recovery vessels shipped during the month.

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4. At the end of each month the permittee shall collect, calculate, and record the following rolling, 12-month emissions:
 - a. the rolling, 12-month VOC emissions from all of the VOC-containing (non-frit) coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, and cleanup materials applied in the emissions units contained in this permit, including emissions units: P010, P011, P012, P013, P014, P015, P016, R008, R012, R013, R014, R015, R018, R022, and R023; and two tons of VOC emissions shall be added to the rolling, 12-month emissions records, to represent the potential annual VOC emissions from the combustion of natural gas in the drying ovens, curing furnaces, and the thermal oxidizer, permitted in the following emissions units: K001, R005, R008, R009, R018, R019, R020, and R022;
 - b. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - c. the rolling, 12-month styrene emissions from emissions units R008 and R022; and
 - d. the rolling, 12-month total combined HAP emissions, based upon a summation of the following:
 - i. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - ii. the rolling, 12-month styrene emissions from emissions units R008 and R022;
 - iii. the rolling, 12-month emissions of MDI from emissions units R012, R013, R014, R015, R018, and R023; and
 - iv. any other HAP(s) documented in the product data for coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, cleanup materials, or other process materials employed, and calculated as the emissions for a rolling, 12-month period.
5. The permittee shall keep the following records on all materials employed in this emissions unit:

- a. the identification of the chemical compound and its physical state; and
- b. for any liquid organic materials, whether or not the material is a photochemically reactive material, as defined in OAC rule 3745-21-01(C)(5).

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:
 - a. an identification of each day during which the average OC emissions from the emissions unit exceeded 1.23 pounds per hour and the actual hourly OC emissions for each such day;
 - b. an identification of each day during which the average VOC emissions from the emissions unit exceeded 0.49 pound per hour and the actual average hourly VOC emissions;
 - c. an identification of each day during which a photochemically reactive material was employed in this emissions unit and the actual OC emissions for each such day; and
 - d. an identification of each month during which the rolling, 12-month VOC emissions from this emissions unit exceeded 0.72 ton.
2. During the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any month during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 6.10 tons of VOC per month;
 - b. 0.83 ton of styrene per month;
 - c. 0.42 ton of MEK per month; and
 - d. 1.25 tons of total aggregate HAPs per month.
3. After the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any rolling, 12-month period during which the sum of the emissions from all 20 emissions units contained in this permit

exceed any of the following limitations:

- a. 73.18 tons of VOC;
 - b. 9.95 tons of styrene;
 - c. 5.0 tons of MEK; and
 - d. 15.0 tons of total aggregate HAPs.
4. All deviation reports shall be submitted quarterly as required in the General Terms and Conditions of this permit.
 5. The permittee shall also submit annual reports that specify the total volatile organic compound emissions from this emissions unit for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

E. Testing Requirements

1. Emission Limitations:
1.23 pounds per hour (daily average) of OC emissions and 1.79 tons per year.

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Section C.1.
2. Emission Limitations:
0.49 pound per hour (daily average) of VOC emissions and 0.72 ton per rolling, 12-month period.

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Section C.1.
3. Emission Limitations:
During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012,

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R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- a. 6.10 tons of VOC per month;
- b. 0.83 ton of styrene per month;
- c. 0.42 ton of MEK per month; and
- d. 1.25 tons of total aggregate HAPs per month.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

4. Emission Limitations:

After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- a. 73.18 tons of VOC;
- b. 9.95 tons of styrene;
- c. 5.0 tons of MEK; and
- d. 15.0 tons of total aggregate HAPs.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

F. Miscellaneous Requirements

The following terms and conditions are federally enforceable requirements: A, C, D, E, and F.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emission Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emission limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emission Limitations/Control Measures</u>
P012 - Smallware Finishing Station 2. This operation uses cleaning solvent rags for wipe cleaning of parts.	OAC rule 3745-31-05(A)(3)	Emissions from this emissions unit shall not exceed the following limitations: organic compound (OC) emissions shall not exceed 1.23 pounds per hour and 1.79 tons per year; and volatile organic compound (VOC) emissions shall not exceed 0.49 pound per hour and 0.72 ton per rolling, 12-month period.
	OAC rule 3745-21-07(G)	See Section A.2.a below.
	OAC rule 3745-31-05(C)	See Sections A.2.b and A.2.c below.

2. Additional Terms and Conditions

- 2.a This emissions unit shall not employ photochemically reactive materials as defined in OAC rule 3745-21-01(1)(5).
- 2.b During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008,

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R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- i. 6.10 tons of VOC per month;
- ii. 0.83 ton of styrene per month;
- iii. 0.42 ton of methyl ethyl ketone (MEK) per month; and
- iv. 1.25 tons of total aggregate HAPs per month.

2.c After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- i. 73.18 tons of VOC;
- ii. 9.95 tons of styrene;
- iii. 5.0 tons of MEK; and
- iv. 15.0 tons of total aggregate HAPs.

B. Operational Restrictions

None.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information on a daily basis for each material employed in this emissions unit:
 - a. the company identification for each cleaning solvent employed;
 - b. the number of gallons or pounds of each cleaning solvent employed;
 - c. the OC and VOC content of each cleaning solvent employed, in pounds per gallon or in weight percent;

- d. the daily OC and VOC emissions from all cleaning solvent(s) employed prior to any credit for recovered cleanup material, in pounds per day, i.e., the sum of "b" x "c" for each cleaning solvent applied;
- e. the daily OC and VOC emissions from all cleaning solvent(s) following the credit* for recovered cleaning solvent(s), in pounds per day, calculated by subtracting the daily average VOC and OC credits for recovered cleaning solvent(s), as calculated in C.2.k below, from the total emissions calculated from the daily usage of cleaning solvents in "C.1.d" above, and also documented from the product of "C.1.d" x "C.2.j";
- f. the total number of hours the emissions unit was in operation, i.e., hours/day; and
- g. the average hourly OC and VOC emission rates for all cleaning solvent(s) employed in this emissions unit, in pounds per hour, i.e., "e"/"f" for both pollutants.

* The daily credit for recovered cleanup material, applied to the emissions in "C.1.e" and recorded in "C.2.k", shall be calculated from the last drum shipped containing cleaning solvent recovered from this emissions unit.

2. If a credit for recovered cleaning solvent is used in the calculation of the monthly and/or the rolling, 12-month emissions from this emissions unit or if a recovery credit is used as a factor in daily emission calculations, the permittee shall maintain the following records for the recovered cleaning solvent and a log for the recovery drum(s)/tank(s) (recovery vessel(s)). The recovery log shall contain the identification number for each recovery vessel, the cleaning solvent it contains (i.e., Saf T Kleen), the dates of the first and last addition of recovered cleaning solvent, the emissions units from which the cleaning solvent was recovered (emissions units P011, P012, P013, and/or P015) or emissions unit P012 if not sharing recovery with other emissions units, the weight of the recovered cleaning solvent at shipment (including and excluding the weight of the recovery vessel), and the date the vessel was shipped off-site. Each recovery vessel shall be marked or labeled with the identification number documented in the log. The following information shall be recorded, calculated, and maintained for this emissions unit if an emissions credit is to be used for recovered cleaning solvent:
 - a. the date cleaning solvent is first added to each recovery vessel and the recovery vessel's identification number/code;

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- b. the date of the last day cleaning solvent is added to each recovery vessel before it is shipped (referenced with its identification number/code);
- c. the date each recovery vessel (referenced with its identification number/code) is shipped off site;
- d. the number days the recovery vessel (referenced with its identification number/code) accumulated cleaning solvent, determined from "a" and "b" above;
- e. the number of gallons and weight* of the cleaning solvent contained in each recovery vessel (referenced with its identification number/code) when it is shipped off site;
- f. the OC and VOC content of the recovered cleaning solvent, as determined from the most recent lab test results from a representative sample of the recovered solvent; and until such test results are received, the minimum OC and VOC** content of the cleaning solvent collected, in pounds per gallon or percent by weight;
- g. the total emissions credit for each recovery vessel shipped during the month (referenced with its identification number/code), in pounds of OC and/or VOC per recovery vessel, i.e. "e" x "f";
- h. the number of gallons or weight of each cleaning solvent applied in emissions unit P012, between the date each recovery vessel was first used ("a") to the date cleaning solvent was last added prior to shipment ("b"), i.e., the sum of the usage as recorded in C.1.b for each such day;
- i. if sharing a recovery vessel, the total number of gallons or total weight of the cleaning solvent applied in emissions unit P012 plus the same solvent's use in the emissions unit(s) sharing the recovery vessel and credit, between the date each recovery vessel was first used ("a") to the date cleaning solvent was last added prior to shipment ("b"), i.e., the sum of the daily cleaning solvent usage between and including these dates for the individual emissions units sharing the recovery vessel, from each individual emissions unit's (that could possibly be sharing the recovery vessel) term for solvent/cleanup usage in Sections C.1;
- j. the percent of the cleaning solvent lost and not recovered (% of each if more than one solvent is applied and recovered), calculated for each recovery vessel shipped (referenced with its identification number/code), calculated as the

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difference between the total usage of the cleaning solvent applied in the emissions units sharing the recovery vessel ("i"), or if the vessel is not shared, the total usage applied in emissions unit P012 alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, minus the total recovered cleaning solvent in the recovery vessel at shipment ("e"), divided by the total usage of the cleaning solvent applied in the emissions units sharing the recovery vessel ("i") or applied in emissions unit P012 alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, i.e., $[(i - e) / i]$ or $[(h - e) / h]$;

- k. the daily average OC and/or VOC credit for cleaning solvent recovered from emissions unit P012, calculated based on each recovery vessel shipped:
 - i. calculated for emissions unit P012 alone (if the recovery vessel contains only solvent recovered from emissions unit P012) by dividing the total VOC and/or OC recovery credit by the number of days it took to fill the vessel, i.e., g / d ; or
 - ii. if sharing a recovery vessel, the calculated portion of the emissions credit, calculated in "g", to be credited to the daily average emissions from emissions unit P012 in pounds, i.e., g / d times the cleaning solvent usage in emissions unit P012 (recorded in "h") divided by the cleaning solvent usage in all the emissions units sharing the recovery vessel and credit (recorded in "i"), i.e., $(g / d) \times (h / i)$; and
- l. the total VOC and/or OC credit for all recovery vessels shipped during the month and containing cleaning solvent applied in this emissions unit (sum of all recovery vessels shipped between first and last day of the month, as recorded in "g") (referenced with its identification number/code); and if sharing the vessel with other emissions units, the portion of the emissions calculated in "g" above to be credited to the monthly emissions from emissions unit P012, in pounds or tons/month, calculated as "g" times the monthly cleaning solvent usage in emissions unit P012 (recorded in "h") divided by the cleaning solvent usage in all the emissions units sharing the credit ("i"), i.e., $(g) \times (h / i)$.

The permittee shall take a representative sample of the first full drum of recovered cleaning solvent collected following the issuance of this permit, which shall be tested at an outside laboratory for the OC and VOC content. A representative sample of the recovered cleaning solvent shall be re-tested once every five years and following any change in the cleaning solvent(s) applied, using a representative sample from the first full drum following the change. Solvent soaked rags may not be included in any

recovery credit to emissions.

* The weight and gallons of recovered cleaning solvent, to be applied in calculations of emissions, shall be recorded at the time it is shipped off-site, and shall not include the weight of the recovery vessel, which shall remain closed/sealed at all times except during material additions and/or preparation for off-site recovery or disposal.

** Until testing results documenting a higher OC and VOC content are received, the lowest OC and VOC content of the range provided by the manufacturer of the cleaning solvent shall be used in calculating the credit for the recovered materials.

3. At the end of each month the permittee shall collect and record (including the calculations) the monthly total OC and VOC emissions, calculated as the sum of emissions from all cleanup solvents (sum of C.1.d) employed in this emissions unit during the month, and subtracting the credit to these emissions for recovered cleaning solvent shipped during the month, i.e., the total OC and VOC emissions minus the total emissions credit, recorded in C.2.I above, for all recovery vessels shipped during the month.
4. At the end of each month the permittee shall collect, calculate, and record the following rolling, 12-month emissions:
 - a. the rolling, 12-month VOC emissions from all of the VOC-containing (non-frit) coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, and cleanup materials applied in the emissions units contained in this permit, including emissions units: P010, P011, P012, P013, P014, P015, P016, R008, R012, R013, R014, R015, R018, R022, and R023; and two tons of VOC emissions shall be added to the rolling, 12-month emissions records, to represent the potential annual VOC emissions from the combustion of natural gas in the drying ovens, curing furnaces, and the thermal oxidizer, permitted in the following emissions units: K001, R005, R008, R009, R018, R019, R020, and R022;
 - b. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - c. the rolling, 12-month styrene emissions from emissions units R008 and R022; and
 - d. the rolling, 12-month total combined HAP emissions, based upon a summation of

the following:

- i. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - ii. the rolling, 12-month styrene emissions from emissions units R008 and R022;
 - iii. the rolling, 12-month emissions of MDI from emissions units R012, R013, R014, R015, R018, and R023; and
 - iv. any other HAP(s) documented in the product data for coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, cleanup materials, or other process materials employed, and calculated as the emissions for a rolling, 12-month period.
5. The permittee shall keep the following records on all materials employed in this emissions unit:
- a. the identification of the chemical compound and its physical state; and
 - b. for any liquid organic materials, whether or not the material is a photochemically reactive material, as defined in OAC rule 3745-21-01(C)(5).

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:
 - a. an identification of each day during which the average OC emissions from the emissions unit exceeded 1.23 pounds per hour and the actual hourly OC emissions for each such day;
 - b. an identification of each day during which the average VOC emissions from the emissions unit exceeded 0.49 pound per hour and the actual average hourly VOC emissions;
 - c. an identification of each day during which a photochemically reactive material was employed in this emissions unit and the actual OC emissions for each such day; and

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- d. an identification of each month during which the rolling, 12-month VOC emissions from this emissions unit exceeded 0.72 ton.
2. During the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any month during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 6.10 tons of VOC per month;
 - b. 0.83 ton of styrene per month;
 - c. 0.42 ton of MEK per month; and
 - d. 1.25 tons of total aggregate HAPs per month.
3. After the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any rolling, 12-month period during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 73.18 tons of VOC;
 - b. 9.95 tons of styrene;
 - c. 5.0 tons of MEK; and
 - d. 15.0 tons of total aggregate HAPs.
4. All deviation reports shall be submitted quarterly as required in the General Terms and Conditions of this permit.
5. The permittee shall also submit annual reports that specify the total volatile organic compound emissions from this emissions unit for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

E. Testing Requirements

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1. Emission Limitations:

1.23 pounds per hour (daily average) of OC emissions and 1.79 tons per year.

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.1.

2. Emission Limitations:

0.49 pound per hour (daily average) of VOC emissions and 0.72 ton per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.1.

3. Emission Limitations:

During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- a. 6.10 tons of VOC per month;
- b. 0.83 ton of styrene per month;
- c. 0.42 ton of MEK per month; and
- d. 1.25 tons of total aggregate HAPs per month.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

4. Emission Limitations:

After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

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- a. 73.18 tons of VOC;
- b. 9.95 tons of styrene;
- c. 5.0 tons of MEK; and
- d. 15.0 tons of total aggregate HAPs.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

F. Miscellaneous Requirements

The following terms and conditions are federally enforceable requirements: A, C, D, E, and F.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**A. Applicable Emission Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emission limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emission Limitations/Control Measures</u>
P013 - Smallware Finishing Station 3. This operation uses cleaning solvent rags for wipe cleaning of parts.	OAC rule 3745-31-05(A)(3)	Emissions from this emissions unit shall not exceed the following limitations: organic compound (OC) emissions shall not exceed 1.23 pounds per hour and 1.79 tons per year; and volatile organic compound (VOC) emissions shall not exceed 0.49 pound of per hour and 0.72 ton per rolling, 12-month period.
	OAC rule 3745-21-07(G)	See Section A.2.a below.
	OAC rule 3745-31-05(C)	See Sections A.2.b and A.2.c below.

2. Additional Terms and Conditions

- 2.a** This emissions unit shall not employ photochemically reactive materials as defined in OAC rule 3745-21-01(1)(5).
- 2.b** During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including

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emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- i. 6.10 tons of VOC per month;
- ii. 0.83 ton of styrene per month;
- iii. 0.42 ton of methyl ethyl ketone (MEK) per month; and
- iv. 1.25 tons of total aggregate HAPs per month.

2.c After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- i. 73.18 tons of VOC;
- ii. 9.95 tons of styrene;
- iii. 5.0 tons of MEK; and
- iv. 15.0 tons of total aggregate HAPs.

B. Operational Restrictions

None.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information on a daily basis for each material employed in this emissions unit:
 - a. the company identification for each cleaning solvent employed;
 - b. the number of gallons or pounds of each cleaning solvent employed;
 - c. the OC and VOC content of each cleaning solvent employed, in pounds per

gallon or in weight percent;

- d. the daily OC and VOC emissions from all cleaning solvent(s) employed prior to any credit for recovered cleanup material, in pounds per day, i.e., the sum of "b" x "c" for each cleaning solvent applied;
- e. the daily OC and VOC emissions from all cleaning solvent(s) following the credit* for recovered cleaning solvent(s), in pounds per day, calculated by subtracting the daily average VOC and OC credits for recovered cleaning solvent(s), as calculated in C.2.k below, from the total emissions calculated from the daily usage of cleaning solvents in "C.1.d" above, and also documented from the product of "C.1.d" x "C.2.j";
- f. the total number of hours the emissions unit was in operation, i.e., hours/day; and
- g. the average hourly OC and VOC emission rates for all cleaning solvent(s) employed in this emissions unit, in pounds per hour, i.e., "e"/"f" for both pollutants.

* The daily credit for recovered cleanup material, applied to the emissions in "C.1.e" and recorded in "C.2.k", shall be calculated from the last drum shipped containing cleaning solvent recovered from this emissions unit.

2. If a credit for recovered cleaning solvent is used in the calculation of the monthly and/or the rolling, 12-month emissions from this emissions unit or if a recovery credit is used as a factor in daily emission calculations, the permittee shall maintain the following records for the recovered cleaning solvent and a log for the recovery drum(s)/tank(s) (recovery vessel(s)). The recovery log shall contain the identification number for each recovery vessel, the cleaning solvent it contains (i.e., Saf T Kleen), the dates of the first and last addition of recovered cleaning solvent, the emissions units from which the cleaning solvent was recovered (emissions unit P011, P012, P013, and/or P015) or emissions unit P013 if not sharing recovery with other emissions units, the weight of the recovered cleaning solvent at shipment (including and excluding the weight of the recovery vessel), and the date the vessel was shipped off-site. Each recovery vessel shall be marked or labeled with the identification number documented in the log. The following information shall be recorded, calculated, and maintained for this emissions unit if an emissions credit is to be used for recovered cleaning solvent:

- a. the date cleaning solvent is first added to each recovery vessel and the recovery vessel's identification number/code;

- b. the date of the last day cleaning solvent is added to each recovery vessel before it is shipped (referenced with its identification number/code);
- c. the date each recovery vessel (referenced with its identification number/code) is shipped off site;
- d. the number days the recovery vessel (referenced with its identification number/code) accumulated cleaning solvent, determined from "a" and "b" above;
- e. the number of gallons and weight* of the cleaning solvent contained in each recovery vessel (referenced with its identification number/code) when it is shipped off site;
- f. the OC and VOC content of the recovered cleaning solvent, as determined from the most recent lab test results from a representative sample of the recovered solvent; and until such test results are received, the minimum OC and VOC** content of the cleaning solvent collected, in pounds per gallon or percent by weight;

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- g. the total emissions credit for each recovery vessel shipped during the month (referenced with its identification number/code), in pounds of OC and/or VOC per recovery vessel, i.e. "e" x "f";
- h. the number of gallons or weight of each cleaning solvent applied in emissions unit P013, between the date each recovery vessel was first used ("a") to the date cleaning solvent was last added prior to shipment ("b"), i.e., the sum of the usage as recorded in C.1.b for each such day;
- i. if sharing a recovery vessel, the total number of gallons or total weight of the cleaning solvent applied in emissions unit P013 plus the same solvent's use in the emissions unit(s) sharing the recovery vessel and credit, between the date each recovery vessel was first used ("a") to the date cleaning solvent was last added prior to shipment ("b"), i.e., the sum of the daily cleaning solvent usage between and including these dates for the individual emissions units sharing the recovery vessel, from each individual emissions unit's (that could possibly be sharing the recovery vessel) term for solvent/cleanup usage in Sections C.1;
- j. the percent of the cleaning solvent lost and not recovered (% of each if more than one solvent is applied and recovered), calculated for each recovery vessel shipped (referenced with its identification number/code), calculated as the difference between the total usage of the cleaning solvent applied in the emissions units sharing the recovery vessel ("i"), or if the vessel is not shared, the total usage applied in emissions unit P013 alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, minus the total recovered cleaning solvent in the recovery vessel at shipment ("e"), divided by the total usage of the cleaning solvent applied in the emissions units sharing the recovery vessel ("i") or applied in emissions unit P013 alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, i.e., $[(i - e) / i]$ or $[(h - e) / h]$;
- k. the daily average OC and/or VOC credit for cleaning solvent recovered from emissions unit P013, calculated based on each recovery vessel shipped:
 - i. calculated for emissions unit P013 alone (if the recovery vessel contains only solvent recovered from emissions unit P013) by dividing the total VOC and/or OC recovery credit by the number of days it took to fill the vessel, i.e., "g"/"d"; or
 - ii. if sharing a recovery vessel, the calculated portion of the emissions credit,

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calculated in "g", to be credited to the daily average emissions from emissions unit P013 in pounds, i.e., "g"/"d" times the cleaning solvent usage in emissions unit P013 (recorded in "h") divided by the cleaning solvent usage in all the emissions units sharing the recovery vessel and credit (recorded in "i"), i.e., ("g"/"d") x ("h"/"i"); and

- I. the total VOC and/or OC credit for all recovery vessels shipped during the month and containing cleaning solvent applied in this emissions unit (sum of all recovery vessels shipped between first and last day of the month, as recorded in "g") (referenced with its identification number/code); and if sharing the vessel with other emissions units, the portion of the emissions calculated in "g" above to be credited to the monthly emissions from emissions unit P013, in pounds or tons/month, calculated as "g" times the monthly cleaning solvent usage in emissions unit P013 (recorded in "h") divided by the cleaning solvent usage in all the emissions units sharing the credit ("i"), i.e., ("g") x ("h"/"i").

The permittee shall take a representative sample of the first full drum of recovered cleaning solvent collected following the issuance of this permit, which shall be tested at an outside laboratory for the OC and VOC content. A representative sample of the recovered cleaning solvent shall be re-tested once every five years and following any change in the cleaning solvent(s) applied, using a representative sample from the first full drum following the change. Solvent soaked rags may not be included in any recovery credit to emissions.

* The weight and gallons of recovered cleaning solvent, to be applied in calculations of emissions, shall be recorded at the time it is shipped off-site, and shall not include the weight of the recovery vessel, which shall remain closed/sealed at all times except during material additions and/or preparation for off-site recovery or disposal.

** Until testing results documenting a higher OC and VOC content are received, the lowest OC and VOC content of the range provided by the manufacturer of the cleaning solvent shall be used in calculating the credit for the recovered materials.

3. At the end of each month the permittee shall collect and record (including the calculations) the monthly total OC and VOC emissions, calculated as the sum of emissions from all cleanup solvents (sum of C.1.d) employed in this emissions unit during the month, and subtracting the credit to these emissions for recovered cleaning solvent shipped during the month, i.e., the total OC and VOC emissions minus the total emissions credit, recorded in C.2.I above, for all recovery vessels shipped during the month.

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4. At the end of each month the permittee shall collect, calculate, and record the following rolling, 12-month emissions:
 - a. the rolling, 12-month VOC emissions from all of the VOC-containing (non-frit) coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, and cleanup materials applied in the emissions units contained in this permit, including emissions units: P010, P011, P012, P013, P014, P015, P016, R008, R012, R013, R014, R015, R018, R022, and R023; and two tons of VOC emissions shall be added to the rolling, 12-month emissions records, to represent the potential annual VOC emissions from the combustion of natural gas in the drying ovens, curing furnaces, and the thermal oxidizer, permitted in the following emissions units: K001, R005, R008, R009, R018, R019, R020, and R022;
 - b. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - c. the rolling, 12-month styrene emissions from emissions units R008 and R022; and
 - d. the rolling, 12-month total combined HAP emissions, based upon a summation of the following:
 - i. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - ii. the rolling, 12-month styrene emissions from emissions units R008 and R022;
 - iii. the rolling, 12-month emissions of MDI from emissions units R012, R013, R014, R015, R018, and R023; and
 - iv. any other HAP(s) documented in the product data for coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, cleanup materials, or other process materials employed, and calculated as the emissions for a rolling, 12-month period.
5. The permittee shall keep the following records on all materials employed in this emissions unit:
 - a. the identification of the chemical compound and its physical state; and

- b. for any liquid organic materials, whether or not the material is a photochemically reactive material, as defined in OAC rule 3745-21-01(C)(5).

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:
 - a. an identification of each day during which the average OC emissions from the emissions unit exceeded 1.23 pounds per hour and the actual hourly OC emissions for each such day;
 - b. an identification of each day during which the average VOC emissions from the emissions unit exceeded 0.49 pound per hour and the actual average hourly VOC emissions;
 - c. an identification of each day during which a photochemically reactive material was employed in this emissions unit and the actual OC emissions for each such day; and
 - d. an identification of each month during which the rolling, 12-month VOC emissions from this emissions unit exceeded 0.72 ton.
2. During the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any month during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 6.10 tons of VOC per month;
 - b. 0.83 ton of styrene per month;
 - c. 0.42 ton of MEK per month; and
 - d. 1.25 tons of total aggregate HAPs per month.
3. After the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any rolling, 12-month period during which the sum of the emissions from all 20 emissions units contained in this permit

exceed any of the following limitations:

- a. 73.18 tons of VOC;
 - b. 9.95 tons of styrene;
 - c. 5.0 tons of MEK; and
 - d. 15.0 tons of total aggregate HAPs.
4. All deviation reports shall be submitted quarterly as required in the General Terms and Conditions of this permit.
 5. The permittee shall also submit annual reports that specify the total volatile organic compound emissions from this emissions unit for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

E. Testing Requirements

1. Emission Limitations:
1.23 pounds per hour (daily average) of OC emissions and 1.79 tons per year.

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.1.

2. Emission Limitations:
0.49 pound per hour (daily average) of VOC emissions and 0.72 ton per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.1.

3. Emission Limitations:
During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012,

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R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- a. 6.10 tons of VOC per month;
- b. 0.83 ton of styrene per month;
- c. 0.42 ton of MEK per month; and
- d. 1.25 tons of total aggregate HAPs per month.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

4. Emission Limitations:

After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- a. 73.18 tons of VOC;
- b. 9.95 tons of styrene;
- c. 5.0 tons of MEK; and
- d. 15.0 tons of total aggregate HAPs.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

F. Miscellaneous Requirements

The following terms and conditions are federally enforceable requirements: A, C, D, E, and F.

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Emissions Unit ID: P014

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**A. Applicable Emission Limitations and/or Control Requirements**

- The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emission limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emission Limitations/Control Measures</u>
P014 - Smallware Lavy Assembly Area. This is an adhesive application area with exhaust hoods venting inside.	OAC rule 3745-31-05(A)(3)	Emissions from this emissions unit shall not exceed the following limitations: organic compound (OC) emissions shall not exceed 0.41 pound per hour and 1.81 tons per year; volatile organic compound (VOC) emissions shall not exceed 0.28 pound per hour and 1.24 tons per rolling, 12-month period; and methyl ethyl ketone (MEK) emissions shall not exceed 0.03 pound per hour and 0.11 ton per rolling, 12-month period.
	OAC rule 3745-21-07(G)	See Section A.2.a below.
	OAC rule 3745-31-05(C)	See Sections A.2.b and A.2.c below.

2. Additional Terms and Conditions

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- 2.a** This emissions unit shall not employ photochemically reactive materials as defined in OAC rule 3745-21-01(1)(5).
- 2.b** During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:
- i. 6.10 tons of VOC per month;
 - ii. 0.83 ton of styrene per month;
 - iii. 0.42 ton of methyl ethyl ketone (MEK) per month; and
 - iv. 1.25 tons of total aggregate HAPs per month.
- 2.c** After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:
- i. 73.18 tons of VOC;
 - ii. 9.95 tons of styrene;
 - iii. 5.0 tons of MEK; and
 - iv. 15.0 tons of total aggregate HAPs.

B. Operational Restrictions

None.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information on a daily basis for each material employed in this emissions unit:

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- a. the company identification for each adhesive employed;
 - b. the number of gallons and density or pounds of each adhesive employed;
 - c. the OC and VOC content of each adhesive employed, in pounds per gallon, grams per liter, or in weight percent;
 - d. the MEK content of each adhesive employed, in pounds per gallon or in weight percent;
 - e. the daily OC and VOC emissions from all adhesives employed, in (or converted to) pounds per day, i.e., the sum of "b" x "c" for each adhesive applied;
 - f. the daily MEK emissions from all adhesives employed containing MEK, in pounds per day, i.e., the sum of "b" x "d" for each adhesive applied;
 - g. the total number of hours the emissions unit was in operation, i.e., hours/day;
 - h. the average hourly OC and VOC emission rates for all adhesives employed in this emissions unit, in pounds per hour, i.e., "e"/"g" for both pollutants; and
 - i. the average hourly MEK emission rate for all adhesives employed in this emissions unit, in pounds per hour, i.e., "f"/"g".
2. The permittee shall collect and record the following information, including the calculations, on a monthly basis for this emissions unit:
 - a. the monthly total OC and VOC emissions from all adhesives employed in this emissions unit, i.e., the sum of the daily emissions from term C.1.e; and
 - b. the monthly total MEK emissions from all adhesives employed in this emissions unit, i.e., the sum of the daily emissions from term C.1.f.
3. At the end of each month the permittee shall collect, calculate, and record the following rolling, 12-month emissions:
 - a. the rolling, 12-month VOC emissions from all of the VOC-containing (non-frit) coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, and cleanup materials applied in the emissions units contained in this permit, including emissions units: P010, P011, P012, P013, P014, P015, P016, R008, R012, R013, R014, R015, R018, R022, and R023;

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and two tons of VOC emissions shall be added to the rolling, 12-month emissions records, to represent the potential annual VOC emissions from the combustion of natural gas in the drying ovens, curing furnaces, and the thermal oxidizer, permitted in the following emissions units: K001, R005, R008, R009, R018, R019, R020, and R022;

- b. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - c. the rolling, 12-month styrene emissions from emissions units R008 and R022; and
 - d. the rolling, 12-month total combined HAP emissions, based upon a summation of the following:
 - i. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - ii. the rolling, 12-month styrene emissions from emissions units R008 and R022;
 - iii. the rolling, 12-month emissions of MDI from emissions units R012, R013, R014, R015, R018, and R023; and
 - iv. any other HAP(s) documented in the product data for coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, cleanup materials, or other process materials employed, and calculated as the emissions for a rolling, 12-month period.
4. The permittee shall keep the following records on all materials employed in this emissions unit:
 - a. the identification of the chemical compound and its physical state; and
 - b. for any liquid organic materials, whether or not the material is a photochemically reactive material, as defined in OAC rule 3745-21-01(C)(5).

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the

following information:

- a. an identification of each day during which the average OC emissions from the emissions unit exceeded 0.41 pound per hour and the actual hourly OC emissions for each such day;
- b. an identification of each day during which the average VOC emissions from the emissions unit exceeded 0.28 pound per hour and the actual average hourly VOC emissions;
- c. an identification of each day during which the average MEK emissions from the emissions unit exceeded 0.03 pound per hour and the actual average hourly MEK emissions;
- d. an identification of each day during which a photochemically reactive material was employed in this emissions unit and the actual OC emissions for each such day;
- e. an identification of each month during which the rolling, 12-month MEK emissions from this emissions unit exceeded 0.11 tons; and
- f. an identification of each month during which the rolling, 12-month VOC emissions from this emissions unit exceeded 1.24 tons.

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2. During the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any month during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 6.10 tons of VOC per month;
 - b. 0.83 ton of styrene per month;
 - c. 0.42 ton of MEK per month; and
 - d. 1.25 tons of total aggregate HAPs per month.
3. After the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any rolling, 12-month period during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 73.18 tons of VOC;
 - b. 9.95 tons of styrene;
 - c. 5.0 tons of MEK; and
 - d. 15.0 tons of total aggregate HAPs.
4. All deviation reports shall be submitted quarterly as required in the General Terms and Conditions of this permit.
5. The permittee shall also submit annual reports that specify the total volatile organic compound emissions from this emissions unit for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

E. Testing Requirements

1. Emission Limitations:
0.41 pound per hour (daily average) of OC emissions and 1.81 tons per year.

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.1.

2. Emission Limitations:

0.28 pound per hour (daily average) of VOC emissions and 1.24 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.1.

3. Emission Limitations:

0.03 pound per hour (daily average) of MEK emissions and 0.11 ton per rolling, 12-month period.

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.1.

4. Emission Limitations:

During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- a. 6.10 tons of VOC per month;
- b. 0.83 ton of styrene per month;
- c. 0.42 ton of MEK per month; and
- d. 1.25 tons of total aggregate HAPs per month.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

5. Emission Limitations:

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After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- a. 73.18 tons of VOC;
- b. 9.95 tons of styrene;
- c. 5.0 tons of MEK; and
- d. 15.0 tons of total aggregate HAPs.

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Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

6. Emission Limitations:

1.25 tons of total aggregate HAPs for the first 12 months and 15.0 tons of total aggregate HAPs per rolling, 12-months for emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023 combined.

Applicable Compliance Method:

The HAP emissions, MEK, from the adhesive(s) applied in this emissions unit shall be calculated monthly per Section C.2, using the daily records for total adhesive usage and the MEK content of the adhesive.

F. Miscellaneous Requirements

The following terms and conditions are federally enforceable requirements: A, C, D, E, and F.

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Emissions Unit ID: P015

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**A. Applicable Emission Limitations and/or Control Requirements**

- The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emission limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	
P015 - Final Cleaning and Grinding vented to dust collector AM-11. This operation uses hand-held grinders and cleaning solvent rags for grinding and wipe cleaning of parts.	OAC rule 3745-31-05(A)(3)	OAC rule 3745-17-11
		OAC rule 3745-21-07(G)
		OAC rule 3745-31-05(C)
	OAC rule 3745-17-07	

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Applicable Emission
Limitations/Control Measures

See Sections A.2.b and A.2.c
below.

Emissions from this emissions unit shall not exceed the following limitations:

particulate emissions (PE) shall not exceed 0.03 pound per hour and 0.12 ton per year;

organic compound (OC) emissions shall not exceed 0.41 pound per hour and 1.79 tons per year;

volatile organic compound (VOC) emissions shall not exceed 0.17 pound per hour and 0.72 ton per rolling, 12-month period; and

visible particulate emissions shall not exceed 10% opacity as a six-minute average.

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

See Section A.2.a below.

Modification Issued: 11/30/2006**2. Additional Terms and Conditions**

2.a This emissions unit shall not employ photochemically reactive materials as defined in OAC rule 3745-21-01(C)(5).

2.b During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- i. 6.10 tons of VOC per month;
- ii. 0.83 ton of styrene per month;
- iii. 0.42 ton of methyl ethyl ketone (MEK) per month; and
- iv. 1.25 tons of total aggregate HAPs per month.

2.c After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- i. 73.18 tons of VOC;
- ii. 9.95 tons of styrene;
- iii. 5.0 tons of MEK; and
- iv. 15.0 tons of total aggregate HAPs.

B. Operational Restrictions

1. The permittee shall operate the dust collector (AM-11) whenever this emissions unit is in operation.
2. The pressure drop across each of the dust collector AM-11 shall be maintained within the range of 0.5 to 2.0 inches of water while the emissions unit is in operation.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information on a daily basis for each material employed in this emissions unit:
 - a. the company identification for each cleaning solvent employed;
 - b. the number of gallons or pounds of each cleaning solvent employed;
 - c. the OC and VOC content of each cleaning solvent employed, in pounds per gallon or in weight percent;
 - d. the daily OC and VOC emissions from all cleaning solvent(s) employed prior to any credit for recovered cleanup material, in pounds per day, i.e., the sum of "b" x "c" for each cleaning solvent applied;
 - e. the daily OC and VOC emissions from all cleaning solvent(s) following the credit* for recovered cleaning solvent(s), in pounds per day, calculated by subtracting the daily average VOC and OC credits for recovered cleaning solvent(s), as calculated in C.2.k below, from the total emissions calculated from the daily usage of cleaning solvents in "C.1.d" above, and also documented from the product of "C.1.d" x "C.2.j";
 - f. the total number of hours the emissions unit was in operation, i.e., hours/day; and
 - g. the average hourly OC and VOC emission rates for all cleaning solvent(s) employed in this emissions unit, in pounds per hour, i.e., "e"/"f" for both pollutants.

* The daily credit for recovered cleanup material, applied to the emissions in "C.1.e" and recorded in "C.2.k", shall be calculated from the last drum shipped containing cleaning solvent recovered from this emissions unit.

2. If a credit for recovered cleaning solvents is used in the calculation of the monthly and/or the rolling, 12-month emissions from this emissions unit or if a recovery credit is used as a factor in daily emission calculations, the permittee shall maintain the following records for the recovered cleaning solvent(s) and a log for the recovery drum(s)/tank(s) (recovery vessel(s)). The recovery log shall contain the identification number for each recovery vessel, the cleaning solvent it contains (i.e., Saf T Kleen or

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mineral spirits), the dates of the first and last addition of recovered cleaning solvent, the emissions units from which the cleaning solvent was recovered (emissions units P011, P012, P013, P015 and/or P016) or emissions unit P015 if not sharing recovery with other emissions units, the weight of the recovered cleaning solvent at shipment (including and excluding the weight of the recovery

vessel), and the date the vessel was shipped off-site. Each recovery vessel shall be marked or labeled with the identification number documented in the log. The following information shall be recorded, calculated, and maintained for this emissions unit if an emissions credit is to be used for recovered cleaning solvents:

- a. the date cleaning solvent is first added to each recovery vessel and the recovery vessel's identification number/code;
- b. the date of the last day cleaning solvent is added to each recovery vessel before it is shipped (referenced with its identification number/code);
- c. the date each recovery vessel (referenced with its identification number/code) is shipped off site;
- d. the number days the recovery vessel (referenced with its identification number/code) accumulated cleaning solvent, determined from "a" and "b" above;
- e. the number of gallons and weight* of the cleaning solvent contained in each recovery vessel (referenced with its identification number/code) when it is shipped off site;
- f. the OC and VOC content of the recovered cleaning solvent, as determined from the most recent lab test results from a representative sample of the recovered solvent; and until such test results are received, the minimum OC and VOC** content of the cleaning solvent collected, in pounds per gallon or percent by weight;
- g. the total emissions credit for each recovery vessel shipped during the month (referenced with its identification number/code), in pounds of OC and/or VOC per recovery vessel, i.e. "e" x "f";
- h. the number of gallons or weight of each cleaning solvent applied in emissions unit P015, between the date each recovery vessel was first used ("a") to the date cleaning solvent was last added prior to shipment ("b"), i.e., the sum of the usage as recorded in C.1.b for each such day;
- i. if sharing a recovery vessel, the total number of gallons or total weight of the cleaning solvent applied in emissions unit P015 plus the same solvent's use in the emissions unit(s) sharing the recovery vessel and credit, between the date each recovery vessel was first used ("a") to the date cleaning solvent was last

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added prior to shipment ("b"), i.e., the sum of the daily cleaning solvent usage between and including these dates for the individual emissions units sharing the recovery vessel, from each individual emissions unit's (that could possibly be sharing the recovery vessel) term for solvent/cleanup usage in Sections C.1;

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- j. the percent of the cleaning solvent lost and not recovered (% of each, if more than one solvent is recovered), calculated for each recovery vessel shipped (referenced with its identification number/code), calculated as the difference between the total usage of the cleaning solvent applied in the emissions units sharing the recovery vessel ("i"), or if the vessel is not shared, the total usage applied in emissions unit P015 alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, minus the total recovered cleaning solvent in the recovery vessel at shipment ("e"), divided by the total usage of the cleaning solvent applied in the emissions units sharing the recovery vessel ("i") or applied in emissions unit P015 alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, i.e., $[(i - e) / i]$ or $[(h - e) / h]$;
- k. the daily average OC and/or VOC credit for cleaning solvents recovered from emissions unit P015, calculated based on each recovery vessel shipped:
- i. calculated for emissions unit P015 alone (if the recovery vessel contains only solvent recovered from emissions unit P015) by dividing the total VOC and/or OC recovery credit by the number of days it took to fill the vessel, i.e., g / d ; or
 - ii. if sharing a recovery vessel, the calculated portion of the emissions credit, calculated in "g", to be credited to the daily average emissions from emissions unit P015 in pounds, i.e., g / d times the cleaning solvent usage in emissions unit P015 (recorded in "h") divided by the cleaning solvent usage in all the emissions units sharing the recovery vessel and credit (recorded in "i"), i.e., $(g / d) \times (h / i)$; and
- l. the total VOC and/or OC credit for all recovery vessels shipped during the month and containing cleaning solvents applied in this emissions unit (sum of all recovery vessels shipped between first and last day of the month, as recorded in "g") (referenced with its identification number/code); and if sharing the vessel with other emissions units, the portion of the emissions calculated in "g" above to be credited to the monthly emissions from emissions unit P015, in pounds or tons/month, calculated as "g" times the monthly cleaning solvent usage in emissions unit P015 (recorded in "h") divided by the cleaning solvent usage in all the emissions units sharing the credit ("i"), i.e., $(g) \times (h / i)$.

The permittee shall take a representative sample of the first full drum of each recovered cleaning solvent collected following the issuance of this permit, which shall be tested at

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an outside laboratory for the OC and VOC content. A representative sample of the recovered cleaning solvents shall be re-tested once every five years and following any change in the cleaning solvents applied, using a representative sample from the first full drum following the change. Solvent soaked rags may not be included in any recovery credit to emissions.

* The weight and gallons of recovered cleaning solvent, to be applied in calculations of emissions, shall be recorded at the time it is shipped off-site, and shall not include the weight of the recovery vessel, which shall remain closed/sealed at all times except during material additions and/or preparation for off-site recovery or disposal.

** Until testing results documenting a higher OC and VOC content are received, the lowest OC and VOC content of the range provided by the manufacturer of the cleaning solvent shall be used in calculating the credit for the recovered materials.

3. At the end of each month the permittee shall collect and record (including the calculations) the monthly total OC and VOC emissions, calculated as the sum of emissions from all cleanup solvents (sum of C.1.d) employed in this emissions unit during the month, and subtracting the credit to these emissions for recovered cleaning solvent shipped during the month, i.e., the total OC and VOC emissions minus the total emissions credit, recorded in C.2.I above, for all recovery vessels shipped during the month.
4. At the end of each month the permittee shall collect, calculate, and record the following rolling, 12-month emissions:
 - a. the rolling, 12-month VOC emissions from all of the VOC-containing (non-frit) coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, and cleanup materials applied in the emissions units contained in this permit, including emissions units: P010, P011, P012, P013, P014, P015, P016, R008, R012, R013, R014, R015, R018, R022, and R023; and two tons of VOC emissions shall be added to the rolling, 12-month emissions records, to represent the potential annual VOC emissions from the combustion of natural gas in the drying ovens, curing furnaces, and the thermal oxidizer, permitted in the following emissions units: K001, R005, R008, R009, R018, R019, R020, and R022;
 - b. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;

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- c. the rolling, 12-month styrene emissions from emissions units R008 and R022; and
- d. the rolling, 12-month total combined HAP emissions, based upon a summation of the following:
 - i. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - ii. the rolling, 12-month styrene emissions from emissions units R008 and R022;
 - iii. the rolling, 12-month emissions of MDI from emissions units R012, R013, R014, R015, R018, and R023; and
 - iv. any other HAP(s) documented in the product data for coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, cleanup materials, or other process materials employed, and calculated as the emissions for a rolling, 12-month period.
5. The permittee shall maintain daily records that document any time periods when the dust collector was not in service while the emissions unit was in operation.
6. The permittee shall properly operate and maintain equipment to monitor the pressure drop across each of the dust collector (AM-11) while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each of the dust collectors on a daily basis.
7. The permittee shall keep the following records on all materials employed in this emissions unit:
 - a. the identification of the chemical compound and its physical state; and
 - b. for any liquid organic materials, whether or not the material is a photochemically reactive material, as defined in OAC rule 3745-21-01(C)(5).

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify each day

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- when the dust collectors were not in service while the emissions unit was in operation.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the pressure drop across the dust collectors did not comply with the allowable range specified above.
 3. The permittee shall submit quarterly deviation (excursion) reports that include the following information:
 - a. an identification of each day during which the average OC emissions from the emissions unit exceeded 0.41 pound per hour and the actual average hourly OC emissions for each such day;
 - b. an identification of each day during which the average VOC emissions from the emissions unit exceeded 0.17 pound per hour and the actual average hourly VOC emissions for each such day;
 - c. an identification of each day during which a photochemically reactive material was employed in this emissions unit and the actual OC emissions for each such day; and
 - d. an identification of each month during which the rolling, 12-month VOC emissions from this emissions unit exceeded 0.72 ton.
 4. During the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any month during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 6.10 tons of VOC per month;
 - b. 0.83 ton of styrene per month;
 - c. 0.42 ton of MEK per month; and
 - d. 1.25 tons of total aggregate HAPs per month.
 5. After the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any rolling, 12-month period during which the sum of the emissions from all 20 emissions units contained in this permit

exceed any of the following limitations:

- a. 73.18 tons of VOC;
 - b. 9.95 tons of styrene;
 - c. 5.0 tons of MEK; and
 - d. 15.0 tons of total aggregate HAPs.
6. All deviation reports shall be submitted quarterly as required in the General Terms and Conditions of this permit.
 7. The permittee shall also submit annual reports that specify the total volatile organic compound emissions from this emissions unit for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

E. Testing Requirements

1. Emission Limitations:
0.03 pound per hour and 0.12 ton per year of particulate emissions (total from dust collector AM-11)

Applicable Compliance Method:

If required by the Ohio EPA, compliance with the allowable particulate emission limitation shall be determined in accordance with U.S. EPA Reference Methods 1 through 5 of 40 CFR Part 60, Appendix A.

The annual emission limitation is based on the allowable hourly emission rate (0.03 lb/hr) multiplied by the maximum possible operating hours (8,760 hrs/yr), and divided by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance will also be shown for the annual emission limitation.

2. Emission Limitations:
0.41 pound per hour (daily average) and 1.79 tons per year of OC emissions

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.1.

3. Emission Limitations:

0.17 pound per hour (daily average) and 0.72 ton per rolling, 12-month period of VOC emissions

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.1.

4. Emission Limitation:

10% opacity, as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A, using the methods and procedures specified in OAC rule 3745-17-03(B)(1) or other U.S. EPA approved test method with prior approval from the Ohio EPA.

5. Emission Limitations:

During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- a. 6.10 tons of VOC per month;
- b. 0.83 ton of styrene per month;
- c. 0.42 ton of MEK per month; and
- d. 1.25 tons of total aggregate HAPs per month.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

6. Emission Limitations:

After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions

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units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- a. 73.18 tons of VOC;
- b. 9.95 tons of styrene;
- c. 5.0 tons of MEK; and
- d. 15.0 tons of total aggregate HAPs.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

F. Miscellaneous Requirements

The following terms and conditions are federally enforceable requirements: A, B, C, D, E, and F.

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PTI A

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Emissions Unit ID: P016

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**A. Applicable Emission Limitations and/or Control Requirements**

- The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emission limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emission Limitations/Control Measures</u>
P016 - Tubs Department Glue Station. This operation includes adhesive application tools.	OAC rule 3745-31-05(A)(3)	Emissions from this emissions unit shall not exceed the following limitations: organic compound (OC) emissions shall not exceed 1.16 pounds per hour and 1.69 tons per year; volatile organic compound (VOC) emissions shall not exceed 0.64 pound per hour and 0.94 ton per rolling, 12-month period; and methyl ethyl ketone (MEK) shall not exceed 0.02 pound per hour and 0.03 ton per rolling, 12-month period.
	OAC rule 3745-21-07(G)	See Section A.2.a below.
	OAC rule 3745-31-05(C)	See Sections A.2.b and A.2.c below.

2. Additional Terms and Conditions

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- 2.a** This emissions unit shall not employ photochemically reactive materials as defined in OAC rule 3745-21-01(C)(5).
- 2.b** During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:
- i. 6.10 tons of VOC per month;
 - ii. 0.83 ton of styrene per month;
 - iii. 0.42 ton of methyl ethyl ketone (MEK) per month; and
 - iv. 1.25 tons of total aggregate HAPs per month.
- 2.c** After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:
- i. 73.18 tons of VOC;
 - ii. 9.95 tons of styrene;
 - iii. 5.0 tons of MEK; and
 - iv. 15.0 tons of total aggregate HAPs.

B. Operational Restrictions

None.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information on a daily basis for each material employed in this emissions unit:

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- a. the company identification for each adhesive, sealer, and cleanup material employed;
- b. the number of gallons and density or pounds of each adhesive employed;
- c. the number of gallons or pounds of each sealer employed;
- d. the number of gallons or pounds of each cleanup material employed;

- e. the OC and VOC content of each adhesive employed, in pounds per gallon, grams per liter, or in weight percent;
- f. the MEK content of each adhesive employed, in pounds per gallon or in weight percent;
- g. the OC and VOC content of each sealer employed, in pounds per gallon, grams per liter, or in weight percent;
- h. the OC and VOC content of each cleanup material employed, in pounds per gallon, grams per liter, or in weight percent;
- i. the daily OC and VOC emissions from all adhesives employed, in (or converted to) pounds per day, i.e., the sum of "b" x "e" for each adhesive applied;
- j. the daily MEK emissions from all adhesives employed containing MEK, in pounds per day, i.e., the sum of "b" x "f" for each adhesive applied;
- k. the daily OC and VOC emissions from all sealers employed, in (or converted to) pounds per day, i.e., the sum of "c" x "g" for each sealer applied;
- l. the daily OC and VOC emissions from all cleanup materials employed prior to any credit for recovered cleanup materials, in (or converted to) pounds per day, i.e., the sum of "d" x "h" for each cleanup material applied;
- m. the daily OC and VOC emissions from all cleanup materials following the credit* for recovered cleanup materials, in (or converted to) pounds per day, calculated by subtracting the daily average VOC and/or OC credit(s) for recovered cleanup materials, as calculated in C.2.k below, from the total emissions calculated from the daily usage of cleanup materials in "C.1.l" above, and also documented from the product of "C.1.l" x "C.2.j";
- n. the total number of hours the emissions unit was in operation, i.e., hours/day;
- o. the average hourly OC and VOC emission rates for all materials employed in this emissions unit, in pounds per hour, i.e., ("i" + "k" + "m")/"n" for both pollutants; and
- p. the average hourly MEK emission rate for all adhesives employed in this emissions unit, in pounds per hour, i.e., "j"/"n".

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* The daily credit for recovered cleanup materials, applied to the emissions in "C.1.m" and recorded in "C.2.k", shall be calculated from the last drum shipped containing cleanup materials recovered from this emissions unit.

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2. If a credit for recovered cleanup materials is used in the calculation of the monthly and/or the rolling, 12-month emissions from this emissions unit or if a recovery credit is used as a factor in daily emission calculations, the permittee shall maintain the following records for the recovered cleanup materials and a log for the recovery drum(s)/tank(s) (recovery vessel(s)). The recovery log shall contain the identification number for each recovery vessel, the material it contains (i.e., acetone or mineral spirits), the dates of the first and last addition of recovered cleanup material, the emissions units from which the cleanup materials were recovered (emissions units P010, P016, R008, R022 and/or P015) or emissions unit P016 if not sharing recovery with other emissions units, the weight of the recovered material at shipment (including and excluding the weight of the recovery vessel), and the date the vessel was shipped off-site. Each recovery vessel shall be marked or labeled with the identification number documented in the log. The following information shall be recorded, calculated, and maintained for this emissions unit if an emissions credit is to be used for recovered cleanup materials:
 - a. the date cleanup material is first added to each recovery vessel and the recovery vessel's identification number/code;
 - b. the date of the last day cleanup material is added to each recovery vessel before it is shipped (referenced with its identification number/code);
 - c. the date each recovery vessel (referenced with its identification number/code) is shipped off site;
 - d. the number days the recovery vessel (referenced with its identification number/code) accumulated cleanup material, determined from "a" and "b" above;
 - e. the number of gallons or liters and weight* of the cleanup material contained in each recovery vessel (referenced with its identification number/code) when it is shipped off site;
 - f. the OC and VOC content of the recovered cleanup materials, as determined from the most recent lab test results from a representative sample of the recovered materials; and until such test results are received, the minimum OC and VOC** content of the cleanup materials collected, in pounds per gallon, grams per liter, or percent by weight;
 - g. the total emissions credit for each recovery vessel shipped during the month

(referenced with its identification number/code), in pounds of OC and/or VOC per recovery vessel, i.e. "e" x "f";

- h. the number of gallons or weight of the cleanup materials applied in emissions unit P016, between the date each recovery vessel was first used ("a") to the date cleanup material was last added prior to shipment ("b"), i.e., the sum of the usage as recorded in C.1.d for each such day;
- i. if sharing a recovery vessel, the total number of gallons or total weight of the cleanup material applied in emissions unit P016 plus the same solvent's use in the emissions unit(s) sharing the recovery vessel and credit, between the date each recovery vessel was first used ("a") to the date cleanup material was last added prior to shipment ("b"), i.e., the sum of the daily cleanup material usage between and including these dates for the individual emissions units sharing the recovery vessel, from each individual emissions unit's records for solvent/cleanup usage in Sections C.1 or C.3 in emissions units R008 and R022;
- j. the percent of the cleanup material lost and not recovered (% of each, if more than one solvent is recovered), calculated for each recovery vessel shipped (referenced with its identification number/code), calculated as the difference between the total usage of the cleanup material applied in the emissions units sharing the recovery vessel ("i"), or if the vessel is not shared, the total usage applied in emissions unit P016 alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, minus the total recovered cleanup material in the recovery vessel at shipment ("e"), divided by the total usage of the cleanup material applied in the emissions units sharing the recovery vessel ("i") or applied in emissions unit P016 alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, i.e., $[(i - e) / i]$ or $[(h - e) / h]$;
- k. the daily average OC and/or VOC credit for cleanup materials recovered from emissions unit P016, calculated based on each recovery vessel shipped:
 - i. calculated for emissions unit P016 alone (if the recovery vessel contains only cleanup material recovered from emissions unit P016) by dividing the total VOC and/or OC recovery credit by the number of days it took to fill the vessel, i.e., "g"/"d"; or
 - ii. if sharing a recovery vessel, the calculated portion of the emissions credit, calculated in "g", to be credited to the daily average emissions from emissions unit P016 in pounds, i.e., "g"/"d" times the cleanup material

usage in emissions unit P016 (recorded in "h") divided by the cleanup material usage in all the emissions units sharing the recovery vessel and credit (recorded in "i"), i.e., ("g"/"d") x ("h"/"i"); and

- I. the total VOC and/or OC credit for all recovery vessels shipped during the month and containing cleanup materials applied in this emissions unit (sum of all recovery vessels shipped between first and last day of the month, as recorded in "g") (referenced with its identification number/code); and if sharing the vessel with other emissions units, the portion of the emissions calculated in "g" above to be credited to the monthly emissions from emissions unit P016, in pounds or tons/month, calculated as "g" times the monthly cleanup material usage in emissions unit P016 (recorded in "h") divided by the cleanup material usage in all the emissions units sharing the credit ("i"), i.e., ("g") x ("h"/"i").

The permittee shall take a representative sample of the first full drum of each recovered cleanup material collected following the issuance of this permit, which shall be tested at an outside laboratory for the OC and VOC content. A representative sample of the recovered cleanup materials shall be re-tested once every five years and following any change in the adhesives and/or cleanup materials applied, using a representative sample from the first full drum following the change. Solvent soaked rags may not be included in any recovery credit to emissions.

* The weight and gallons of recovered cleanup materials, to be applied in calculations of emissions, shall be recorded at the time it is shipped off-site, and shall not include the weight of the recovery vessel, which shall remain closed/sealed at all times except during material additions and/or preparation for off-site recovery or disposal.

** Until testing results documenting a higher OC and VOC content are received, the lowest OC and VOC content of the range provided by the manufacturer of the cleanup materials shall be used in calculating the credit for the recovered materials.

3. The permittee shall collect and record the following information, including the calculations, on a monthly basis for this emissions unit:
 - a. the monthly total OC and VOC emissions, calculated as the sum of emissions from all adhesives (sum of C.1.i), sealers (sum of C.1.k), and cleanup materials (sum of C.1.l) employed in this emissions unit during the month, and subtracting the credit to these emissions for recovered cleanup materials shipped during the month, i.e., the total OC and VOC emissions minus the total emissions credit, recorded in C.2.l above, for all recovery vessels shipped during the month; and

- b. the monthly total MEK emissions from all adhesives employed in this emissions unit, i.e., the sum of the daily emissions from C.1.j.
4. At the end of each month the permittee shall collect, calculate, and record the following rolling, 12-month emissions:
 - a. the rolling, 12-month VOC emissions from all of the VOC-containing (non-frit) coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, and cleanup materials applied in the emissions units contained in this permit, including emissions units: P010, P011, P012, P013, P014, P015, P016, R008, R012, R013, R014, R015, R018, R022, and R023; and two tons of VOC emissions shall be added to the rolling, 12-month emissions records, to represent the potential annual VOC emissions from the combustion of natural gas in the drying ovens, curing furnaces, and the thermal oxidizer, permitted in the following emissions units: K001, R005, R008, R009, R018, R019, R020, and R022;
 - b. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - c. the rolling, 12-month styrene emissions from emissions units R008 and R022; and
 - d. the rolling, 12-month total combined HAP emissions, based upon a summation of the following:
 - i. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - ii. the rolling, 12-month styrene emissions from emissions units R008 and R022;
 - iii. the rolling, 12-month emissions of MDI from emissions units R012, R013, R014, R015, R018, and R023; and
 - iv. any other HAP(s) documented in the product data for coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, cleanup materials, or other process materials employed, and calculated as the emissions for a rolling, 12-month period.

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5. The permittee shall keep the following records on all materials employed in this emissions unit:
 - a. the identification of the chemical compound and its physical state; and
 - b. for any liquid organic materials, whether or not the material is a photochemically reactive material, as defined in OAC rule 3745-21-01(C)(5).

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:
 - a. an identification of each day during which the average OC emissions from the emissions unit exceeded 1.16 pounds per hour and the actual average hourly OC emissions for each such day;
 - b. an identification of each day during which the average VOC emissions from the emissions unit exceeded 0.64 pound per hour and the actual average hourly VOC emissions for each such day;
 - c. an identification of each day during which the average MEK emissions from the emissions unit exceeded 0.02 pound per hour and the actual average hourly MEK emissions for each such day;
 - d. an identification of each day during which a photochemically reactive material was employed in this emissions unit and the actual OC emissions for each such day;

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- e. an identification of each month during which the rolling, 12-month MEK emissions from this emissions unit exceeded 0.03 tons; and
 - f. an identification of each month during which the rolling, 12-month VOC emissions from this emissions unit exceeded 0.94 tons.
2. During the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any month during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 6.10 tons of VOC per month;
 - b. 0.83 ton of styrene per month;
 - c. 0.42 ton of MEK per month; and
 - d. 1.25 tons of total aggregate HAPs per month.
3. After the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any rolling, 12-month period during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 73.18 tons of VOC;
 - b. 9.95 tons of styrene;
 - c. 5.0 tons of MEK; and
 - d. 15.0 tons of total aggregate HAPs.
4. All deviation reports shall be submitted quarterly as required in the General Terms and Conditions of this permit.
5. The permittee shall also submit annual reports that specify the total volatile organic compound emissions from this emissions unit for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

E. Testing Requirements

1. Emission Limitations:
1.16 pounds per hour (daily average) and 1.69 tons per year of OC emissions

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.1.

2. Emission Limitations:
0.64 pound per hour (daily average) and 0.94 ton per rolling, 12-month period of VOC emissions

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.1.

3. Emission Limitations:
0.02 pound per hour (daily average) and 0.03 ton per rolling, 12-month period of MEK emissions

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.1.

4. Emission Limitations:
During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:
 - a. 6.10 tons of VOC per month;
 - b. 0.83 ton of styrene per month;
 - c. 0.42 ton of MEK per month; and
 - d. 1.25 tons of total aggregate HAPs per month.

Modification Issued: 11/30/2006Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

5. Emission Limitations:

After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- a. 73.18 tons of VOC;
- b. 9.95 tons of styrene;
- c. 5.0 tons of MEK; and
- d. 15.0 tons of total aggregate HAPs.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

6. Emission Limitations:

1.25 tons of total aggregate HAPs for the first 12 months and 15.0 tons of total aggregate HAPs per rolling, 12-months for emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023 combined.

Applicable Compliance Method:

The HAP emissions, MEK, from the adhesive(s) applied in this emissions unit shall be calculated monthly per Section C.3, using the daily records for total adhesive usage and the MEK content of the adhesive.

F. Miscellaneous Requirements

The following terms and conditions are federally enforceable requirements: A, C, D, E, and F.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emission Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emission limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
R005 - Tubs Department Enamel Ground Coat Line vented to 3 dust collectors (ET-03, ET-04 and ET-05). This operation includes a spray booth, drying oven, curing furnace, and spotter spray booth.	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07
	OAC rule 3745-17-11

OAC rule 3745-31-05(C)

Applicable Emission
Limitations/Control Measures

Emissions from this emissions unit shall not exceed the following limitations from process operations:

particulate emissions (PE) shall not exceed 2.01 pound per hour and 8.80 tons per year from dust collectors ET-03, ET-04 and ET-05; and

no outside visible particulate emissions from door(s), window(s), stack(s), and/or vents exhausting the area of the enamel ground coat line.

Emissions from the combustion of natural gas in the drying oven and curing furnace shall not exceed the following limitations:

PE shall not exceed 0.03 pound per hour and 0.14 ton per year;

organic compound (OC) emissions shall not exceed 0.19 pound per hour and 0.82 ton per year;

volatile organic compound (VOC) emissions shall not exceed 0.09 pound per hour and 0.41 ton per year;

nitrogen oxide (NO_x) emissions

shall not exceed 1.70 pounds per hour and 7.45 tons per year;

carbon monoxide (CO) emissions shall not exceed 1.43 pounds per hour and 6.25 tons per year; and

sulfur dioxide (SO₂) emissions shall not exceed 0.01 pound per hour and 0.04 ton per year.

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

See Sections A.2.a and A.2.b below.

2. Additional Terms and Conditions

2.a During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- i. 6.10 tons of VOC per month;
- ii. 0.83 ton of styrene per month;
- iii. 0.42 ton of methyl ethyl ketone (MEK) per month; and
- iv. 1.25 tons of total aggregate HAPs per month.

2.b After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- i. 73.18 tons of VOC;
- ii. 9.95 tons of styrene;
- iii. 5.0 tons of MEK; and
- iv. 15.0 tons of total aggregate HAPs.

B. Operational Restrictions

1. The permittee shall operate the dust collectors, ET-03, ET-04, and ET-05 (which exhaust inside the facility), whenever this emissions unit is in operation.
2. The pressure drop across each of the dust collectors (ET-03 and ET-04) shall be maintained within the following ranges while the emissions unit is in operation:

ET-03: 1.5 to 5.0 inches of water
ET-04: 1.0 to 5.0 inches of water.

3. The permittee shall burn only natural gas in the drying oven and curing furnace serving this emissions unit. The emissions from natural gas combustion are permitted at the potential usage of natural gas in all of the drying ovens contained in this permit.
4. The panel filter at ET-05 shall be changed weekly.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain daily records that document any time periods when the dust collectors were not in service while the emissions unit was in operation.
2. The permittee shall properly operate and maintain equipment to monitor the pressure drop across each of the dust collectors, ET-03 and ET-04, while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in

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accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each of the dust collectors on a daily basis.

3. The permittee shall maintain a log for the dust collector identified as ET-05 and shall record each date the panel filter, ET-05, is replaced.
4. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of the other fuel burned in this emissions unit.
5. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from any door(s), window(s), stack(s), and/or vents in the area of the enamel ground coat line. 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 emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.

The visible emissions check is not required to be performed by individuals certified to conduct U.S. EPA Reference Method 9 observations.

The permittee may, upon receipt of written approval from the Ohio EPA Northeast District Office, modify the above-mentioned frequencies for performing the visible emissions checks if operating experience indicates that less frequent visible emissions checks would be sufficient to ensure compliance with the requirements for no visible emissions.

6. At the end of each month the permittee shall collect, calculate, and record the rolling, 12-month VOC emissions from all of the VOC-containing (non-frit) coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, and cleanup materials applied in the emissions units contained in this permit, including emissions units: P010, P011, P012, P013, P014, P015, P016, R008, R012, R013, R014, R015, R018, R022, and R023. Two tons of VOC emissions shall be added to the rolling, 12-month emissions records, to represent the potential annual VOC

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emissions from the combustion of natural gas in the drying ovens, curing furnaces, and the thermal oxidizer, permitted in the following emissions units: K001, R005, R008, R009, R018, R019, R020, and R022.

7. At the end of each year the permittee shall collect and record the total tons of frit coatings applied in this emissions unit, to be used in the annual demonstration of compliance with the particulate emission limitation from overspray, by applying the annual tons of frit coating employed in the calculation of the estimated emissions contained in Section E.2.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify (a) each day when the dust collectors were not in service while the emissions unit was in operation and (b) any week when the panel filter ET-05 was not replaced.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the pressure drop across the dust collectors ET-03 and ET-04 did not comply with the allowable range specified above.
3. The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. The reports shall include the type and quantity of fuel used.
4. During the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any month during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 6.10 tons of VOC per month;
 - b. 0.83 ton of styrene per month;
 - c. 0.42 ton of MEK per month; and
 - d. 1.25 tons of total aggregate HAPs per month.
5. After the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any rolling, 12-month period during which the sum of the emissions from all 20 emissions units contained in this permit

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exceed any of the following limitations:

- a. 73.18 tons of VOC;
 - b. 9.95 tons of styrene;
 - c. 5.0 tons of MEK; and
 - d. 15.0 tons of total aggregate HAPs.
6. Unless otherwise specified, all deviation reports shall be submitted quarterly as required in the General Terms and Conditions of this permit.
 7. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stacks or outside vents serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Ohio EPA Northeast District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.
 8. The permittee shall submit any calculated exceedance of the limitation(s) on particulate emissions from overspray from the frit and non-OC/VOC coatings applied in emissions units K001, R005, R009, R019, and R020, as determined in the annual calculation required in Section E.2 of this permit. This report shall be included in the 4th quarter exceedance report if it is determined an exceedance has occurred.

E. Testing Requirements

1. Emission Limitation:
 2.01 pounds per hour of particulate emissions (total from dust collectors ET-03, ET-04, and ET-05)

Applicable Compliance Method:

This limit represents the estimated controlled potential emissions of this emissions unit, calculated as follows:

Primary booth

$(145 \text{ tubs/hr}) \times (5.2 \text{ lbs coat/tub}) \times (100\% - 30\% \text{TE}) \times (25\% \text{ to filter}^*) \times (100\% - 99.5\% \text{ control for ET-03 and ET-04 and ET-05}) = 0.66 \text{ lbs/hr}$

Spotter booth

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$(22 \text{ lbs/hr}) \times (100\% - 30\% \text{TE}) \times (25\% \text{ to filter}^*) \times (100\% - 65\% \text{ control for ET-05}) = 1.35 \text{ lbs/hr}$

Total = primary booth + spotter booth = $0.66 + 1.35 = 2.01 \text{ lbs/hr}$

If required by the Ohio EPA, compliance with the allowable particulate emission limitation shall be determined in accordance with U.S. EPA Reference Methods 1 through 5 of 40 CFR Part 60, Appendix A.

* it is estimated that a minimum of 75% of the overspray is collected in the reclaim trough

2. Emission Limitation:

8.80 tons per year of particulate emissions (total from dust collectors ET-03, ET-04, and ET-05)

Applicable Compliance Method:

The annual emission limitation is based on the allowable hourly emission rate (2.01 lb/hr) multiplied by the maximum possible operating hours (8,760 hrs/yr), and divided by 2,000 lbs/ton. In order to demonstrate compliance with the annual particulate emission limitation from frit coatings, the following calculation shall be performed at the end of each year:

$PE = (FC \times 70\% \text{ overspray} \times 25\% \text{ to filter} \times 1\% \text{ lost from filter})$

where:

PE = total estimated particulate emissions from overspray, in tons of PE per year

FC = total annual frit coating usage in this emissions unit, in tons per year

3. Emission Limitations, from natural gas combustion:

0.03 pound per hour of particulate emissions;

0.19 pound per hour of OC emissions;

0.09 pound per hour of VOC emissions;

1.70 pound per hour of NO_x emissions;

1.43 pound per hour of CO emissions; and

0.01 pound per hour of SO₂ emissions.

Applicable Compliance Method:

Compliance with the hourly emission limitations from natural gas combustion may be

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demonstrated by multiplying the appropriate AP-42 emission factors from "Compilation of Air Pollutant Emission Factors", Tables 1.4-1 and 1.4-2 (7/98) for natural gas, by the maximum hourly natural gas usage rate of the drying oven and curing furnace. If required, the permittee shall demonstrate compliance with the hourly emission limitations in accordance with the appropriate U.S. EPA test methods specified in 40 CFR Part 60, Appendix A.

4. Emission Limitations, from natural gas combustion:
 - 0.14 ton per year of particulate emissions;
 - 0.82 ton per year of OC emissions;
 - 0.41 ton per year of VOC emissions;
 - 7.45 tons per year of NO_x emissions;
 - 6.25 tons per year of CO emissions; and
 - 0.04 ton per year of SO₂ emissions.

Applicable Compliance Method:

The annual emission limitations are based on the allowable hourly emission rates multiplied by the maximum possible operating hours (8,760 hrs/yr), and divided by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitations, compliance will also be shown for the annual emission limitations.

5. Emission Limitation:

No outside visible particulate emissions from door(s), window(s), stack(s), and/or vents exhausting the area of the enamel ground coat line.

Applicable Compliance Method:

Compliance shall be determined through the weekly (or other approved frequency) visible emissions checks and through visible emission observations performed in accordance 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

6. Emission Limitations:

During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

 - a. 6.10 tons of VOC per month;

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- b. 0.83 ton of styrene per month;
- c. 0.42 ton of MEK per month; and
- d. 1.25 tons of total aggregate HAPs per month.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

7. Emission Limitations:

After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- a. 73.18 tons of VOC;
- b. 9.95 tons of styrene;
- c. 5.0 tons of MEK; and
- d. 15.0 tons of total aggregate HAPs.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

F. Miscellaneous Requirements

The requirements of this Permit to Install (02-18111) shall supersede the requirements for this emissions unit contained in Permit to Install number 17-056 issued on November 4, 1980. This emissions unit includes the curing furnace previously identified as P003 and placed on registration status on January 31, 1977. The following terms and conditions are federally enforceable requirements: A, B, C, D, E, and F.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emission Limitations and/or Control Requirements

- 1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emission limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
R008 - Acrylic Parts Fiberglass (FRP) Lamination Line 1, vented to the Polyad control system (Polyad Preconcentrator and thermal oxidizer), contained in a permanent total enclosure. This operation includes a FRP resin coating booth, transition area, and a curing oven.	OAC rule 3745-31-05(A)(3)

	<u>Applicable Emission Limitations/Control Measures</u>	
OAC rule 3745-21-07(G)	The total emissions for emissions units R008 and R022, combined, shall not exceed the following limitations which include resin usage and cleanup operations:	particulate emissions (PE) shall not exceed 0.005 pound per hour and 0.02 ton per year; OC emissions shall not exceed 0.03 pound per hour and 0.14 ton per year;
OAC rule 3745-31-05(C)	<p>organic compound (OC) emissions shall not exceed 17.52 pounds per hour and 29.76 tons per year;</p> <p>volatile organic compound (VOC) emissions shall not exceed 4.07 pounds per hour and 10.28 tons per rolling, 12-month period;</p> <p>styrene emissions shall not exceed 3.99 pounds per hour and 9.95 tons per rolling, 12-month period; and</p> <p>all styrene emissions shall be captured and vented to the Polyad control system which shall achieve a minimum control efficiency of 87%, by weight.</p> <p>Emissions from the combustion of natural gas in the curing ovens and thermal oxidizer for emissions units R008 and R022, combined, shall not exceed the following:</p>	<p>VOC emissions shall not exceed 0.016 pound per hour and 0.07 ton per year;</p> <p>nitrogen oxide (NOx) emissions shall not exceed 0.29 pound per hour and 1.26 tons per year;</p> <p>carbon monoxide (CO) emissions shall not exceed 0.24 pound per hour and 1.05 tons per year; and</p> <p>sulfur dioxide (SO₂) emissions shall not exceed 0.002 pound per hour and 0.008 ton per year.</p> <p>The control requirement specified by this rule is less stringent than the control requirements established pursuant to OAC rule 3745-31-05(A)(3).</p> <p>See Sections A.2.a and A.2.b below.</p>

2. Additional Terms and Conditions

2.a During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- i. 6.10 tons of VOC per month;
- ii. 0.83 ton of styrene per month;
- iii. 0.42 ton of methyl ethyl ketone (MEK) per month; and
- iv. 1.25 tons of total aggregate HAPs per month.

2.b After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- i. 73.18 tons of VOC;
- ii. 9.95 tons of styrene;
- iii. 5.0 tons of MEK; and
- iv. 15.0 tons of total aggregate HAPs.

B. Operational Restrictions

1. The Polyad Preconcentrator and thermal oxidizer control systems shall be used whenever this emissions unit is in operation.
2. Until compliance testing has been conducted as required in this permit, the average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall be maintained at the average temperature recommended by the manufacturer of the incinerator. Following compliance testing, the average combustion temperature within the thermal incinerator, for any 3-hour block of time the emissions unit is in operation, shall not be more than 50 degrees

Fahrenheit below the average temperature maintained during the most recent emissions test that demonstrated the emissions unit to be in compliance.

3. This emissions unit shall be totally enclosed such that all emissions are captured for venting to the Polyad control system. Compliance with the following criteria, as specified by USEPA Method 204, shall be met by the permittee:
 - a. any natural draft opening (NDO) shall be at least four equivalent opening diameters from each VOC emitting point;
 - b. the total area of all NDO's shall not exceed 5 percent of the surface area of the enclosure's four walls, floor and ceiling;

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- c. the average facial velocity of air through all the NDO's shall be at least 3,600 m/hr (200 fpm); or the differential pressure between the inside and outside of the enclosure shall not be less than 0.007 inch of water;
 - d. the direction of air flow through all NDO's shall be into the enclosure; and
 - e. all access doors and windows whose areas are not included in "b" and are not included in the calculations or monitoring in "c" shall be closed during routine operation of the process.
4. The permittee shall burn only natural gas in the curing oven and thermal oxidizer serving this emissions unit. The emissions from natural gas combustion are permitted at the potential usage of natural gas for emissions units R008 and R022, combined.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

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

- a. all 3-hour blocks of time (i.e., 12 a.m. to 3 a.m., 3 a.m. to 6 a.m., etc.) during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent emission tests that demonstrated the emissions unit was in compliance; and
 - b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall install, operate, and maintain monitoring devices and a recorder which simultaneously measure and record the pressure inside and outside the permanent total enclosure. The monitoring and recording devices shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's

recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

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

- a. the difference in pressure between the permanent total enclosure and the surrounding area(s); and
 - b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
3. The permittee shall collect and record the following information on a daily basis for each material employed in emissions units R008 and R022, combined:
- a. the company identification for each process resin, mold cleaner, and cleanup material employed;
 - b. the number of gallons and density or pounds of each process resin employed;
 - c. the number of gallons or pounds of each cleanup material employed;
 - d. the number of gallons or pounds of mold cleaner employed;
 - e. the OC and VOC content of each process resin employed, in pounds per gallon or in weight percent;
 - f. the styrene content of each process resin employed, in pounds per gallon or in weight percent;
 - g. the OC and VOC content of each cleanup material employed, in pounds per gallon or in weight percent;
 - h. the OC and VOC content of the mold cleaner employed, in pounds per gallon or in weight percent;
 - i. the uncontrolled styrene emissions, in pounds per day, i.e., the sum of "b"(in pounds or converted to tons) of all process resins applied, times the emission factor (EF)^{***}, in pounds of styrene emitted per pound or ton of process resins, calculated from Table 1 of Subpart WWWW of 40 CFR Part 63 for a nonatomized mechanical resin application using a nonvapor-suppressed resin, i.e., $EF = [(0.157 \times \% \text{ styrene}) - 0.0165] \times 2000$;

- j. if the OC and VOC emissions from process resins include more than styrene (i.e., "e" is greater than "f"), the daily non-styrene OC and VOC emissions from process materials applied, in pounds per day, i.e., the sum of "b" x ("e" - "f") for each process resin employed;
- k. the daily OC and VOC emissions from all cleanup materials applied, in pounds per day, prior to any credit for recovered cleanup materials, i.e., the sum of "c" x "g" for each cleanup material applied;
- l. the daily OC and VOC emissions from the mold cleaner applied, in pounds per day, prior to any credit for recovered mold cleaner, i.e., the sum of "d" x "h" for the mold cleaner applied;
- m. the daily OC and VOC emissions from all cleanup materials employed following the credit* for recovered cleanup materials, in (or converted to) pounds per day, calculated by subtracting the daily average VOC and/or OC credit(s) for recovered cleanup materials, as calculated in C.4.k below, from the total emissions calculated from the daily usage of cleanup materials in "C.3.k" above, and also documented from the product of "C.3.k" x "C.4.j";
- n. the daily OC and VOC emissions from all mold cleaner(s) employed following the credit* for recovered mold cleaner, in (or converted to) pounds per day, calculated by subtracting the daily average VOC and/or OC credit(s) for recovered mold cleaner, as calculated in C.4.k below, from the total emissions calculated from the daily usage of mold cleaner in "C.3.l" above, and also documented from the product of "C.3.l" x "C.4.j";
- o. the daily controlled styrene emissions for all process resins employed, in pounds per day, i.e., the uncontrolled styrene emissions from "i" x (100% - control efficiency**);
- p. the total OC and VOC emissions from all materials applied, i.e., ("j" + "m" + "n" + "o"), in pounds/day;
- q. the maximum number of hours that either emissions unit R008 or R022 were in operation, (hrs/day);
- r. the average hourly OC and VOC emission rates for all materials employed, in pounds per hour, i.e., "p"/"q"; and

- s. the average hourly controlled styrene emission rate for all materials employed, in pounds per hour, i.e., "o"/"q".
- * The daily credit for recovered cleanup materials and/or mold cleaner, applied to the emissions in "C.3.m" and "C.3.n" and recorded in "C.4.k", shall be calculated from the last drum shipped containing the cleanup material and mold cleaner recovered from these emissions units.
- ** the control efficiency shall be adjusted to the percent control established during the most recent emission tests that demonstrate that the emissions units are in compliance and 87% shall be used for the purposes of record keeping until such emission testing is completed.
- *** An alternative uncontrolled styrene emission factor may be used if it is determined more appropriate and approved by the Ohio EPA.
4. If a credit for recovered cleanup material and/or mold cleaner is used in the calculation of the monthly and/or the rolling, 12-month emissions from this emissions unit and emissions unit R022 or if a recovery credit is used as a factor in daily emission calculations, the permittee shall maintain the following records for the recovered cleanup material and a log for the recovery drum(s)/tank(s) (recovery vessel(s)). The recovery log shall contain the identification number for each recovery vessel, the material it contains (i.e., acetone or mold cleaner), the dates of the first and last addition of the recovered material, the emissions units from which the cleanup material or mold cleaner was recovered (emissions units R008, R022, P010 and/or P016 if acetone or R008 and R022 if mold cleaner) or emissions unit R008 if not sharing recovery with other emissions units, the weight of the recovered material at shipment (including and excluding the weight of the recovery vessel), and the date the vessel was shipped off-site. Each recovery vessel shall be marked or labeled with the identification number documented in the log. The following information shall be recorded, calculated, and maintained for this emissions unit if an emissions credit is to be used for recovered cleanup materials and/or mold cleaner:
- a. the date cleanup material or mold cleaner is first added to each recovery vessel, the material it contains, and the recovery vessel's identification number/code;
 - b. the date of the last day cleanup material or mold cleaner is added to each recovery vessel before it is shipped (referenced with its identification number/code);

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- c. the date each recovery vessel (referenced with its identification number/code) is shipped off site;
- d. the number days the recovery vessel (referenced with its identification number/code) accumulated cleanup material or mold cleaner, determined from "a" and "b" above;
- e. the number of gallons and weight* of the material contained in each recovery vessel (referenced with its identification number/code) when it is shipped off site;
- f. the OC and VOC content of the recovered cleanup material and/or mold cleaner, as determined from the most recent lab test results from a representative sample of the recovered materials; and until such test results are received, the minimum OC and VOC** content of the mold cleaner and/or cleanup material collected, in pounds per gallon or percent by weight;
- g. the total emissions credit for each recovery vessel shipped during the month (referenced with its identification number/code), in pounds of OC and/or VOC per recovery vessel, i.e., "e" x "f";
- h. the number of gallons or total weight of each cleanup material and/or mold cleaner applied in emissions units R008 and R022, combined, between the date each recovery vessel was first used ("a") to the date cleanup material and/or mold cleaner was last added prior to shipment ("b"), i.e., the sum of the daily usage between and including these dates, as recorded in C.3.c for cleanup material and term C.3.d for mold cleaner; and
- i. if sharing a recovery vessel, the total number of gallons or total weight of the cleanup material and/or mold cleaner applied in emissions units R008 and R022 plus the same material's use in the emissions unit(s) sharing the recovery vessel and credit, between the date each recovery vessel was first used ("a") to the date recovered material was last added prior to shipment ("b"), i.e., the sum of the daily material usage between and including these dates for the individual emissions units sharing the recovery vessel, from each individual emissions unit's records for acetone usage (emissions units P010 and P016) or similar mold cleaner usage (Americast Systems, emissions units R012, R013, R014, R015, and R023) in their Sections C.1 and from Sections C.3 in emissions units R008 and R022;
- j. the percent of cleanup material and mold cleaner lost and not recovered (% of

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- each), calculated for each recovery vessel shipped (referenced with its identification number/code), calculated as the difference between the total usage of the cleanup material and/or mold cleaner applied in the emissions units sharing the recovery vessel ("i"), or if the vessel is not shared, the total usage applied in emissions units R008 and R022, alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, minus the total recovered material in the recovery vessel at shipment ("e"), divided by the total usage of the cleanup material and/or mold cleaner applied in the emissions units sharing the recovery vessel ("i") or applied in emissions units R008 and R022, alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, i.e., $[(i - e) / i]$ or $[(h - e) / h]$;
- k. the daily average OC and/or VOC credit for cleanup material and/or mold cleaner recovered from emissions units R008 and R022, calculated based on each recovery vessel shipped:
- i. calculated for emissions units R008 and R022 alone (if the recovery vessel contains only cleanup material and/or mold cleaner recovered from emissions units R008 and R022) by dividing the total VOC and/or OC recovery credit by the number of days it took to fill the vessel, i.e., g / d ; or
 - ii. if sharing a recovery vessel, the calculated portion of the emissions credit, calculated in "g", to be credited to the daily average emissions from emissions units R008 and R022 in pounds, i.e., g / d times the cleanup material and/or mold cleaner usage in emissions units R008 and R022 (recorded in "h") divided by the cleanup material and/or mold cleaner usage in all the emissions units sharing the recovery vessel and credit (recorded in "i"), i.e., $(g / d) \times (h / i)$; and
- l. the total VOC and/or OC credit for all recovery vessels shipped during the month and containing cleanup material or mold cleaner applied in emissions units R008 or R022 (sum of all recovery vessels shipped between first and last day of the month, as recorded in "g") (referenced with its identification number/code); and if sharing the vessel with other emissions units, the portion of the emissions calculated in "g" above to be credited to the monthly emissions from emissions units R008 and R022, in pounds or tons/month, calculated as "g" times the monthly mold cleaner usage in emissions units R008 and R022 (recorded in "h") divided by the mold cleaner usage in all the emissions units sharing the credit ("i"), i.e., $(g) \times (h / i)$.

The permittee shall take a representative sample of the first full drum of recovered cleanup material and/or mold cleaner collected following the issuance of this permit, which shall be tested at an outside laboratory for the OC and VOC content. A representative sample of the recovered cleanup material and/or mold cleaner shall be re-tested once every five years and following any change in the resins, mold cleaner, and/or cleanup materials applied, using a representative sample from the first full drum following the change. Solvent soaked rags may not be included in any recovery credit to emissions.

* The weight and gallons of recovered cleanup material and/or mold cleaner, to be applied in calculations of emissions, shall be recorded at the time it is shipped off-site, and shall not include the weight of the recovery vessel, which shall remain closed/sealed at all times except during material additions and/or preparation for off-site recovery or disposal.

** Until testing results documenting a higher OC and VOC content are received, the lowest OC and VOC content of the range provided by the manufacturer of the cleanup material and/or mold cleaner shall be used in calculating the credit for the recovered materials.

5. The permittee shall collect and record the following information, including the calculation, on a monthly basis for emissions units R008 and R022, combined:
 - a. the monthly total OC and VOC emissions, calculated as the sum of emissions from all process resins (sum of C.3.j), cleanup materials (sum of C.3.k), mold cleaner (sum of C.3.l), and controlled styrene emissions from process resins (C.3.o) employed in these emissions units during the month, and subtracting the credit to these emissions for recovered cleanup material and/or mold cleaner shipped during the month, i.e., the total OC and VOC emissions minus the total emissions credit, recorded in C.4.l above, for all recovery vessels shipped during the month; and
 - b. the monthly total controlled styrene emissions from all process materials employed in emissions units R008 and R022, combined, i.e., the sum of the daily emissions, in pounds or tons per month, from term C.3.o above.
6. At the end of each month the permittee shall collect, calculate, and record the following rolling, 12-month emissions:
 - a. the rolling, 12-month VOC emissions from all of the VOC-containing (non-frit)

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coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, and cleanup materials applied in the emissions units contained in this permit, including emissions units: P010, P011, P012, P013, P014, P015, P016, R008, R012, R013, R014, R015, R018, R022, and R023; and two tons of VOC emissions shall be added to the rolling, 12-month emissions records, to represent the potential annual VOC emissions from the combustion of natural gas in the drying ovens, curing furnaces, and the thermal oxidizer, permitted in the following emissions units: K001, R005, R008, R009, R018, R019, R020, and R022;

- b. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - c. the rolling, 12-month styrene emissions from emissions units R008 and R022; and
 - d. the rolling, 12-month total combined HAP emissions, based upon a summation of the following:
 - i. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - ii. the rolling, 12-month styrene emissions from emissions units R008 and R022;
 - iii. the rolling, 12-month emissions of MDI from emissions units R012, R013, R014, R015, R018, and R023; and
 - iv. any other HAP(s) documented in the product data for coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, cleanup materials, or other process materials employed, and calculated as the emissions for a rolling, 12-month period.
7. The permit to install for emissions units R008 and R022 was evaluated based on the actual materials applied and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level

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Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Styrene

TLV (mg/m³): 85.2 mg/m³

Maximum Hourly Emission Rate (lbs/hr): 3.99 lbs/hr (R008 + R022)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 279 ug/m³

MAGLC (ug/m³): 2,029 ug/m³

8. Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:
 - a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
 - c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).
9. If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under

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OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
- c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

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10. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of the other fuel burned in this emissions unit.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all 3-hour blocks of time (i.e., 12 a.m. to 3 a.m., 3 a.m. to 6 a.m., etc.) during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified above.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the permanent total enclosure was either not maintained at the required differential pressure or average facial velocity, through each NDO.
3. The permittee shall submit quarterly deviation (excursion) reports that include the following information:
 - a. an identification of each day during which the average OC emissions from emissions units R008 and R022, combined, exceeded 17.52 pounds per hour and the actual average hourly OC emissions for each such day;
 - b. an identification of each day during which the average VOC emissions from emissions units R008 and R022, combined, exceeded 4.07 pounds per hour and the actual average hourly VOC emissions for each such day;
 - c. an identification of each day during which the average styrene emissions from emissions units R008 and R022, combined, exceeded 3.99 pounds per hour and the actual average hourly styrene emissions for each such day;
 - d. an identification of each month during which the rolling, 12-month styrene emissions from emissions units R008 and R022, combined, exceeded 9.95 tons; and
 - e. an identification of each month during which the rolling, 12-month VOC emissions from emissions units R008 and R022, combined, exceeded 10.28 tons.
4. During the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any month during which the

sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:

- a. 6.10 tons of VOC per month;
 - b. 0.83 ton of styrene per month;
 - c. 0.42 ton of MEK per month; and
 - d. 1.25 tons of total aggregate HAPs per month.
5. After the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any rolling, 12-month period during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
- a. 73.18 tons of VOC;
 - b. 9.95 tons of styrene;
 - c. 5.0 tons of MEK; and
 - d. 15.0 tons of total aggregate HAPs.
6. The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. The reports shall include the type and quantity of fuel used.
7. All deviation reports shall be submitted quarterly as required in the General Terms and Conditions of this permit.
8. The permittee shall also submit annual reports that specify the total volatile organic compound emissions from this emissions unit (or from the combined emissions units R008 and R022) for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this or these emissions unit(s) in the annual Fee Emission Report.

E. Testing Requirements

1. Emission Limitations:

3.99 pounds styrene/hr from emissions units R008 and R022 combined
100% by weight capture efficiency
87% by weight control efficiency

Applicable Compliance Method:

The permittee shall conduct, or have conducted, emission testing for this emissions unit (R008) and emissions unit R022 in accordance with the following requirements:

- a. The emission testing shall be conducted within 6 months after the date this permit is issued.
- b. The following test method(s) shall be employed to document the uncontrolled emission rate of styrene, the capture efficiency of the permanent total enclosure, the

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total control efficiency for styrene (87%), and demonstrate compliance with the allowable mass emission rate of styrene, 3.99 lbs/hr:

Methods 204 through 204F of 40 CFR Part 51, Appendix M for the permanent total enclosure containing emissions units R008 and R022:

U.S. EPA Reference Methods 1 through 4, and Method 18 of 40 CFR Part 60, Appendix A conducted at the following points:

- i. the inlet to the Polyad concentrator from the permanent total enclosure for R008 and R022; and
 - ii. the combined exhaust stack serving the Polyad system, cyclone, and oxidizer.
- c. The test(s) shall be conducted while both emissions units R008 and R022 are operating at or near their maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office. The test methods shall be employed to demonstrate compliance with the total control efficiency of the Polyad control system (Polyad Preconcentrator and thermal oxidizer) and the pound per hour emission limitation for styrene. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10(C). The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.
- d. The capture efficiency shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Northeast District Office.

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The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Northeast District Office's refusal to accept the results of the emission test(s).

- f. Personnel from the Ohio EPA, Northeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
 - g. A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Northeast District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Northeast District Office.
2. Emission Limitation:
17.52 pounds per hour (daily average) of OC emissions from emissions units R008 and R022, combined

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Section C.3. If required, compliance shall be determined through stack testing, performed in accordance with OAC rule 3745-21-10(C) and using test Methods 1 through 4 and 18, 25, or 25A, as appropriate, from 40 CFR Part 60, Appendix A.
 3. Emission Limitation:
29.76 tons per year of OC emissions from emissions units R008 and R022, combined

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Section C.3
 4. Emission Limitation:
4.07 pounds per hour (daily average) of VOC emissions from emissions units R008 and R022, combined

Modification Issued: 11/30/2006Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.3. If required, compliance shall be determined through stack testing, performed in accordance with OAC rule 3745-21-10(C) and using test Methods 1 through 4 and 18, 25, or 25A, as appropriate, from 40 CFR Part 60, Appendix A.

5. Emission Limitation:

10.28 tons per rolling, 12-month period of VOC emissions from emissions units R008 and R022, combined

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.3.

6. Emission Limitation:

3.99 pounds per hour (daily average) of styrene emissions from emissions units R008 and R022, combined

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.3 and the testing requirements specified in Section E.1 above.

7. Emission Limitation:

9.95 tons per rolling, 12-month period of styrene emissions from emissions units R008 and R022, combined:

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.3.

8. Emission Limitations from emissions units R008 and R022, combined, from natural gas combustion:

0.005 pound per hour of particulate emissions;

0.03 pound per hour of OC emissions;

0.016 pound per hour of VOC emissions;

0.29 pound per hour of NO_x emissions;

0.24 pound per hour of CO emissions; and

0.002 pound per hour of SO₂ emissions.

Applicable Compliance Method:

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Compliance with the hourly emission limitations from natural gas combustion may be demonstrated by multiplying the appropriate AP-42 emission factors from "Compilation of Air Pollutant Emission Factors", Tables 1.4-1 and 1.4-2 (7/98) for natural gas, by the maximum hourly natural gas usage rate of the curing ovens and thermal oxidizer. If required, the permittee shall demonstrate compliance with the hourly emission limitations in accordance with the appropriate U.S. EPA test methods specified in 40 CFR Part 60, Appendix A.

9. Emission Limitations from emissions units R008 and R022, combined, from natural gas combustion:
- 0.02 ton per year of particulate emissions;
 - 0.14 ton per year of OC emissions;
 - 0.07 ton per year of VOC emissions;
 - 1.26 tons per year of NO_x emissions;
 - 1.05 tons per year of CO emissions; and
 - 0.008 ton per year of SO₂ emissions.

Applicable Compliance Method:

The annual emission limitations are based on the allowable hourly emission rates multiplied by the maximum possible operating hours (8,760 hrs/yr), and divided by 2,000

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lbs/ton. Therefore, provided compliance is shown with the hourly emission limitations, compliance will also be shown for the annual emission limitations.

10. Emission Limitations:

During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- a. 6.10 tons of VOC per month;
- b. 0.83 ton of styrene per month;
- c. 0.42 ton of MEK per month; and
- d. 1.25 tons of total aggregate HAPs per month.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

11. Emission Limitations:

After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- a. 73.18 tons of VOC;
- b. 9.95 tons of styrene;
- c. 5.0 tons of MEK; and
- d. 15.0 tons of total aggregate HAPs.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

12. Emission Limitations:

1.25 tons of total aggregate HAPs for the first 12 months and 15.0 tons of total aggregate HAPs per rolling, 12-month period for emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, combined.

Applicable Compliance Method:

The HAP emissions, styrene, from the lamination resins applied in emissions units R088 and R022 shall be calculated monthly per Section C.5, using the daily records for total resin usage, and with emissions calculated as required in C.3.i and C.3.o.

F. Miscellaneous Requirements

The requirements of this Permit to Install (02-18111) shall supersede the requirements for emissions unit R008 contained in Permit to Install number 17-439, issued on November 5, 1986; and the requirements for emissions unit P008 (emissions unit R008's oven) in Permit to Install number 17-1493, issued on October 30, 1996. The following terms and conditions are federally enforceable requirements: A, B, C (except C.7, C.8, and C.9), D, E, and F.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emission Limitations and/or Control Requirements

- 1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emission limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
R009 - Tubs Department Americast I Primer Booth. This operation includes a water-based primer spray booth and a curing oven.	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07
	OAC rule 3745-17-10

OAC rule 3745-31-05(C)

Applicable Emission
Limitations/Control Measures

Emissions from this emissions unit shall not exceed the following limitations from process operations:

particulate emissions (PE) shall not exceed 0.042 pound per hour and 0.18 ton per year from the Americast I primer booth filters; and

visible particulate emissions shall not exceed 10% opacity as a six-minute average.

Emissions from the combustion of natural gas in the curing oven shall not exceed the following limitations:

PE shall not exceed 0.001 pound per hour and 0.01 ton per year;

organic compound (OC) emissions shall not exceed 0.01 pound per hour and 0.02 ton per year;

volatile organic compound (VOC) emissions shall not exceed 0.003 per hour and 0.01 ton per year;

nitrogen oxide (NO_x) emissions shall not exceed 0.05 pound per hour and 0.22 ton per year;

carbon monoxide (CO) emissions shall not exceed 0.04 pound per hour and 0.18 ton per year; and

sulfur dioxide (SO₂) emissions shall not exceed 0.0003 pound per hour and 0.001 ton per year.

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

See Sections A.2.a and A.2.b below.

2. Additional Terms and Conditions

2.a During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- i. 6.10 tons of VOC per month;
- ii. 0.83 ton of styrene per month;
- iii. 0.42 ton of methyl ethyl ketone (MEK) per month; and
- iv. 1.25 tons of total aggregate HAPs per month.

2.b After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- i. 73.18 tons of VOC;
- ii. 9.95 tons of styrene;
- iii. 5.0 tons of MEK; and
- iv. 15.0 tons of total aggregate HAPs.

B. Operational Restrictions

1. The permittee shall operate the dust filters whenever this emissions unit is in operation.
2. The pressure drop across the Americast I primer booth filter(s) shall be maintained between 0.05 and 0.45 inches of water while the emissions unit is in operation.
3. The permittee shall burn only natural gas in the curing oven serving this emissions unit. The emissions from natural gas combustion are permitted at the potential usage of natural gas in all of the drying ovens contained in this permit.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain daily records that document any time periods when the dust collectors were not in service while the emissions unit was in operation.
2. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the Americast I primer booth filter(s) while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the filters on a weekly basis.
3. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of the other fuel burned in this emissions unit.
4. At the end of each month the permittee shall collect, calculate, and record the rolling, 12-month VOC emissions from all of the VOC-containing (non-frit) coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, and cleanup materials applied in the emissions units contained in this permit, including emissions units: P010, P011, P012, P013, P014, P015, P016, R008, R012, R013, R014, R015, R018, R022, and R023. Two tons of VOC emissions shall be added to the rolling, 12-month emissions

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records, to represent the potential annual VOC emissions from the combustion of natural gas in the drying ovens, curing furnaces, and the thermal oxidizer, permitted in the following emissions units: K001, R005, R008, R009, R018, R019, R020, and R022.

5. At the end of each year the permittee shall collect and record the total tons of non-OC/VOC coatings applied in emissions unit R009, to be used in the annual demonstration of compliance with the particulate emission limitation from overspray, by applying the annual tons of the non-OC/VOC coating employed in the calculation of the estimated emissions contained in Section E.2.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify each day when the dust filters were not in service while the emissions unit was in operation.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the pressure drop across the Americast I primer booth's dust filters did not comply with the allowable range specified above.
3. The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. The reports shall include the type and quantity of fuel used.
4. During the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any month during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 6.10 tons of VOC per month;
 - b. 0.83 ton of styrene per month;
 - c. 0.42 ton of MEK per month; and
 - d. 1.25 tons of total aggregate HAPs per month.
5. After the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any rolling, 12-month period during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:

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- a. 73.18 tons of VOC;
 - b. 9.95 tons of styrene;
 - c. 5.0 tons of MEK; and
 - d. 15.0 tons of total aggregate HAPs.
6. All deviation reports shall be submitted quarterly as required in the General Terms and Conditions of this permit.
 7. The permittee shall submit any calculated exceedance of the limitation(s) on particulate emissions from overspray from the frit and non-OC/VOC coatings applied in emissions units K001, R005, R009, R019, and R020, as determined in the annual calculation required in Section E.2 of this permit. This report shall be included in the 4th quarter exceedance report if it is determined an exceedance has occurred.

E. Testing Requirements

1. Emission Limitation:
0.042 pound per hour of particulate emissions (total from Americast I filter)

Applicable Compliance Method:

This limit represents the estimated controlled potential emissions of this emissions unit, calculated as follows:

$$(20 \text{ lbs coat/hr}) \times (100\% - 70\% \text{TE}) \times (100\% - 99.3\% \text{ capture and control for fabric filter}) = 0.042 \text{ lbs/hr}$$

If required by the Ohio EPA, compliance with the allowable particulate emission limitation shall be determined in accordance with U.S. EPA Reference Methods 1 through 5 of 40 CFR Part 60, Appendix A.

2. Emission Limitation:
0.18 ton per year of particulate emissions (total from Americast I filter)

Applicable Compliance Method:

The annual emission limitation is based on the allowable hourly emission rate (0.04 lb/hr) multiplied by the maximum possible operating hours (8,760 hrs/yr), and divided by 2,000 lbs/ton. In order to demonstrate compliance with the annual particulate emission

limitation from non-OC/VOC coatings, the following calculation shall be performed at the end of each year:

$$PE = (FC \times 70\% \text{ overspray} \times 25\% \text{ to filter} \times 1\% \text{ lost from filter})$$

where:

PE = total estimated particulate emissions from overspray, in tons of PE per year

FC = total annual coating usage in this emissions unit, in tons per year

3. Emission Limitations, from natural gas combustion:

0.001 pound per hour of particulate emissions;

0.01 pound per hour of OC emissions;

0.003 pound per hour of VOC emissions;

0.05 pound per hour of NO_x emissions;

0.04 pound per hour of CO emissions; and

0.0003 pound per hour of SO₂ emissions.

Applicable Compliance Method:

Compliance with the hourly emission limitations from natural gas combustion may be demonstrated by multiplying the appropriate AP-42 emission factors from "Compilation of Air Pollutant Emission Factors", Tables 1.4-1 and 1.4-2 (7/98) for natural gas, by the maximum hourly natural gas usage rate of the curing oven. If required, the permittee shall demonstrate compliance with the hourly emission limitations in accordance with the appropriate U.S. EPA test methods specified in 40 CFR Part 60, Appendix A.

4. Emission Limitations, from natural gas combustion:

0.01 ton per year of particulate emissions;

0.02 ton per year of OC emissions;

0.01 ton per year of VOC emissions;

0.22 ton per year of NO_x emissions;

0.18 ton per year of CO emissions; and

0.001 ton per year of SO₂ emissions.

Applicable Compliance Method:

The annual emission limitations are based on the allowable hourly emission rates multiplied by the maximum possible operating hours (8,760 hrs/yr), and divided by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitations, compliance will also be shown for the annual emission limitations.

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5. Emission Limitation:
10% opacity, as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A, using the methods and procedures specified in OAC rule 3745-17-03(B)(1) or other U.S. EPA approved test method with prior approval from the Ohio EPA.

6. Emission Limitations:
During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- a. 6.10 tons of VOC per month;
- b. 0.83 ton of styrene per month;
- c. 0.42 ton of MEK per month; and
- d. 1.25 tons of total aggregate HAPs per month.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

7. Emission Limitations:
After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- a. 73.18 tons of VOC;
- b. 9.95 tons of styrene;
- c. 5.0 tons of MEK; and

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- d. 15.0 tons of total aggregate HAPs.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

F. Miscellaneous Requirements

The requirements of this Permit to Install (02-18111) shall supersede the requirements for this emissions unit contained in Permit to Install number 17-1313 issued on March 15, 1995. The following terms and conditions are federally enforceable requirements: A, B, C, D, E, and F.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emission Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emission limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emission Limitations/Control Measures</u>
R012 - Americast I System 1 Clamps 1 and 2.	OAC rule 3745-31-05(A)(3)	Emissions from this emissions unit shall not exceed the following limitations: organic compound (OC) emissions shall not exceed 0.35 pound per hour and 1.53 tons per year; and volatile organic compound (VOC) emissions shall not exceed 0.05 pound per hour and 0.22 tons per rolling, 12-month period.
	OAC rule 3745-21-07(G)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(C)	See Sections A.2.a and A.2.b below.

2. Additional Terms and Conditions

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- 2.a** During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:
- i. 6.10 tons of VOC per month;
 - ii. 0.83 ton of styrene per month;
 - iii. 0.42 ton of methyl ethyl ketone (MEK) per month; and
 - iv. 1.25 tons of total aggregate HAPs per month.
- 2.b** After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:
- i. 73.18 tons of VOC;
 - ii. 9.95 tons of styrene;
 - iii. 5.0 tons of MEK; and
 - iv. 15.0 tons of total aggregate HAPs.

B. Operational Restrictions

None.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information on a daily basis for each material employed in this emissions unit:
 - a. the company identification for each process resin, mold release agent, and mold cleaner employed;
 - b. the number of gallons or pounds of each process resin employed;

- c. the number of gallons or pounds of each mold release agent employed;
- d. the number of gallons or pounds of the/each mold cleaner employed;
- e. the OC, VOC, and 4,4'-methylene diphenyl diisocyanate (MDI) content of each process resin employed, in pounds per gallon or in weight percent;
- f. the OC and VOC content of each mold release agent employed, in pounds per gallon or in weight percent;
- g. the OC and VOC content of the/each mold cleaner, in pounds per gallon or in weight percent;
- h. if any process resin contains any organic compound(s) not emitted as MDI, the daily OC and VOC emissions from all such process resins employed, in pounds per day, i.e., the sum of "b" x ("e"-MDI content) for each process resin;
- i. the daily OC and VOC emissions from all mold release agents employed, in pounds per day, i.e., the sum of "c" x "f" for each mold release agent applied;
- j. the daily OC and VOC emissions from all mold cleaner(s) employed prior to any credit for recovered materials, in pounds per day, i.e., the sum of "d" x "g" for each mold cleaner applied;
- k. the daily OC and VOC emissions from all mold cleaner(s) employed following the credit* for recovered mold cleaner, in (or converted to) pounds per day, calculated by subtracting the daily average VOC and/or OC credit(s) for recovered mold cleaner, as calculated in C.2.k below, from the total emissions calculated from the daily usage of mold cleaner in "C.1.j" above, and also documented from the product of "C.1.j" x "C.2.j";
- l. the total OC and VOC emissions from all materials applied during the day, i.e., sum of "h" + "i" + "k" above;
- m. the total number of hours the emissions unit was in operation, i.e., hours/day; and
- n. the average hourly OC and VOC emission rates for all materials employed in this emissions unit, in pounds per hour, i.e., "l"/"m" for both pollutants.

- * The daily credit for recovered mold cleaner, applied to the emissions in "C.1.k" and recorded in "C.2.k", shall be calculated from the last drum shipped containing mold cleaner recovered from this emissions unit.
2. If a credit for recovered mold cleaner is used in the calculation of the monthly and/or the rolling, 12-month emissions from this emissions unit or if a recovery credit is used as a factor in daily emission calculations, the permittee shall maintain the following records for the recovered mold cleaner and a log for the recovery drum(s)/tank(s) (recovery vessel(s)). The recovery log shall contain the identification number for each recovery vessel, the material it contains (i.e., mold cleaner 540), the dates of the first and last addition of recovered material, the emissions units from which the mold cleaner was recovered (emissions units R012, R013, R014, R015, and/or R023) or emissions unit R012 if not sharing recovery with other emissions units, the weight of the recovered material at shipment (including and excluding the weight of the recovery vessel), and the date the vessel was shipped off-site. Each recovery vessel shall be marked or labeled with the

identification number documented in the log. The following information shall be recorded, calculated, and maintained for this emissions unit if an emissions credit is to be used for recovered mold cleaner:

- a. the date mold cleaner is first added to each recovery vessel and the recovery vessel's identification number/code;
- b. the date of the last day mold cleaner is added to each recovery vessel before it is shipped (referenced with its identification number/code);
- c. the date each recovery vessel (referenced with its identification number/code) is shipped off site;
- d. the number days the recovery vessel (referenced with its identification number/code) accumulated mold cleaner, determined from "a" and "b" above;
- e. the number of gallons and weight* of the mold cleaner contained in each recovery vessel (referenced with its identification number/code) when it is shipped off site;
- f. the OC and VOC content of the recovered mold cleaner, as determined from the most recent lab test results from a representative sample of the recovered material; and until such test results are received, the minimum OC and VOC** content of the mold cleaner collected, in pounds per gallon or percent by weight;
- g. the total emissions credit for each recovery vessel shipped during the month (referenced with its identification number/code), in pounds of OC and/or VOC per recovery vessel, i.e., "e" x "f";
- h. the number of gallons or weight of the mold cleaner applied in emissions unit R012, between the date each recovery vessel was first used ("a") to the date mold cleaner was last added prior to shipment ("b"), i.e., the sum of the usage as recorded in C.1.d for each such day;
- i. if sharing a recovery vessel, the total number of gallons or total weight of the mold cleaner applied in emissions unit R012 plus the same mold cleaner's use in the emissions unit(s) sharing the recovery vessel and credit, between the date each recovery vessel was first used ("a") to the date mold cleaner was last added prior to shipment ("b"), i.e., the sum of the daily mold cleaner usage between and including these dates for the individual emissions units sharing the recovery vessel, from each individual emissions unit's term for mold cleaner usage in Sections C.1.d for the Americast Systems;

- j. the percent of the mold cleaner lost and not recovered (% of each, if more than one type of mold cleaner is later applied and recovered), calculated for each recovery vessel shipped (referenced with its identification number/code), calculated as the difference between the total usage of the mold cleaner applied in the emissions units sharing the recovery vessel ("i"), or if the vessel is not shared, the total usage applied in emissions unit R012 alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, minus the total recovered mold cleaner in the recovery vessel at shipment ("e"), divided by the total usage of the mold cleaner applied in the emissions units sharing the recovery vessel ("i") or applied in emissions unit R012 alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, i.e., $[(i - e) / i]$ or $[(h - e) / h]$;
- k. the daily average OC and/or VOC credit for mold cleaner recovered from emissions unit R012, calculated based on each recovery vessel shipped:
- i. calculated for emissions unit R012 alone (if the recovery vessel contains only mold cleaner recovered from emissions unit R012) by dividing the total VOC and/or OC recovery credit by the number of days it took to fill the vessel, i.e., g / d ; or
 - ii. if sharing a recovery vessel, the calculated portion of the emissions credit, calculated in "g", to be credited to the daily average emissions from emissions unit R012 in pounds, i.e., g / d times the mold cleaner usage in emissions unit R012 (recorded in "h") divided by the mold cleaner usage in all the emissions units sharing the recovery vessel and credit (recorded in "i"), i.e., $(g / d) \times (h / i)$; and
- l. the total VOC and/or OC credit for all recovery vessels shipped during the month and containing mold cleaner applied in this emissions unit (sum of all recovery vessels shipped between first and last day of the month, as recorded in "g") (referenced with its identification number/code); and if sharing the vessel with other emissions units, the portion of the emissions calculated in "g" above to be credited to the monthly emissions from emissions unit R012, in pounds or tons/month, calculated as "g" times the monthly mold cleaner usage in emissions unit R012 (recorded in "h") divided by the mold cleaner usage in all the emissions units sharing the credit ("i"), i.e., $(g) \times (h / i)$.

The permittee shall take a representative sample of the first full drum of recovered mold

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cleaner collected following the issuance of this permit, which shall be tested at an outside laboratory for the OC and VOC content. A representative sample of the recovered mold cleaner shall be re-tested once every five years and following any change in the resins, mold cleaner, and/or mold release applied, using a representative sample from the first full drum following the change. Solvent soaked rags may not be included in any recovery credit to emissions.

* The weight and gallons of recovered mold cleaner, to be applied in calculations of emissions, shall be recorded at the time it is shipped off-site, and shall not include the weight of the recovery vessel, which shall remain closed/sealed at all times except during material additions and/or preparation for off-site recovery or disposal.

** Until testing results documenting a higher OC and VOC content are received, the lowest OC and VOC content of the range provided by the manufacturer of the mold cleaner shall be used in calculating the credit for the recovered materials.

3. The permittee shall collect and record the following information, including the calculation, on a monthly basis for this emissions unit:
 - a. the monthly total OC and VOC emissions, calculated as the sum of emissions from all process resins (sum of C.1.h), mold release agents (sum of C.1.i), and mold cleaner(s) (sum of C.1.j) employed in this emissions unit during the month, and subtracting the credit to these emissions for recovered mold cleaner shipped during the month, i.e., the total OC and VOC emissions minus the total emissions credit, recorded in C.2.l above, for all recovery vessels shipped during the month; and
 - b. the monthly MDI emissions, estimated using the calculation of emissions from the Alliance for the Polyurethanes Industry "MDI/Polymeric MDI Emissions Reporting Guidelines for the Polyurethane Industry (1999)", and substituting the variables for the average process temperature in degrees Kelvin and the monthly volume of displaced air (ft³/month).
4. At the end of each month the permittee shall collect, calculate, and record the following rolling, 12-month emissions:
 - a. the rolling, 12-month VOC emissions from all of the VOC-containing (non-frit) coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, and cleanup materials applied in the emissions units contained in this permit, including emissions units: P010, P011, P012, P013, P014, P015, P016, R008, R012, R013, R014, R015, R018, R022, and R023; and two tons of

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VOC emissions shall be added to the rolling, 12-month emissions records, to represent the potential annual VOC emissions from the combustion of natural gas in the drying ovens, curing furnaces, and the thermal oxidizer, permitted in the following emissions units: K001, R005, R008, R009, R018, R019, R020, and R022;

- b. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
- c. the rolling, 12-month styrene emissions from emissions units R008 and R022; and
- d. the rolling, 12-month total combined HAP emissions, based upon a summation of the following:
 - i. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - ii. the rolling, 12-month styrene emissions from emissions units R008 and R022;

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- iii. the rolling, 12-month emissions of MDI from emissions units R012, R013, R014, R015, R018, and R023; and
- iv. any other HAP(s) documented in the product data for coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, cleanup materials, or other process materials employed, and calculated as the emissions for a rolling, 12-month period.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:
 - a. an identification of each day during which the average OC emissions from the emissions unit exceeded 0.35 pound per hour and the actual average hourly OC emissions for each such day;
 - b. an identification of each day during which the average VOC emissions from the emissions unit exceeded 0.05 pound per hour and the actual average hourly VOC emissions for each such day; and
 - c. an identification of each month during which the rolling, 12-month VOC emissions from this emissions unit exceeded 0.22 tons.
2. During the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any month during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 6.10 tons of VOC per month;
 - b. 0.83 ton of styrene per month;
 - c. 0.42 ton of MEK per month; and
 - d. 1.25 tons of total aggregate HAPs per month.
3. After the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any rolling, 12-month period during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:

- a. 73.18 tons of VOC;
 - b. 9.95 tons of styrene;
 - c. 5.0 tons of MEK; and
 - d. 15.0 tons of total aggregate HAPs.
4. All deviation reports shall be submitted quarterly as required in the General Terms and Conditions of this permit.
 5. The permittee shall also submit annual reports that specify the total volatile organic compound emissions from this emissions unit for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

E. Testing Requirements

1. Emission Limitations:
0.35 pound per hour (daily average) and 1.53 tons per year of OC emissions

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Section C.1.
2. Emission Limitations:
0.05 pound per hour (daily average) and 0.22 ton per rolling, 12-month period of VOC emissions

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Section C.1.
3. Emission Limitations:
During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following

emission limitations:

- a. 6.10 tons of VOC per month;
- b. 0.83 ton of styrene per month;
- c. 0.42 ton of MEK per month; and
- d. 1.25 tons of total aggregate HAPs per month.

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Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

4. Emission Limitations:

After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- a. 73.18 tons of VOC;
- b. 9.95 tons of styrene;
- c. 5.0 tons of MEK; and
- d. 15.0 tons of total aggregate HAPs.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

5. Emission Limitation:

1.25 tons of total aggregate HAPs for the first 12 months and 15.0 tons of total aggregate HAPs per rolling, 12-months for emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023 combined.

Applicable Compliance Method:

The HAP emissions, MDI, from the polyurethane resins used in the Americast Systems (emissions units R012, R013, R014, R015, and R023) shall be calculated monthly using the following formula from the Alliance for the Polyurethanes Industry "MDI/Polymeric MDI Emissions Reporting Guidelines for the Polyurethane Industry (1999)", and substituting the variables for the average process temperature in degrees Kelvin and the monthly volume of displaced air (ft³/month):

$$L_{pk} = V_{air} \times (1/359) \times (273/T_{proc}) \times (VP_{mdi}/760) \times M_w \times K_{mdi}$$

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L_{pk} = emissions (lb/mo)

V_{air} = monthly volume of displaced air (ft³/mo)

T_{proc} = process temperature in degrees K

VP_{mdi} = vapor pressure of MDI (mm Hg)

M_w = molecular weight of MDI, 254.38

K_{mdi} = adjustment factor to the VP that is a function of the MDI concentration in the feedstock, assume 1.0

F. Miscellaneous Requirements

The requirements of this Permit to Install (02-18111) shall supersede the requirements for this emissions unit contained in Permit to Install number 17-1072 issued on September 2, 1992. The following terms and conditions are federally enforceable requirements: A, C, D, E, and F.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emission Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emission limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emission Limitations/Control Measures</u>
R013 - Americast I System 2 Clamps 3 and 4.	OAC rule 3745-31-05(A)(3)	Emissions from this emissions unit shall not exceed the following limitations: organic compound (OC) emissions shall not exceed 0.35 pound per hour and 1.53 tons per year; and volatile organic compound (VOC) emissions shall not exceed 0.05 pound per hour and 0.22 ton per rolling, 12-month period.
	OAC rule 3745-21-07(G)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(C)	See Sections A.2.a and A.2.b below.

2. Additional Terms and Conditions

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- 2.a** During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:
- i. 6.10 tons of VOC per month;
 - ii. 0.83 ton of styrene per month;
 - iii. 0.42 ton of methyl ethyl ketone (MEK) per month; and
 - iv. 1.25 tons of total aggregate HAPs per month.
- 2.b** After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:
- i. 73.18 tons of VOC;
 - ii. 9.95 tons of styrene;
 - iii. 5.0 tons of MEK; and
 - iv. 15.0 tons of total aggregate HAPs.

B. Operational Restrictions

None.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information on a daily basis for each material employed in this emissions unit:
 - a. the company identification for each process resin, mold release agent, and mold cleaner employed;

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- b. the number of gallons or pounds of each process resin employed;
- c. the number of gallons or pounds of each mold release agent employed;
- d. the number of gallons or pounds of the/each mold cleaner employed;
- e. the OC, VOC, and 4,4'-methylene diphenyl diisocyanate (MDI) content of each process resin employed, in pounds per gallon or in weight percent;
- f. the OC and VOC content of each mold release agent employed, in pounds per gallon or in weight percent;
- g. the OC and VOC content of the/each mold cleaner, in pounds per gallon or in weight percent;
- h. if any process resin contains any organic compound(s) not emitted as MDI, the daily OC and VOC emissions from all such process resins employed, in pounds per day, i.e., the sum of "b" x ("e"-MDI content) for each process resin;
- i. the daily OC and VOC emissions from all mold release agents employed, in pounds per day, i.e., the sum of "c" x "f" for each mold release agent applied;
- j. the daily OC and VOC emissions from all mold cleaner(s) employed prior to any credit for recovered materials, in pounds per day, i.e., the sum of "d" x "g" for each mold cleaner applied;
- k. the daily OC and VOC emissions from all mold cleaner(s) employed following the credit* for recovered mold cleaner, in (or converted to) pounds per day, calculated by subtracting the daily average VOC and/or OC credit(s) for recovered mold cleaner, as calculated in C.2.k below, from the total emissions calculated from the daily usage of mold cleaner in "C.1.j" above, and also documented from the product of "C.1.j" x "C.2.j";
- l. the total OC and VOC emissions from all materials applied during the day, i.e., sum of "h" + "i" + "k" above;
- m. the total number of hours the emissions unit was in operation, i.e., hours/day; and
- n. the average hourly OC and VOC emission rates for all materials employed in this emissions unit, in pounds per hour, i.e., "l"/"m" for both pollutants.

- * The daily credit for recovered mold cleaner, applied to the emissions in "C.1.k" and recorded in "C.2.k", shall be calculated from the last drum shipped containing mold cleaner recovered from this emissions unit.
2. If a credit for recovered mold cleaner is used in the calculation of the monthly and/or the rolling, 12-month emissions from this emissions unit or if a recovery credit is used as a factor in daily emission calculations, the permittee shall maintain the following records for the recovered mold cleaner and a log for the recovery drum(s)/tank(s) (recovery vessel(s)). The recovery log shall contain the identification number for each recovery vessel, the material it contains (i.e., mold cleaner 540), the dates of the first and last addition of recovered material, the emissions units from which the mold cleaner was recovered (emissions units R012, R013, R014, R015, and/or R023) or emissions unit R013 if not sharing recovery with other emissions units, the weight of the recovered material at shipment (including and excluding the weight of the recovery vessel), and the date the vessel was shipped off-site. Each recovery vessel shall be marked or labeled with the

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identification number documented in the log. The following information shall be recorded, calculated, and maintained for this emissions unit if an emissions credit is to be used for recovered mold cleaner:

- a. the date mold cleaner is first added to each recovery vessel and the recovery vessel's identification number/code;
- b. the date of the last day mold cleaner is added to each recovery vessel before it is shipped (referenced with its identification number/code);
- c. the date each recovery vessel (referenced with its identification number/code) is shipped off site;
- d. the number days the recovery vessel (referenced with its identification number/code) accumulated mold cleaner, determined from "a" and "b" above;
- e. the number of gallons and weight* of the mold cleaner contained in each recovery vessel (referenced with its identification number/code) when it is shipped off site;
- f. the OC and VOC content of the recovered mold cleaner, as determined from the most recent lab test results from a representative sample of the recovered material; and until such test results are received, the minimum OC and VOC** content of the mold cleaner collected, in pounds per gallon or percent by weight;
- g. the total emissions credit for each recovery vessel shipped during the month (referenced with its identification number/code), in pounds of OC and/or VOC per recovery vessel, i.e., "e" x "f";
- h. the number of gallons or weight of the mold cleaner applied in emissions unit R013, between the date each recovery vessel was first used ("a") to the date mold cleaner was last added prior to shipment ("b"), i.e., the sum of the usage as recorded in C.1.d for each such day;
- i. if sharing a recovery vessel, the total number of gallons or total weight of the mold cleaner applied in emissions unit R013 plus the same mold cleaner's use in the emissions unit(s) sharing the recovery vessel and credit, between the date each recovery vessel was first used ("a") to the date mold cleaner was last added prior to shipment ("b"), i.e., the sum of the daily mold cleaner usage between and including these dates for the individual emissions units sharing the recovery vessel, from each individual emissions unit's term for mold cleaner usage in

Sections C.1.d for the Americast Systems;

- j. the percent of the mold cleaner lost and not recovered (% of each, if more than one type of mold cleaner is later applied and recovered), calculated for each recovery vessel shipped (referenced with its identification number/code), calculated as the difference between the total usage of the mold cleaner applied in the emissions units sharing the recovery vessel ("i"), or if the vessel is not shared, the total usage applied in emissions unit R013 alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, minus the total recovered mold cleaner in the recovery vessel at shipment ("e"), divided by the total usage of the mold cleaner applied in the emissions units sharing the recovery vessel ("i") or applied in emissions unit R013 alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, i.e., $[(i-e)/i]$ or $[(h-e)/h]$;
- k. the daily average OC and/or VOC credit for mold cleaner recovered from emissions unit R013, calculated based on each recovery vessel shipped:
- i. calculated for emissions unit R013 alone (if the recovery vessel contains only mold cleaner recovered from emissions unit R013) by dividing the total VOC and/or OC recovery credit by the number of days it took to fill the vessel, i.e., "g"/"d"; or
 - ii. if sharing a recovery vessel, the calculated portion of the emissions credit, calculated in "g", to be credited to the daily average emissions from emissions unit R013 in pounds, i.e., "g"/"d" times the mold cleaner usage in emissions unit R013 (recorded in "h") divided by the mold cleaner usage in all the emissions units sharing the recovery vessel and credit (recorded in "i"), i.e., $(g/d) \times (h/i)$; and
- l. the total VOC and/or OC credit for all recovery vessels shipped during the month and containing mold cleaner applied in this emissions unit (sum of all recovery vessels shipped between first and last day of the month, as recorded in "g") (referenced with its identification number/code); and if sharing the vessel with other emissions units, the portion of the emissions calculated in "g" above to be credited to the monthly emissions from emissions unit R013, in pounds or tons/month, calculated as "g" times the monthly mold cleaner usage in emissions unit R013 (recorded in "h") divided by the mold cleaner usage in all the emissions units sharing the credit ("i"), i.e., $(g) \times (h/i)$.

The permittee shall take a representative sample of the first full drum of recovered mold

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cleaner collected following the issuance of this permit, which shall be tested at an outside laboratory for the OC and VOC content. A representative sample of the recovered mold cleaner shall be re-tested once every five years and following any change in the resins, mold cleaner, and/or mold release applied, using a representative sample from the first full drum following the change. Solvent soaked rags may not be included in any recovery credit to emissions.

* The weight and gallons of recovered mold cleaner, to be applied in calculations of emissions, shall be recorded at the time it is shipped off-site, and shall not include the weight of the recovery vessel, which shall remain closed/sealed at all times except during material additions and/or preparation for off-site recovery or disposal.

** Until testing results documenting a higher OC and VOC content are received, the lowest OC and VOC content of the range provided by the manufacturer of the mold cleaner shall be used in calculating the credit for the recovered materials.

3. The permittee shall collect and record the following information, including the calculation, on a monthly basis for this emissions unit:
 - a. the monthly total OC and VOC emissions, calculated as the sum of emissions from all process resins (sum of C.1.h), mold release agents (sum of C.1.i), and mold cleaner(s) (sum of C.1.j) employed in this emissions unit during the month, and subtracting the credit to these emissions for recovered mold cleaner shipped during the month, i.e., the total OC and VOC emissions minus the total emissions credit, recorded in C.2.l above, for all recovery vessels shipped during the month; and
 - b. the monthly MDI emissions, estimated using the calculation of emissions from the Alliance for the Polyurethanes Industry "MDI/Polymeric MDI Emissions Reporting Guidelines for the Polyurethane Industry (1999)", and substituting the variables for the average process temperature in degrees Kelvin and the monthly volume of displaced air (ft³/month).
4. At the end of each month the permittee shall collect, calculate, and record the following rolling, 12-month emissions:
 - a. the rolling, 12-month VOC emissions from all of the VOC-containing (non-frit) coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, and cleanup materials applied in the emissions units contained in this permit, including emissions units: P010, P011, P012, P013, P014, P015,

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P016, R008, R012, R013, R014, R015, R018, R022, and R023; and two tons of VOC emissions shall be added to the rolling, 12-month emissions records, to represent the potential annual VOC emissions from the combustion of natural gas in the drying ovens, curing furnaces, and the thermal oxidizer, permitted in the following emissions units: K001, R005, R008, R009, R018, R019, R020, and R022;

- b. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
- c. the rolling, 12-month styrene emissions from emissions units R008 and R022; and
- d. the rolling, 12-month total combined HAP emissions, based upon a summation of the following:
 - i. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - ii. the rolling, 12-month styrene emissions from emissions units R008 and R022;

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- iii. the rolling, 12-month emissions of MDI from emissions units R012, R013, R014, R015, R018, and R023; and
- iv. any other HAP(s) documented in the product data for coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, cleanup materials, or other process materials employed, and calculated as the emissions for a rolling, 12-month period.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:
 - a. an identification of each day during which the average OC emissions from the emissions unit exceeded 0.35 pound per hour and the actual average hourly OC emissions for each such day;
 - b. an identification of each day during which the average VOC emissions from the emissions unit exceeded 0.05 pound per hour and the actual average hourly VOC emissions for each such day; and
 - c. an identification of each month during which the rolling, 12-month VOC emissions from this emissions unit exceeded 0.22 tons.
2. During the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any month during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 6.10 tons of VOC per month;
 - b. 0.83 ton of styrene per month;
 - c. 0.42 ton of MEK per month; and
 - d. 1.25 tons of total aggregate HAPs per month.
3. After the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any rolling, 12-month period during which the sum of the emissions from all 20 emissions units contained in this permit

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exceed any of the following limitations:

- a. 73.18 tons of VOC;
 - b. 9.95 tons of styrene;
 - c. 5.0 tons of MEK; and
 - d. 15.0 tons of total aggregate HAPs.
4. All deviation reports shall be submitted quarterly as required in the General Terms and Conditions of this permit.
 5. The permittee shall also submit annual reports that specify the total volatile organic compound emissions from this emissions unit for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

E. Testing Requirements

1. Emission Limitations:
0.35 pound per hour (daily average) and 1.53 tons per year of OC emissions

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Section C.1.
2. Emission Limitations:
0.05 pound per hour (daily average) and 0.22 ton per rolling, 12-month period of VOC emissions

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Section C.1.
3. Emission Limitations:
During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following

emission limitations:

- a. 6.10 tons of VOC per month;
- b. 0.83 ton of styrene per month;
- c. 0.42 ton of MEK per month; and
- d. 1.25 tons of total aggregate HAPs per month.

Modification Issued: 11/30/2006Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

4. Emission Limitations:

After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- a. 73.18 tons of VOC;
- b. 9.95 tons of styrene;
- c. 5.0 tons of MEK; and
- d. 15.0 tons of total aggregate HAPs.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

5. Emission Limitations:

1.25 tons of total aggregate HAPs for the first 12 months and 15.0 tons of total aggregate HAPs per rolling, 12-months for emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023 combined.

Applicable Compliance Method:

The HAP emissions, MDI, from the polyurethane resins used in the Americast Systems (emissions units R012, R013, R014, R015, and R023) shall be calculated monthly using the following formula from the Alliance for the Polyurethanes Industry "MDI/Polymeric MDI Emissions Reporting Guidelines for the Polyurethane Industry (1999)", and substituting the variables for the average process temperature in degrees Kelvin and the monthly volume of displaced air (ft³/month):

$$L_{pk} = V_{air} \times (1/359) \times (273/T_{proc}) \times (VP_{mdi}/760) \times M_w \times K_{mdi}$$

Ameri**PTI A****Modification Issued: 11/30/2006**Emissions Unit ID: **R013** L_{pk} = emissions (lb/mo) V_{air} = monthly volume of displaced air (ft³/mo) T_{proc} = process temperature in degrees K VP_{mdi} = vapor pressure of MDI (mm Hg) M_w = molecular weight of MDI, 254.38 K_{mdi} = adjustment factor to the VP that is a function of the MDI concentration in the feedstock, assume 1.0**F. Miscellaneous Requirements**

The requirements of this Permit to Install (02-18111) shall supersede the requirements for this emissions unit contained in Permit to Install number 17-1072 issued on September 2, 1992. The following terms and conditions are federally enforceable requirements: A, C, D, E, and F.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emission Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emission limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emission Limitations/Control Measures</u>
R014 - Americast II System 3 Clamps 5 and 6.	OAC rule 3745-31-05(A)(3)	Emissions from this emissions unit shall not exceed the following limitations: organic compound (OC) emissions shall not exceed 0.53 pound per hour and 2.32 tons per year; and volatile organic compound (VOC) emissions shall not exceed 0.03 pound per hour and 0.13 ton per rolling, 12-month period.
	OAC rule 3745-21-07(G)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(C)	See Sections A.2.a and A.2.b below.

2. Additional Terms and Conditions

- 2.a During the first 12 months of operation following the issuance of this permit, the

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total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- i. 6.10 tons of VOC per month;
- ii. 0.83 ton of styrene per month;
- iii. 0.42 ton of methyl ethyl ketone (MEK) per month; and
- iv. 1.25 tons of total aggregate HAPs per month.

2.b After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- i. 73.18 tons of VOC;
- ii. 9.95 tons of styrene;
- iii. 5.0 tons of MEK; and
- iv. 15.0 tons of total aggregate HAPs.

B. Operational Restrictions

None.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information on a daily basis for each material employed in this emissions unit:
 - a. the company identification for each process resin, mold release agent, and mold cleaner employed;
 - b. the number of gallons or pounds of each process resin employed;

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- c. the number of gallons or pounds of each mold release agent employed;
- d. the number of gallons or pounds of the/each mold cleaner employed;
- e. the OC, VOC, and 4,4'-methylene diphenyl diisocyanate (MDI) content of each process resin employed, in pounds per gallon or in weight percent;
- f. the OC and VOC content of each mold release agent employed, in pounds per gallon or in weight percent;
- g. the OC and VOC content of the/each mold cleaner, in pounds per gallon or in weight percent;
- h. if any process resin contains any organic compound(s) not emitted as MDI, the daily OC and VOC emissions from all such process resins employed, in pounds per day, i.e., the sum of "b" x ("e"-MDI content) for each process resin;
- i. the daily OC and VOC emissions from all mold release agents employed, in pounds per day, i.e., the sum of "c" x "f" for each mold release agent applied;
- j. the daily OC and VOC emissions from all mold cleaner(s) employed prior to any credit for recovered materials, in pounds per day, i.e., the sum of "d" x "g" for each mold cleaner applied;
- k. the daily OC and VOC emissions from all mold cleaner(s) employed following the credit* for recovered mold cleaner, in (or converted to) pounds per day, calculated by subtracting the daily average VOC and/or OC credit(s) for recovered mold cleaner, as calculated in C.2.k below, from the total emissions calculated from the daily usage of mold cleaner in "C.1.j" above, and also documented from the product of "C.1.j" x "C.2.j";
- l. the total OC and VOC emissions from all materials applied during the day, i.e., sum of "h" + "i" + "k" above;
- m. the total number of hours the emissions unit was in operation, i.e., hours/day; and
- n. the average hourly OC and VOC emission rates for all materials employed in this emissions unit, in pounds per hour, i.e., "l"/"m" for both pollutants.

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- * The daily credit for recovered mold cleaner, applied to the emissions in "C.1.k" and recorded in "C.2.k", shall be calculated from the last drum shipped containing mold cleaner recovered from this emissions unit.
2. If a credit for recovered mold cleaner is used in the calculation of the monthly and/or the rolling, 12-month emissions from this emissions unit or if a recovery credit is used as a factor in daily emission calculations, the permittee shall maintain the following records for the recovered mold cleaner and a log for the recovery drum(s)/tank(s) (recovery vessel(s)). The recovery log shall contain the identification number for each recovery vessel, the material it contains (i.e., mold cleaner 540), the dates of the first and last addition of recovered material, the emissions units from which the mold cleaner was recovered (emissions units R012, R013, R014, R015, and/or R023) or emissions unit R014 if not sharing recovery with other emissions units, the weight of the recovered material at shipment (including and excluding the weight of the recovery vessel), and the date the vessel was shipped off-site. Each recovery vessel shall be marked or labeled with the

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identification number documented in the log. The following information shall be recorded, calculated, and maintained for this emissions unit if an emissions credit is to be used for recovered mold cleaner:

- a. the date mold cleaner is first added to each recovery vessel and the recovery vessel's identification number/code;
- b. the date of the last day mold cleaner is added to each recovery vessel before it is shipped (referenced with its identification number/code);
- c. the date each recovery vessel (referenced with its identification number/code) is shipped off site;
- d. the number days the recovery vessel (referenced with its identification number/code) accumulated mold cleaner, determined from "a" and "b" above;
- e. the number of gallons and weight* of the mold cleaner contained in each recovery vessel (referenced with its identification number/code) when it is shipped off site;
- f. the OC and VOC content of the recovered mold cleaner, as determined from the most recent lab test results from a representative sample of the recovered material; and until such test results are received, the minimum OC and VOC** content of the mold cleaner collected, in pounds per gallon or percent by weight;
- g. the total emissions credit for each recovery vessel shipped during the month (referenced with its identification number/code), in pounds of OC and/or VOC per recovery vessel, i.e., "e" x "f";
- h. the number of gallons or weight of the mold cleaner applied in emissions unit R014, between the date each recovery vessel was first used ("a") to the date mold cleaner was last added prior to shipment ("b"), i.e., the sum of the usage as recorded in C.1.d for each such day;
- i. if sharing a recovery vessel, the total number of gallons or total weight of the mold cleaner applied in emissions unit R014 plus the same mold cleaner's use in the emissions unit(s) sharing the recovery vessel and credit, between the date each recovery vessel was first used ("a") to the date mold cleaner was last added prior to shipment ("b"), i.e., the sum of the daily mold cleaner usage between and including these dates for the individual emissions units sharing the recovery vessel, from each individual emissions unit's term for mold cleaner usage in

Sections C.1.d for the Americast Systems;

- j. the percent of the mold cleaner lost and not recovered (% of each, if more than one type of mold cleaner is later applied and recovered), calculated for each recovery vessel shipped (referenced with its identification number/code), calculated as the difference between the total usage of the mold cleaner applied in the emissions units sharing the recovery vessel ("i"), or if the vessel is not shared, the total usage applied in emissions unit R014 alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, minus the total recovered mold cleaner in the recovery vessel at shipment ("e"), divided by the total usage of the mold cleaner applied in the emissions units sharing the recovery vessel ("i") or applied in emissions unit R014 alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, i.e., $[(i - e) / i]$ or $[(h - e) / h]$;
- k. the daily average OC and/or VOC credit for mold cleaner recovered from emissions unit R014, calculated based on each recovery vessel shipped:
 - i. calculated for emissions unit R014 alone (if the recovery vessel contains only mold cleaner recovered from emissions unit R014) by dividing the total VOC and/or OC recovery credit by the number of days it took to fill the vessel, i.e., "g"/"d"; or
 - ii. if sharing a recovery vessel, the calculated portion of the emissions credit, calculated in "g", to be credited to the daily average emissions from emissions unit R014 in pounds, i.e., "g"/"d" times the mold cleaner usage in emissions unit R014 (recorded in "h") divided by the mold cleaner usage in all the emissions units sharing the recovery vessel and credit (recorded in "i"), i.e., $(g / d) \times (h / i)$; and
- l. the total VOC and/or OC credit for all recovery vessels shipped during the month and containing mold cleaner applied in this emissions unit (sum of all recovery vessels shipped between first and last day of the month, as recorded in "g") (referenced with its identification number/code); and if sharing the vessel with other emissions units, the portion of the emissions calculated in "g" above to be credited to the monthly emissions from emissions unit R014, in pounds or tons/month, calculated as "g" times the monthly mold cleaner usage in emissions unit R014 (recorded in "h") divided by the mold cleaner usage in all the emissions units sharing the credit ("i"), i.e., $(g) \times (h / i)$.

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The permittee shall take a representative sample of the first full drum of recovered mold cleaner collected following the issuance of this permit, which shall be tested at an outside laboratory for the OC and VOC content. A representative sample of the recovered mold cleaner shall be re-tested once every five years and following any change in the resins, mold cleaner, and/or mold release applied, using a representative sample from the first full drum following the change. Solvent soaked rags may not be included in any recovery credit to emissions.

* The weight and gallons of recovered mold cleaner, to be applied in calculations of emissions, shall be recorded at the time it is shipped off-site, and shall not include the weight of the recovery vessel, which shall remain closed/sealed at all times except during material additions and/or preparation for off-site recovery or disposal.

** Until testing results documenting a higher OC and VOC content are received, the lowest OC and VOC content of the range provided by the manufacturer of the mold cleaner shall be used in calculating the credit for the recovered materials.

3. The permittee shall collect and record the following information, including the calculation, on a monthly basis for this emissions unit:
 - a. the monthly total OC and VOC emissions, calculated as the sum of emissions from all process resins (sum of C.1.h), mold release agents (sum of C.1.i), and mold cleaner(s) (sum of C.1.j) employed in this emissions unit during the month, and subtracting the credit to these emissions for recovered mold cleaner shipped during the month, i.e., the total OC and VOC emissions minus the total emissions credit, recorded in C.2.l above, for all recovery vessels shipped during the month; and
 - b. the monthly MDI emissions, estimated using the calculation of emissions from the Alliance for the Polyurethanes Industry "MDI/Polymeric MDI Emissions Reporting Guidelines for the Polyurethane Industry (1999)", and substituting the variables for the average process temperature in degrees Kelvin and the monthly volume of displaced air (ft³/month).
4. At the end of each month the permittee shall collect, calculate, and record the following rolling, 12-month emissions:
 - a. the rolling, 12-month VOC emissions from all of the VOC-containing (non-frit) coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, and cleanup materials applied in the emissions units contained in this permit, including emissions units: P010, P011, P012, P013, P014, P015,

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P016, R008, R012, R013, R014, R015, R018, R022, and R023; and two tons of VOC emissions shall be added to the rolling, 12-month emissions records, to represent the potential annual VOC emissions from the combustion of natural gas in the drying ovens, curing furnaces, and the thermal oxidizer, permitted in the following emissions units: K001, R005, R008, R009, R018, R019, R020, and R022;

- b. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
- c. the rolling, 12-month styrene emissions from emissions units R008 and R022; and
- d. the rolling, 12-month total combined HAP emissions, based upon a summation of the following:
 - i. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - ii. the rolling, 12-month styrene emissions from emissions units R008 and R022;

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- iii. the rolling, 12-month emissions of MDI from emissions units R012, R013, R014, R015, R018, and R023; and
- iv. any other HAP(s) documented in the product data for coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, cleanup materials, or other process materials employed, and calculated as the emissions for a rolling, 12-month period.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:
 - a. an identification of each day during which the average OC emissions from the emissions unit exceeded 0.53 pound per hour and the actual average hourly OC emissions for each such day;
 - b. an identification of each day during which the average VOC emissions from the emissions unit exceeded 0.03 pound per hour and the actual average hourly VOC emissions for each such day; and
 - c. an identification of each month during which the rolling, 12-month VOC emissions from this emissions unit exceeded 0.13 tons.
2. During the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any month during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 6.10 tons of VOC per month;
 - b. 0.83 ton of styrene per month;
 - c. 0.42 ton of MEK per month; and
 - d. 1.25 tons of total aggregate HAPs per month.
3. After the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any rolling, 12-month period during which the sum of the emissions from all 20 emissions units contained in this permit

exceed any of the following limitations:

- a. 73.18 tons of VOC;
 - b. 9.95 tons of styrene;
 - c. 5.0 tons of MEK; and
 - d. 15.0 tons of total aggregate HAPs.
4. All deviation reports shall be submitted quarterly as required in the General Terms and Conditions of this permit.
 5. The permittee shall also submit annual reports that specify the total volatile organic compound emissions from this emissions unit for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

E. Testing Requirements

1. Emission Limitations:
0.53 pound per hour (daily average) and 2.32 tons per year of OC emissions

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Section C.1.
2. Emission Limitations:
0.03 pound per hour (daily average) and 0.13 ton per rolling, 12-month period of VOC emissions

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Section C.1.
3. Emission Limitations:
During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012,

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R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- a. 6.10 tons of VOC per month;
- b. 0.83 ton of styrene per month;
- c. 0.42 ton of MEK per month; and
- d. 1.25 tons of total aggregate HAPs per month.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

4. Emission Limitations:

After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- a. 73.18 tons of VOC;
- b. 9.95 tons of styrene;
- c. 5.0 tons of MEK; and
- d. 15.0 tons of total aggregate HAPs.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

5. Emission Limitations:

1.25 tons of total aggregate HAPs for the first 12 months and 15.0 tons of total aggregate HAPs per rolling, 12-months for emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023 combined.

Applicable Compliance Method:

The HAP emissions, MDI, from the polyurethane resins used in the Americast Systems (emissions units R012, R013, R014, R015, and R023) shall be calculated monthly using the following formula from the Alliance for the Polyurethanes Industry "MDI/Polymeric MDI Emissions Reporting Guidelines for the Polyurethane Industry (1999)", and substituting the variables for the average process temperature in degrees Kelvin and the monthly volume of displaced air (ft³/month):

$$L_{pk} = V_{air} \times (1/359) \times (273/T_{proc}) \times (VP_{mdi}/760) \times M_w \times K_{mdi}$$

Ameri**PTI A****Modification Issued: 11/30/2006**Emissions Unit ID: **R014** L_{pk} = emissions (lb/mo) V_{air} = monthly volume of displaced air (ft³/mo) T_{proc} = process temperature in degrees K VP_{mdi} = vapor pressure of MDI (mm Hg) M_w = molecular weight of MDI, 254.38 K_{mdi} = adjustment factor to the VP that is a function of the MDI concentration in the feedstock, assume 1.0**F. Miscellaneous Requirements**

The requirements of this Permit to Install (02-18111) shall supersede the requirements for this emissions unit contained in Permit to Install number 17-1072 issued on September 2, 1992. The following terms and conditions are federally enforceable requirements: A, C, D, E, and F.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emission Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emission limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emission Limitations/Control Measures</u>
R015 - Americast II System 4 Clamps 7 and 9.	OAC rule 3745-31-05(A)(3)	Emissions from this emissions unit shall not exceed the following limitations: organic compound (OC) emissions shall not exceed 0.53 pound per hour and 2.32 tons per year; and volatile organic compound (VOC) emissions shall not exceed 0.03 pound per hour and 0.13 ton per rolling, 12-month period.
	OAC rule 3745-21-07(G)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(C)	See Sections A.2.a and A.2.b below.

2. Additional Terms and Conditions

- 2.a** During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:
- i. 6.10 tons of VOC per month;
 - ii. 0.83 ton of styrene per month;
 - iii. 0.42 ton of methyl ethyl ketone (MEK) per month; and
 - iv. 1.25 tons of total aggregate HAPs per month.
- 2.b** After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:
- i. 73.18 tons of VOC;
 - ii. 9.95 tons of styrene;
 - iii. 5.0 tons of MEK; and
 - iv. 15.0 tons of total aggregate HAPs.

B. Operational Restrictions

None.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information on a daily basis for each material employed in this emissions unit:
 - a. the company identification for each process resin, mold release agent, and mold cleaner employed;
 - b. the number of gallons or pounds of each process resin employed;

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- c. the number of gallons or pounds of each mold release agent employed;
- d. the number of gallons or pounds of the/each mold cleaner employed;
- e. the OC, VOC, and 4,4'-methylene diphenyl diisocyanate (MDI) content of each process resin employed, in pounds per gallon or in weight percent;
- f. the OC and VOC content of each mold release agent employed, in pounds per gallon or in weight percent;
- g. the OC and VOC content of the/each mold cleaner, in pounds per gallon or in weight percent;
- h. if any process resin contains any organic compound(s) not emitted as MDI, the daily OC and VOC emissions from all such process resins employed, in pounds per day, i.e., the sum of "b" x ("e"-MDI content) for each process resin;
- i. the daily OC and VOC emissions from all mold release agents employed, in pounds per day, i.e., the sum of "c" x "f" for each mold release agent applied;
- j. the daily OC and VOC emissions from all mold cleaner(s) employed prior to any credit for recovered materials, in pounds per day, i.e., the sum of "d" x "g" for each mold cleaner applied;
- k. the daily OC and VOC emissions from all mold cleaner(s) employed following the credit* for recovered mold cleaner, in (or converted to) pounds per day, calculated by subtracting the daily average VOC and/or OC credit(s) for recovered mold cleaner, as calculated in C.2.k below, from the total emissions calculated from the daily usage of mold cleaner in "C.1.j" above, and also documented from the product of "C.1.j" x "C.2.j";
- l. the total OC and VOC emissions from all materials applied during the day, i.e., sum of "h" + "i" + "k" above;
- m. the total number of hours the emissions unit was in operation, i.e., hours/day; and
- n. the average hourly OC and VOC emission rates for all materials employed in this emissions unit, in pounds per hour, i.e., "l"/"m" for both pollutants.

- * The daily credit for recovered mold cleaner, applied to the emissions in "C.1.k" and recorded in "C.2.k", shall be calculated from the last drum shipped containing mold cleaner recovered from this emissions unit.
2. If a credit for recovered mold cleaner is used in the calculation of the monthly and/or the rolling, 12-month emissions from this emissions unit or if a recovery credit is used as a factor in daily emission calculations, the permittee shall maintain the following records for the recovered mold cleaner and a log for the recovery drum(s)/tank(s) (recovery vessel(s)). The recovery log shall contain the identification number for each recovery vessel, the material it contains (i.e., mold cleaner 540), the dates of the first and last addition of recovered material, the emissions units from which the mold cleaner was recovered (emissions units R012, R013, R014, R015, and/or R023) or emissions unit R015 if not sharing recovery with other emissions units, the weight of the recovered material at shipment (including and excluding the weight of the recovery vessel), and the date the vessel was shipped off-site. Each recovery vessel shall be marked or labeled with the

identification number documented in the log. The following information shall be recorded, calculated, and maintained for this emissions unit if an emissions credit is to be used for recovered mold cleaner:

- a. the date mold cleaner is first added to each recovery vessel and the recovery vessel's identification number/code;
- b. the date of the last day mold cleaner is added to each recovery vessel before it is shipped (referenced with its identification number/code);
- c. the date each recovery vessel (referenced with its identification number/code) is shipped off site;
- d. the number days the recovery vessel (referenced with its identification number/code) accumulated mold cleaner, determined from "a" and "b" above;
- e. the number of gallons and weight* of the mold cleaner contained in each recovery vessel (referenced with its identification number/code) when it is shipped off site;
- f. the OC and VOC content of the recovered mold cleaner, as determined from the most recent lab test results from a representative sample of the recovered material; and until such test results are received, the minimum OC and VOC** content of the mold cleaner collected, in pounds per gallon or percent by weight;
- g. the total emissions credit for each recovery vessel shipped during the month (referenced with its identification number/code), in pounds of OC and/or VOC per recovery vessel, i.e., "e" x "f";
- h. the number of gallons or weight of the mold cleaner applied in emissions unit R015, between the date each recovery vessel was first used ("a") to the date mold cleaner was last added prior to shipment ("b"), i.e., the sum of the usage as recorded in C.1.d for each such day;
- i. if sharing a recovery vessel, the total number of gallons or total weight of the mold cleaner applied in emissions unit R015 plus the same mold cleaner's use in the emissions unit(s) sharing the recovery vessel and credit, between the date each recovery vessel was first used ("a") to the date mold cleaner was last added prior to shipment ("b"), i.e., the sum of the daily mold cleaner usage between and including these dates for the individual emissions units sharing the recovery vessel, from each individual emissions unit's term for mold cleaner usage in Sections C.1.d for the Americast Systems;

- j. the percent of the mold cleaner lost and not recovered (% of each, if more than one type of mold cleaner is later applied and recovered), calculated for each recovery vessel shipped (referenced with its identification number/code), calculated as the difference between the total usage of the mold cleaner applied in the emissions units sharing the recovery vessel ("i"), or if the vessel is not shared, the total usage applied in emissions unit R015 alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, minus the total recovered mold cleaner in the recovery vessel at shipment ("e"), divided by the total usage of the mold cleaner applied in the emissions units sharing the recovery vessel ("i") or applied in emissions unit R015 alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, i.e., $[(i - e) / i]$ or $[(h - e) / h]$;
- k. the daily average OC and/or VOC credit for mold cleaner recovered from emissions unit R015, calculated based on each recovery vessel shipped:
- i. calculated for emissions unit R015 alone (if the recovery vessel contains only mold cleaner recovered from emissions unit R015) by dividing the total VOC and/or OC recovery credit by the number of days it took to fill the vessel, i.e., "g"/"d"; or
 - ii. if sharing a recovery vessel, the calculated portion of the emissions credit, calculated in "g", to be credited to the daily average emissions from emissions unit R015 in pounds, i.e., "g"/"d" times the mold cleaner usage in emissions unit R015 (recorded in "h") divided by the mold cleaner usage in all the emissions units sharing the recovery vessel and credit (recorded in "i"), i.e., $(g / d) \times (h / i)$; and
- l. the total VOC and/or OC credit for all recovery vessels shipped during the month and containing mold cleaner applied in this emissions unit (sum of all recovery vessels shipped between first and last day of the month, as recorded in "g") (referenced with its identification number/code); and if sharing the vessel with other emissions units, the portion of the emissions calculated in "g" above to be credited to the monthly emissions from emissions unit R015, in pounds or tons/month, calculated as "g" times the monthly mold cleaner usage in emissions unit R015 (recorded in "h") divided by the mold cleaner usage in all the emissions units sharing the credit ("i"), i.e., $(g) \times (h / i)$.

The permittee shall take a representative sample of the first full drum of recovered mold cleaner collected following the issuance of this permit, which shall be tested at an

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outside laboratory for the OC and VOC content. A representative sample of the recovered mold cleaner shall be re-tested once every five years and following any change in the resins, mold cleaner, and/or mold release applied, using a representative sample from the first full drum following the change. Solvent soaked rags may not be included in any recovery credit to emissions.

* The weight and gallons of recovered mold cleaner, to be applied in calculations of emissions, shall be recorded at the time it is shipped off-site, and shall not include the weight of the recovery vessel, which shall remain closed/sealed at all times except during material additions and/or preparation for off-site recovery or disposal.

** Until testing results documenting a higher OC and VOC content are received, the lowest OC and VOC content of the range provided by the manufacturer of the mold cleaner shall be used in calculating the credit for the recovered materials.

3. The permittee shall collect and record the following information, including the calculation, on a monthly basis for this emissions unit:
 - a. the monthly total OC and VOC emissions, calculated as the sum of emissions from all process resins (sum of C.1.h), mold release agents (sum of C.1.i), and mold cleaner(s) (sum of C.1.j) employed in this emissions unit during the month, and subtracting the credit to these emissions for recovered mold cleaner shipped during the month, i.e., the total OC and VOC emissions minus the total emissions credit, recorded in C.2.l above, for all recovery vessels shipped during the month; and
 - b. the monthly MDI emissions, estimated using the calculation of emissions from the Alliance for the Polyurethanes Industry "MDI/Polymeric MDI Emissions Reporting Guidelines for the Polyurethane Industry (1999)", and substituting the variables for the average process temperature in degrees Kelvin and the monthly volume of displaced air (ft³/month).
4. At the end of each month the permittee shall collect, calculate, and record the following rolling, 12-month emissions:
 - a. the rolling, 12-month VOC emissions from all of the VOC-containing (non-frit) coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, and cleanup materials applied in the emissions units contained in this permit, including emissions units: P010, P011, P012, P013, P014, P015, P016, R008, R012, R013, R014, R015, R018, R022, and R023; and two tons of VOC emissions shall be added to the rolling, 12-month emissions records, to

represent the potential annual VOC emissions from the combustion of natural gas in the drying ovens, curing furnaces, and the thermal oxidizer, permitted in the following emissions units: K001, R005, R008, R009, R018, R019, R020, and R022;

- b. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
- c. the rolling, 12-month styrene emissions from emissions units R008 and R022; and
- d. the rolling, 12-month total combined HAP emissions, based upon a summation of the following:
 - i. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - ii. the rolling, 12-month styrene emissions from emissions units R008 and R022;

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- iii. the rolling, 12-month emissions of MDI from emissions units R012, R013, R014, R015, R018, and R023; and
- iv. any other HAP(s) documented in the product data for coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, cleanup materials, or other process materials employed, and calculated as the emissions for a rolling, 12-month period.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:
 - a. an identification of each day during which the average OC emissions from the emissions unit exceeded 0.53 pound per hour and the actual average hourly OC emissions for each such day;
 - b. an identification of each day during which the average VOC emissions from the emissions unit exceeded 0.03 pound per hour and the actual average hourly VOC emissions for each such day; and
 - c. an identification of each month during which the rolling, 12-month VOC emissions from this emissions unit exceeded 0.13 tons.
2. During the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any month during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 6.10 tons of VOC per month;
 - b. 0.83 ton of styrene per month;
 - c. 0.42 ton of MEK per month; and
 - d. 1.25 tons of total aggregate HAPs per month.
3. After the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any rolling, 12-month period during which the sum of the emissions from all 20 emissions units contained in this permit

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exceed any of the following limitations:

- a. 73.18 tons of VOC;
 - b. 9.95 tons of styrene;
 - c. 5.0 tons of MEK; and
 - d. 15.0 tons of total aggregate HAPs.
4. All deviation reports shall be submitted quarterly as required in the General Terms and Conditions of this permit.
 5. The permittee shall also submit annual reports that specify the total volatile organic compound emissions from this emissions unit for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

E. Testing Requirements

1. Emission Limitations:
0.53 pound per hour (daily average) and 2.32 tons per year of OC emissions

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Section C.1.
2. Emission Limitations:
0.03 pound per hour (daily average) and 0.13 ton per rolling, 12-month period of VOC emissions

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Section C.1.
3. Emission Limitations:
During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following

emission limitations:

- a. 6.10 tons of VOC per month;
- b. 0.83 ton of styrene per month;
- c. 0.42 ton of MEK per month; and
- d. 1.25 tons of total aggregate HAPs per month.

Modification Issued: 11/30/2006Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

4. Emission Limitations:

After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- a. 73.18 tons of VOC;
- b. 9.95 tons of styrene;
- c. 5.0 tons of MEK; and
- d. 15.0 tons of total aggregate HAPs.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

5. Emission Limitations:

1.25 tons of total aggregate HAPs for the first 12 months and 15.0 tons of total aggregate HAPs per rolling, 12-months for emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023 combined.

Applicable Compliance Method:

The HAP emissions, MDI, from the polyurethane resins used in the Americast Systems (emissions units R012, R013, R014, R015, and R023) shall be calculated monthly using the following formula from the Alliance for the Polyurethanes Industry "MDI/Polymeric MDI Emissions Reporting Guidelines for the Polyurethane Industry (1999)", and substituting the variables for the average process temperature in degrees Kelvin and the monthly volume of displaced air (ft³/month):

$$L_{pk} = V_{air} \times (1/359) \times (273/T_{proc}) \times (VP_{mdi}/760) \times M_w \times K_{mdi}$$

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L_{pk} = emissions (lb/mo)

V_{air} = monthly volume of displaced air (ft³/mo)

T_{proc} = process temperature in degrees K

VP_{mdi} = vapor pressure of MDI (mm Hg)

M_w = molecular weight of MDI, 254.38

K_{mdi} = adjustment factor to the VP that is a function of the MDI concentration in the feedstock, assume 1.0

F. Miscellaneous Requirements

The requirements of this Permit to Install (02-18111) shall supersede the requirements for this emissions unit contained in Permit to Install number 17-1072 issued on September 2, 1992. Please note PTI 17-1072 incorrectly identifies emissions unit R015 as Clamp #7 and #8. The following terms and conditions are federally enforceable requirements: A, C, D, E, and F.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emission Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emission limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
R018 - Tool Making Operation. This operation is a polyurethane process for making acrylic bathtub tools (fixtures), and includes a spray booth and drying oven.	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07
	OAC rule 3745-17-10

	<p style="text-align: center;"><u>Applicable Emission Limitations/Control Measures</u></p>	
<p>OAC rule 3745-21-07(G)</p>	<p>Emissions from this emissions unit shall not exceed the following limitations from process operations:</p>	<p>nitrogen oxide (NO_x)emissions shall not exceed 0.02 pound per hour and 0.07 ton per year;</p>
<p>OAC rule 3745-31-05(C)</p>	<p>organic compound (OC) emissions shall not exceed 1.10 pounds per hour and 0.20 ton per year;</p>	<p>carbon monoxide (CO) emissions shall not exceed 0.01 pound per hour and 0.06 ton per year; and sulfur dioxide (SO₂) emissions shall not exceed 0.0001 pound per hour and 0.0004 ton per year.</p>
	<p>volatile organic compound (VOC) emissions shall not exceed 1.10 pound per hour and 0.20 ton per rolling, 12-month period; and</p>	<p>The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).</p>
	<p>visible particulate emissions shall not exceed 10% opacity as a six-minute average.</p>	<p>The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).</p>
	<p>Emissions from the combustion of natural gas in the drying oven shall not exceed the following limitations:</p>	<p>The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).</p>
	<p>particulate emissions (PE) shall not exceed 0.0003 pound per hour and 0.001 ton per year;</p>	<p>See Sections A.2.a and A.2.b below.</p>
	<p>OC emissions shall not exceed 0.002 pound per hour and 0.01 ton per year;</p>	
	<p>VOC emissions shall not exceed 0.001 pound per hour and 0.004 ton per year;</p>	

2. Additional Terms and Conditions

2.a During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- i. 6.10 tons of VOC per month;
- ii. 0.83 ton of styrene per month;
- iii. 0.42 ton of methyl ethyl ketone (MEK) per month; and
- iv. 1.25 tons of total aggregate HAPs per month.

2.b After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- i. 73.18 tons of VOC;
- ii. 9.95 tons of styrene;
- iii. 5.0 tons of MEK; and
- iv. 15.0 tons of total aggregate HAPs.

B. Operational Restrictions

1. The permittee shall burn only natural gas in the drying oven serving this emissions unit. The emissions from natural gas combustion are permitted at the potential usage of natural gas in all of the drying ovens contained in this permit.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information on a daily basis for each material employed in this emissions unit:

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- a. the company identification for each process resin and primer employed;
 - b. the number of gallons and density or pounds of each process resin employed;
 - c. the number of gallons or pounds of each primer employed;
 - d. the OC, VOC, and 4,4'-methylene diphenyl diisocyanate (MDI) content of each process resin employed, in pounds per gallon or in weight percent;
 - e. the OC and VOC content of each primer employed, in pounds per gallon or in weight percent;
 - f. if any process resin contains any organic compound(s) not emitted as MDI, the daily OC and VOC emissions from all such process resins employed, in pounds per day, i.e., the sum of "b" x ("d"-MDI content) for each process resin;
 - g. the daily OC and VOC emissions from all primer coating employed, in pounds per day, i.e., the sum of "c" x "e" for each primer;
 - h. the total number of hours the emissions unit was in operation, i.e., hours/day;
 - i. the average hourly OC and VOC emission rates for all materials employed in emissions unit R018, in pounds per hour, i.e., ("f" + "g")/ "h" for both pollutants.
2. The permittee shall collect and record the following information, including the calculation, on a monthly basis for this emissions unit:
 - a. the monthly total OC and VOC emissions from all process resins (sum of C.1.f) and primers (sum of C.1.g) employed in this emissions unit; and
 - b. the monthly MDI emissions, estimated using the calculation of emissions from the Alliance for the Polyurethanes Industry "MDI/Polymeric MDI Emissions Reporting Guidelines for the Polyurethane Industry (1999)", and substituting the variables for the average process temperature in degrees Kelvin and the monthly volume of displaced air (ft³/month).
 3. At the end of each month the permittee shall collect, calculate, and record the following rolling, 12-month emissions:
 - a. the rolling, 12-month VOC emissions from all of the VOC-containing (non-frit)

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coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, and cleanup materials applied in the emissions units contained in this permit, including emissions units: P010, P011, P012, P013, P014, P015, P016, R008, R012, R013, R014, R015, R018, R022, and R023; and two tons of VOC emissions shall be added to the rolling, 12-month emissions records, to represent the potential annual VOC emissions from the combustion of natural gas in the drying ovens, curing furnaces, and the thermal oxidizer, permitted in the following emissions units: K001, R005, R008, R009, R018, R019, R020, and R022;

- b. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - c. the rolling, 12-month styrene emissions from emissions units R008 and R022; and
 - d. the rolling, 12-month total combined HAP emissions, based upon a summation of the following:
 - i. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - ii. the rolling, 12-month styrene emissions from emissions units R008 and R022;
 - iii. the rolling, 12-month emissions of MDI from emissions units R012, R013, R014, R015, R018, and R023; and
 - iv. any other HAP(s) documented in the product data for coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, cleanup materials, or other process materials employed, and calculated as the emissions for a rolling, 12-month period.
4. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of the other fuel burned in this emissions unit.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the

following information:

- a. an identification of each day during which the average OC emissions from the emissions unit exceeded 1.10 pounds per hour and the actual average OC emissions for each such day;
 - b. an identification of each day during which the average VOC emissions from the emissions unit exceeded 1.10 pound per hour and the actual average VOC emissions for each such day; and
 - c. an identification of each month during which the rolling, 12-month VOC emissions from this emissions unit exceeded 0.20 tons.
2. The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. The reports shall include the type and quantity of fuel used.
 3. During the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any month during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 6.10 tons of VOC per month;
 - b. 0.83 ton of styrene per month;
 - c. 0.42 ton of MEK per month; and
 - d. 1.25 tons of total aggregate HAPs per month.
 4. After the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any rolling, 12-month period during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 73.18 tons of VOC;
 - b. 9.95 tons of styrene;
 - c. 5.0 tons of MEK; and

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- d. 15.0 tons of total aggregate HAPs.
5. All deviation reports shall be submitted quarterly as required in the General Terms and Conditions of this permit.
6. The permittee shall also submit annual reports that specify the total volatile organic compound emissions from this emissions unit for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

E. Testing Requirements

1. Emission Limitations:
1.10 pounds per hour (daily average) of VOC emissions and 0.20 ton per year period.

Applicable Compliance Method:
Compliance shall be based on upon the record keeping requirements specified in C.1.
2. Emission Limitations:
1.10 pounds per hour (daily average) of OC emissions and 0.20 ton per rolling, 12-month period.

Applicable Compliance Method:
Compliance shall be based on upon the record keeping requirements specified in C.1.
3. Emission Limitations, from natural gas combustion:
0.0003 pound per hour of particulate emissions;
0.002 pound per hour of OC emissions;
0.001 pound per hour of VOC emissions;
0.02 pound per hour of NO_x emissions;
0.01 pound per hour of CO emissions; and
0.0004 pound per hour of SO₂ emissions.

Modification Issued: 11/30/2006Applicable Compliance Method:

Compliance with the hourly emission limitations from natural gas combustion may be demonstrated by multiplying the appropriate AP-42 emission factors from "Compilation of Air Pollutant Emission Factors", Tables 1.4-1 and 1.4-2 (7/98) for natural gas, by the maximum hourly natural gas usage rate of the drying oven. If required, the permittee shall demonstrate compliance with the hourly emission limitations in accordance with the appropriate U.S. EPA test methods specified in 40 CFR Part 60, Appendix A.

4. Emission Limitations, from natural gas combustion:

0.001 ton per year particulate emissions;
0.01 ton per year of OC emissions;
0.004 ton per year of VOC emissions;
0.07 ton per year of NO_x emissions;
0.06 ton per year of CO emissions; and
0.0004 ton per year of SO₂ emissions.

Applicable Compliance Method:

The annual emission limitations are based on the allowable hourly emission rates multiplied by the maximum possible operating hours (8,760 hrs/yr), and divided by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitations, compliance will also be shown for the annual emission limitations.

5. Emission Limitation:

10% opacity, as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A, using the methods and procedures specified in OAC rule 3745-17-03(B)(1) or other U.S. EPA approved test method with prior approval from the Ohio EPA.

6. Emission Limitations:

During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

a. 6.10 tons of VOC per month;

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- b. 0.83 ton of styrene per month;
- c. 0.42 ton of MEK per month; and
- d. 1.25 tons of total aggregate HAPs per month.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

7. Emission Limitations:

After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- a. 73.18 tons of VOC;
- b. 9.95 tons of styrene;
- c. 5.0 tons of MEK; and
- d. 15.0 tons of total aggregate HAPs.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

8. Emission Limitations:

1.25 tons of total aggregate HAPs for the first 12 months and 15.0 tons of total aggregate HAPs per rolling, 12-months for emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023 combined.

Applicable Compliance Method:

The HAP emissions, MDI, from the polyurethane resins used in the acrylic fixture (tool) making operations shall be calculated monthly using the following formula from the Alliance for the Polyurethanes Industry "MDI/Polymeric MDI Emissions Reporting Guidelines for the Polyurethane Industry (1999)", and substituting the variables for the

average process temperature in degrees Kelvin and the monthly volume of displaced air (ft³/month):

$$L_{pk} = V_{air} \times (1/359) \times (273/T_{proc}) \times (VP_{mdi}/760) \times M_w \times K_{mdi}$$

L_{pk} = emissions (lb/mo)

V_{air} = monthly volume of displaced air (ft³/mo)

T_{proc} = process temperature in degrees K

VP_{mdi} = vapor pressure of MDI (mm Hg)

M_w = molecular weight of MDI, 254.38

K_{mdi} = adjustment factor to the VP that is a function of the MDI concentration in the feedstock, assume 1.0

F. Miscellaneous Requirements

The requirements of this Permit-to-Install (02-18111) shall supersede the requirements for this emissions unit contained in Permit to Install number 17-1327 issued on December 20, 1994. The following terms and conditions are federally enforceable requirements: A, B, C, D, E, and F.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emission Limitations and/or Control Requirements

- 1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emission limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
R019 - Smallware Department Enamel Ground Coat Line vented to 1 dust collector (ES-07). This operation includes a spray booth, drying oven, and curing furnace.	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07
	OAC rule 3745-17-11

OAC rule 3745-31-05(C)

Applicable Emission
Limitations/Control Measures

Emissions from this emissions unit shall not exceed the following limitations from process operations:

particulate emissions (PE) shall not exceed 0.47 pound per hour and 2.07 tons per year from dust collector ES-07; and

visible particulate emissions shall not exceed 10% opacity as a six-minute average.

Emissions from the combustion of natural gas in the drying oven and curing furnace shall not exceed the following limitations:

PE shall not exceed 0.01 pound per hour and 0.05 ton per year;

organic compound (OC) emissions shall not exceed 0.06 pound per hour and 0.27 ton per year;

volatile organic compound (VOC) emissions shall not exceed 0.03 pound per hour and 0.13 ton per year;

nitrogen oxide (NO_x) emissions shall not exceed 0.56 pound per hour and 2.43 tons per year;

carbon monoxide (CO)

emissions shall not exceed 0.47 pound per hour and 2.04 tons per year; and

sulfur dioxide (SO₂) emissions shall not exceed 0.0035 pound per hour and 0.012 ton per year.

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

See Sections A.2.a and A.2.b below.

2. Additional Terms and Conditions

2.a During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- i. 6.10 tons of VOC per month;
- ii. 0.83 ton of styrene per month;
- iii. 0.42 ton of methyl ethyl ketone (MEK) per month; and
- iv. 1.25 tons of total aggregate HAPs per month.

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- 2.b** After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:
- i. 73.18 tons of VOC;
 - ii. 9.95 tons of styrene;
 - iii. 5.0 tons of MEK; and
 - iv. 15.0 tons of total aggregate HAPs.

B. Operational Restrictions

1. The permittee shall operate the dust collector (ES-07) whenever this emissions unit is in operation.
2. The pressure drop across the dust collector (ES-07) shall be maintained within the range of 1.0 to 6.0 inches of water while the emissions unit is in operation.
3. The permittee shall burn only natural gas in the drying oven and curing furnace serving this emissions unit. The emissions from natural gas combustion are permitted at the potential usage of natural gas in all of the drying ovens contained in this permit.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain daily records that document any time periods when the dust collectors were not in service while the emissions unit was in operation.
2. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the dust collector (ES-07) while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the dust collector on a daily basis.
3. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of the other fuel burned in this emissions unit.

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4. At the end of each month the permittee shall collect, calculate, and record the rolling, 12-month VOC emissions from all of the VOC-containing (non-frit) coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, and cleanup materials applied in the emissions units contained in this permit, including emissions units: P010, P011, P012, P013, P014, P015, P016, R008, R012, R013, R014, R015, R018, R022, and R023. Two tons of VOC emissions shall be added to the rolling, 12-month emissions records, to represent the potential annual VOC emissions from the combustion of natural gas in the drying ovens, curing furnaces, and the thermal oxidizer, permitted in the following emissions units: K001, R005, R008, R009, R018, R019, R020, and R022.
5. At the end of each year the permittee shall collect and record the total tons of frit coatings applied in this emissions unit, to be used in the annual demonstration of compliance with the particulate emission limitation from overspray, by applying the annual tons of frit coating employed in the calculation of the estimated emissions contained in Section E.2.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify each day when the dust collectors were not in service while the emissions unit was in operation.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the pressure drop across the dust collectors did not comply with the allowable range specified above.
3. The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. The reports shall include the type and quantity of fuel used.
4. During the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any month during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 6.10 tons of VOC per month;
 - b. 0.83 ton of styrene per month;

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- c. 0.42 ton of MEK per month; and
 - d. 1.25 tons of total aggregate HAPs per month.
5. After the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any rolling, 12-month period during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
- a. 73.18 tons of VOC;
 - b. 9.95 tons of styrene;
 - c. 5.0 tons of MEK; and
 - d. 15.0 tons of total aggregate HAPs.
6. All deviation reports shall be submitted quarterly as required in the General Terms and Conditions of this permit.
7. The permittee shall submit any calculated exceedance of the limitation(s) on particulate emissions from overspray from the frit and non-OC/VOC coatings applied in emissions units K001, R005, R009, R019, and R020, as determined in the annual calculation required in Section E.2 of this permit. This report shall be included in the 4th quarter exceedance report if it is determined an exceedance has occurred.

E. Testing Requirements

1. Emission Limitation:
 0.47 pound per hour of particulate emissions (total from dust collector ES-07)

Applicable Compliance Method:

This limit represents the estimated controlled potential emissions of this emissions unit, calculated as follows:

$$(90 \text{ parts/hr}) \times (3.0 \text{ lbs coat/part}) \times (100\% - 30\% \text{TE}) \times (25\% \text{ to filter}^*) \times (100\% - 99.0\% \text{ control for ES-07}) = 0.47 \text{ lbs/hr}$$

If required by the Ohio EPA, compliance with the allowable particulate emission limitation shall be determined in accordance with U.S. EPA Reference Methods 1 through 5 of 40 CFR Part 60, Appendix A.

* it is estimated that a minimum of 75% of the overspray is collected in the reclaim trough

2. Emission Limitation:
2.07 tons per year of particulate emissions (total from dust collector ES-07)

Applicable Compliance Method:

The annual emission limitation is based on the allowable hourly emission rate (0.47 lb/hr) multiplied by the maximum possible operating hours (8,760 hrs/yr), and divided by 2,000 lbs/ton. In order to demonstrate compliance with the annual particulate emission limitation from frit coatings, the following calculation shall be performed at the end of each year:

$$PE = (FC \times 70\% \text{ overspray} \times 25\% \text{ to filter} \times 1\% \text{ lost from filter})$$

where:

PE = total estimated particulate emissions from overspray, in tons of PE per year
FC = total annual frit coating usage in this emissions unit, in tons per year

3. Emission Limitations, from natural gas combustion:
0.01 pound per hour of particulate emissions;
0.06 pound per hour of OC emissions;
0.03 pound per hour of VOC emissions;
0.56 pound per hour of NO_x emissions;
0.47 pound per hour of CO emissions; and
0.0035 pound per hour SO₂ emissions.

Applicable Compliance Method:

Compliance with the hourly emission limitations from natural gas combustion may be demonstrated by multiplying the appropriate AP-42 emission factors from "Compilation of Air Pollutant Emission Factors", Tables 1.4-1 and 1.4-2 (7/98) for natural gas, by the maximum hourly natural gas usage rate of the drying oven and curing furnace. If required, the permittee shall demonstrate compliance with the hourly emission limitations in accordance with the appropriate U.S. EPA test methods specified in 40 CFR Part 60, Appendix A.

4. Emission Limitations, from natural gas combustion:
0.05 ton per year of particulate emissions;

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0.27 ton per year of OC emissions;
0.13 ton per year of VOC emissions;
2.43 tons per year of NO_x emissions;
2.04 tons per year of CO emissions; and
0.012 ton per year SO₂ emissions.

Applicable Compliance Method:

The annual emission limitations are based on the allowable hourly emission rates multiplied by the maximum possible operating hours (8,760 hrs/yr), and divided by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitations, compliance will also be shown for the annual emission limitations.

5. Emission Limitation:
10% opacity, as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A, using the methods and procedures specified in OAC rule 3745-17-03(B)(1) or other U.S. EPA approved test method with prior approval from the Ohio EPA.

6. Emission Limitations:
During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- a. 6.10 tons of VOC per month;
- b. 0.83 ton of styrene per month;
- c. 0.42 ton of MEK per month; and
- d. 1.25 tons of total aggregate HAPs per month.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

7. Emission Limitations:

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After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- a. 73.18 tons of VOC;
- b. 9.95 tons of styrene;
- c. 5.0 tons of MEK; and
- d. 15.0 tons of total aggregate HAPs.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

F. Miscellaneous Requirements

The requirements of this Permit to Install (02-18111) shall supersede the requirements for this emissions unit contained in Permit to Install number 17-1485 issued on October 30, 1996. The following terms and conditions are federally enforceable requirements: A, B, C, D, E, and F.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emission Limitations and/or Control Requirements

- 1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emission limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
R020 - Tubs Department Finish Coat Line vented to 2 dust collectors (ET-01 and ET-02). This operation includes a finish spray booth, Stan Sure spray booth, drying oven, and curing furnace.	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-07
	OAC rule 3745-17-11

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OAC rule 3745-31-05(C)

Applicable Emission
Limitations/Control Measures

Emissions from this emissions unit shall not exceed the following limitations from process operations:

particulate emissions (PE) shall not exceed 0.61 pound per hour and 2.67 tons per year from dust collectors ET-01 and ET-02; and

visible particulate emissions shall not exceed 10% opacity as a six-minute average.

Emissions from the combustion of natural gas in the drying oven and curing furnace shall not exceed the following limitations:

PE shall not exceed 0.02 pound per hour and 0.10 ton per year;

organic compound (OC) emissions shall not exceed 0.12 pound per hour and 0.54 ton per year;

volatile organic compound (VOC) emissions shall not exceed 0.06 pound per hour and 0.27 ton per year;

nitrogen oxide (NO_x) emissions shall not exceed 1.13 pounds per hour and 4.95 tons per year;

carbon monoxide (CO)

emissions shall not exceed 0.95 pound per hour and 4.16 tons per year; and

sulfur dioxide (SO₂) emissions shall not exceed 0.01 pound per hour and 0.03 ton per year.

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

See Sections A.2.a and A.2.b below.

2. Additional Terms and Conditions

2.a During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- i. 6.10 tons of VOC per month;
- ii. 0.83 ton of styrene per month;
- iii. 0.42 ton of methyl ethyl ketone (MEK) per month; and
- iv. 1.25 tons of total aggregate HAPs per month.

2.b After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- i. 73.18 tons of VOC;
- ii. 9.95 tons of styrene;
- iii. 5.0 tons of MEK; and
- iv. 15.0 tons of total aggregate HAPs.

B. Operational Restrictions

1. The permittee shall operate the dust collectors (ET-01 and ET-02) whenever this emissions unit is in operation.
2. The pressure drop across each of the dust collectors (ET-01 and ET-02) shall be maintained within the following ranges while the emissions unit is in operation:

ET-01: 1.5 to 6.0 inches of water
ET-02: 1.0 to 5.0 inches of water.

3. The permittee shall burn only natural gas drying oven and curing furnace serving this emissions unit. The emissions from natural gas combustion are permitted at the potential usage of natural gas in all of the drying ovens contained in this permit.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain daily records that document any time periods when the dust collectors were not in service while the emissions unit was in operation.
2. The permittee shall properly operate and maintain equipment to monitor the pressure drop across each of the dust collectors (ET-01 and ET-02) while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across each of the dust collectors on a daily basis.
3. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of the other fuel burned in this emissions unit.
4. At the end of each month the permittee shall collect, calculate, and record the rolling, 12-month VOC emissions from all of the VOC-containing (non-frit) coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, and cleanup materials applied in the emissions units contained in this permit, including emissions units: P010, P011, P012, P013, P014, P015, P016, R008, R012, R013, R014, R015, R018, R022, and R023. Two tons of VOC emissions shall be added to the rolling, 12-month emissions records, to represent the potential annual VOC emissions from the combustion of natural gas in the drying ovens, curing furnaces, and the thermal oxidizer, permitted in the following emissions units: K001, R005, R008, R009, R018, R019, R020, and R022.
5. At the end of each year the permittee shall collect and record the total tons of frit coatings applied in this emissions unit, to be used in the annual demonstration of compliance with the particulate emission limitation from overspray, by applying the annual tons of frit coating employed in the calculation of the estimated emissions contained in Section E.2.

D. Reporting Requirements

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1. The permittee shall submit quarterly deviation (excursion) reports that identify each day when the dust collectors were not in service while the emissions unit was in operation.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the pressure drop across the dust collectors did not comply with the allowable range specified above.
3. The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. The reports shall include the type and quantity of fuel used.
4. During the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any month during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 6.10 tons of VOC per month;
 - b. 0.83 ton of styrene per month;
 - c. 0.42 ton of MEK per month; and
 - d. 1.25 tons of total aggregate HAPs per month.
5. After the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any rolling, 12-month period during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 73.18 tons of VOC;
 - b. 9.95 tons of styrene;
 - c. 5.0 tons of MEK; and
 - d. 15.0 tons of total aggregate HAPs.
6. All deviation reports shall be submitted quarterly as required in the General Terms and Conditions of this permit.
7. The permittee shall submit any calculated exceedance of the limitation(s) on particulate

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emissions from overspray from the frit and non-OC/VOC coatings applied in emissions units K001, R005, R009, R019, and R020, as determined in the annual calculation required in Section E.2 of this permit. This report shall be included in the 4th quarter exceedance report if it is determined an exceedance has occurred.

E. Testing Requirements

1. Emission Limitation:
0.61 pound per hour of particulate emissions (total from dust collectors ET-01 and ET-02)

Applicable Compliance Method:

This limit represents the estimated controlled potential emissions of this emissions unit, calculated as follows:

$$(145 \text{ tubs/hr}) \times (4.0 \text{ lbs coat/tub}) \times (100\% - 30\% \text{TE}) \times (25\% \text{ to filter}^*) \times (100\% - 99.5\% \text{ control for ET-01}) = 0.51 \text{ lbs/hr}$$

$$(145 \text{ tubs/hr}) \times (0.2 \text{ lbs coat/tub}) \times (100\% - 30\% \text{TE}) \times (100\% - 99.5\% \text{ control for ET-02}) = 0.10 \text{ lbs/hr}$$

If required by the Ohio EPA, compliance with the allowable particulate emission limitation shall be determined in accordance with U.S. EPA Reference Methods 1 through 5 of 40 CFR Part 60, Appendix A.

* it is estimated that a minimum of 75% of the overspray is collected in the reclaim trough

2. Emission Limitation:
2.67 tons per year of particulate emissions (total from dust collectors ET-01 and ET-02)

Applicable Compliance Method:

The annual emission limitation is based on the allowable hourly emission rate (0.61 lb/hr) multiplied by the maximum possible operating hours (8,760 hrs/yr), and divided by 2,000 lbs/ton. In order to demonstrate compliance with the annual particulate emission limitation from frit coatings, the following calculation shall be performed at the end of each year:

$$PE = (FC \times 70\% \text{ overspray} \times 25\% \text{ to filter} \times 1\% \text{ lost from filter})$$

where:

PE = total estimated particulate emissions from overspray, in tons of PE per year
FC = total annual frit coating usage in this emissions unit, in tons per year

3. Emission Limitations, from natural gas combustion:
0.02 pound per hour of particulate emissions;
0.12 pound per hour of OC emissions;
0.06 pound per hour of VOC emissions;
1.13 pound per hour of NO_x emissions;
0.95 pound per hour of CO emissions; and
0.01 pound per hour of SO₂ emissions.

Applicable Compliance Method:

Compliance with the hourly emission limitations from natural gas combustion may be demonstrated by multiplying the appropriate AP-42 emission factors from "Compilation of Air Pollutant Emission Factors", Tables 1.4-1 and 1.4-2 (7/98) for natural gas, by the maximum hourly natural gas usage rate of the drying oven and curing furnace. If required, the permittee shall demonstrate compliance with the hourly emission limitations in accordance with the appropriate U.S. EPA test methods specified in 40 CFR Part 60, Appendix A.

4. Emission Limitations, from natural gas combustion:
0.10 ton per year period of particulate emissions;
0.54 ton per year of OC emissions;
0.27 ton per year of VOC emissions;
4.95 tons per year of NO_x emissions;
4.16 tons per year of CO emissions; and
0.03 ton per year of SO₂ emissions.

Applicable Compliance Method:

The annual emission limitations are based on the allowable hourly emission rates multiplied by the maximum possible operating hours (8,760 hrs/yr), and divided by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitations, compliance will also be shown for the annual emission limitations.

5. Emission Limitation:
10% opacity, as a 6-minute average

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations

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performed in accordance with Method 9 of 40 CFR Part 60, Appendix A, using the methods and procedures specified in OAC rule 3745-17-03(B)(1) or other U.S. EPA approved test method with prior approval from the Ohio EPA.

6. Emission Limitations:

During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- a. 6.10 tons of VOC per month;
- b. 0.83 ton of styrene per month;
- c. 0.42 ton of MEK per month; and
- d. 1.25 tons of total aggregate HAPs per month.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

7. Emission Limitations:

After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- a. 73.18 tons of VOC;
- b. 9.95 tons of styrene;
- c. 5.0 tons of MEK; and
- d. 15.0 tons of total aggregate HAPs.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements

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specified in Sections C and D of this permit.

F. Miscellaneous Requirements

The requirements of this Permit to Install (02-18111) shall supersede the requirements for this emissions unit contained in Permit to Install number 17-1493 issued on October 30, 1996. The following terms and conditions are federally enforceable requirements: A, B, C, D, E, and F.

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Facility ID: 021509001

Emissions Unit ID: R022

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emission Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emission limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
R022 - Acrylic Parts Fiberglass (FRP) Lamination Line 2, vented to the Polyad control system (Polyad Preconcentrator and thermal oxidizer), contained in a permanent total enclosure. This operation includes a FRP resin coating booth, transition area, and a curing oven.	OAC rule 3745-31-05(A)(3)

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PTI A

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Emissions Unit ID: R022

	<u>Applicable Emission Limitations/Control Measures</u>	
OAC rule 3745-21-07(G)	The total emissions for emissions units R008 and R022, combined, shall not exceed the following limitations which include resin usage and cleanup operations:	particulate emissions (PE) shall not exceed 0.005 pound per hour and 0.02 ton per year; OC emissions shall not exceed 0.03 pound per hour and 0.14 ton per year; VOC emissions shall not exceed 0.016 pound per hour and 0.07 ton per year;
OAC rule 3745-31-05(C)	<p>organic compound (OC) emissions shall not exceed 17.52 pounds per hour and 29.76 tons per year;</p> <p>volatile organic compound (VOC) emissions shall not exceed 4.07 pounds per hour and 10.28 tons per rolling, 12-month period;</p> <p>styrene emissions shall not exceed 3.99 pounds per hour and 9.95 tons per rolling, 12-month period; and</p> <p>all styrene emissions shall be captured and vented to the Polyad control system which shall achieve a minimum control efficiency of 87%, by weight.</p> <p>Emissions from the combustion of natural gas in the curing ovens and thermal oxidizer for emissions units R008 and R022, combined, shall not exceed the following:</p>	<p>nitrogen oxide (NO_x) emissions shall not exceed 0.29 pound per hour and 1.26 tons per year;</p> <p>carbon monoxide (CO) emissions shall not exceed 0.24 pound per hour and 1.05 tons per year; and</p> <p>sulfur dioxide (SO₂) emissions shall not exceed 0.002 pound per hour and 0.008 ton per year.</p> <p>The control requirement specified by this rule is less stringent than the control requirements established pursuant to OAC rule 3745-31-05(A)(3).</p> <p>See Sections A.2.a and A.2.b below.</p>

2. Additional Terms and Conditions

2.a During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- i. 6.10 tons of VOC per month;
- ii. 0.83 ton of styrene per month;
- iii. 0.42 ton of methyl ethyl ketone (MEK) per month; and
- iv. 1.25 tons of total aggregate HAPs per month.

2.b After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- i. 73.18 tons of VOC;
- ii. 9.95 tons of styrene;
- iii. 5.0 tons of MEK; and
- iv. 15.0 tons of total aggregate HAPs.

B. Operational Restrictions

1. The Polyad Preconcentrator and thermal oxidizer control systems shall be used whenever this emissions unit is in operation.
2. Until compliance testing has been conducted as required in this permit, the average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall be maintained at the average temperature recommended by the manufacturer of the incinerator. Following compliance testing, the average combustion temperature within the thermal incinerator, for any 3-hour block of

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time the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature maintained during the most recent emissions test that demonstrated the emissions unit to be in compliance.

3. This emissions unit shall be totally enclosed such that all emissions are captured for venting to the Polyad control system. Compliance with the following criteria, as specified by USEPA Method 204, shall be met by the permittee:
 - a. any natural draft opening (NDO) shall be at least four equivalent opening diameters from each VOC emitting point;
 - b. the total area of all NDO's shall not exceed 5 percent of the surface area of the enclosure's four walls, floor and ceiling;
 - c. the average facial velocity of air through all the NDO's shall be at least 3,600 m/hr (200 fpm) or the differential pressure between the inside and outside of the enclosure shall not be less than 0.007 inch of water;
 - d. the direction of air flow through all NDO's shall be into the enclosure; and
 - e. all access doors and windows whose areas are not included in "b" and are not included in the calculations or monitoring in "c" shall be closed during routine operation of the process.
4. The permittee shall burn only natural gas in the curing oven and thermal oxidizer serving this emissions unit. The emissions from natural gas combustion are permitted at the potential usage of natural gas for emissions units R008 and R022, combined.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

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

- a. all 3-hour blocks of time (i.e., 12 a.m. to 3 a.m., 3 a.m. to 6 a.m., etc.) during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent emission tests that demonstrated the emissions unit was in compliance; and
 - b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall install, operate, and maintain monitoring devices and a recorder which simultaneously measure and record the pressure inside and outside the permanent total enclosure. The monitoring and recording devices shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

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

- a. the difference in pressure between the permanent total enclosure and the surrounding area(s); and
 - b. a log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
3. The permittee shall collect and record the following information on a daily basis for each material employed in emissions units R008 and R022, combined:
- a. the company identification for each process resin, mold cleaner, and cleanup material employed;
 - b. the number of gallons and density or pounds of each process resin employed;
 - c. the number of gallons or pounds of each cleanup material employed;
 - d. the number of gallons or pounds of mold cleaner employed;
 - e. the OC and VOC content of each process resin employed, in pounds per gallon or in weight percent;
 - f. the styrene content of each process resin employed, in pounds per gallon or in

- weight percent;
- g. the OC and VOC content of each cleanup material employed, in pounds per gallon or in weight percent;
 - h. the OC and VOC content of the mold cleaner employed, in pounds per gallon or in weight percent;
 - i. the uncontrolled styrene emissions, in pounds per day, i.e., the sum of "b"(in pounds or converted to tons) of all process resins applied, times the emission factor (EF)^{***}, in pounds of styrene emitted per pound or ton of process resins, calculated from Table 1 of Subpart WWWW of 40 CFR Part 63 for a nonatomized mechanical resin application using a nonvapor-suppressed resin, i.e., $EF = [(0.157 \times \% \text{ styrene}) - 0.0165] \times 2000$;
 - j. if the OC and VOC emissions from process resins include more than styrene (i.e., "e" is greater than "f"), the daily non-styrene OC and VOC emissions from process materials applied, in pounds per day, i.e., the sum of "b" x ("e" - "f") for each process resin employed;
 - k. the daily OC and VOC emissions from all cleanup materials applied, in pounds per day, prior to any credit for recovered cleanup materials, i.e., the sum of "c" x "g" for each cleanup material applied;
 - l. the daily OC and VOC emissions from the mold cleaner applied, in pounds per day, prior to any credit for recovered mold cleaner, i.e., the sum of "d" x "h" for the mold cleaner applied;
 - m. the daily OC and VOC emissions from all cleanup materials employed following the credit* for recovered cleanup materials, in (or converted to) pounds per day, calculated by subtracting the daily average VOC and/or OC credit(s) for recovered cleanup materials, as calculated in C.4.k below, from the total emissions calculated from the daily usage of cleanup materials in "C.3.k" above, and also documented from the product of "C.3.k" x "C.4.j";
 - n. the daily OC and VOC emissions from all mold cleaner(s) employed following the credit* for recovered mold cleaner, in (or converted to) pounds per day, calculated by subtracting the daily average VOC and/or OC credit(s) for recovered mold cleaner, as calculated in C.4.k below, from the total emissions calculated from the daily usage of mold cleaner in "C.3.l" above, and also

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documented from the product of "C.3.l" x "C.4.j";

- o. the daily controlled styrene emissions for all process resins employed, in pounds per day, i.e., the uncontrolled styrene emissions from "i" x (100% - control efficiency**);
- p. the total OC and VOC emissions from all materials applied, i.e., ("j" + "m" + "n" + "o"), in pounds/day;
- q. the maximum number of hours that either emissions unit R008 or R022 were in operation, (hrs/day);
- r. the average hourly OC and VOC emission rates for all materials employed, in pounds per hour, i.e., "p"/"q"; and
- s. the average hourly controlled styrene emission rate for all materials employed, in pounds per hour, i.e., "o"/"q".

* The daily credit for recovered cleanup materials and/or mold cleaner, applied to the emissions in "C.3.m" and "C.3.n" and recorded in "C.4.k", shall be calculated from the last drum shipped containing the cleanup material and mold cleaner recovered from these emissions units.

** the control efficiency shall be adjusted to the percent control established during the most recent emission tests that demonstrate that the emissions units are in compliance and 87% shall be used for the purposes of record keeping until such emission testing is completed.

*** An alternative uncontrolled styrene emission factor may be used if it is determined more appropriate and approved by the Ohio EPA.

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4. If a credit for recovered cleanup material and/or mold cleaner is used in the calculation of the monthly and/or the rolling, 12-month emissions from this emissions unit and emissions unit R022 or if a recovery credit is used as a factor in daily emission calculations, the permittee shall maintain the following records for the recovered cleanup material and a log for the recovery drum(s)/tank(s) (recovery vessel(s)). The recovery log shall contain the identification number for each recovery vessel, the material it contains (i.e., acetone or mold cleaner), the dates of the first and last addition of the recovered material, the emissions units from which the cleanup material or mold cleaner was recovered (emissions units R008, R022, P010 and/or P016 if acetone or R008 and R022 if mold cleaner) or emissions unit R008 if not sharing recovery with other emissions units, the weight of the recovered material at shipment (including and excluding the weight of the recovery vessel), and the date the vessel was shipped off-site. Each recovery vessel shall be marked or labeled with the identification number documented in the log. The following information shall be recorded, calculated, and maintained for this emissions unit if an emissions credit is to be used for recovered cleanup materials and/or mold cleaner:
 - a. the date cleanup material or mold cleaner is first added to each recovery vessel, the material it contains, and the recovery vessel's identification number/code;
 - b. the date of the last day cleanup material or mold cleaner is added to each recovery vessel before it is shipped (referenced with its identification number/code);
 - c. the date each recovery vessel (referenced with its identification number/code) is shipped off site;
 - d. the number days the recovery vessel (referenced with its identification number/code) accumulated cleanup material or mold cleaner, determined from "a" and "b" above;
 - e. the number of gallons and weight* of the material contained in each recovery vessel (referenced with its identification number/code) when it is shipped off site;
 - f. the OC and VOC content of the recovered cleanup material and/or mold cleaner, as determined from the most recent lab test results from a representative sample of the recovered materials; and until such test results are received, the minimum OC and VOC** content of the mold cleaner and/or cleanup material collected, in pounds per gallon or percent by weight;

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- g. the total emissions credit for each recovery vessel shipped during the month (referenced with its identification number/code), in pounds of OC and/or VOC per recovery vessel, i.e., "e" x "f";
- h. the number of gallons or total weight of each cleanup material and/or mold cleaner applied in emissions units R008 and R022, combined, between the date each recovery vessel was first used ("a") to the date cleanup material and/or mold cleaner

was last added prior to shipment ("b"), i.e., the sum of the daily usage between and including these dates, as recorded in C.3.c for cleanup material and term C.3.d for mold cleaner; and

- i. if sharing a recovery vessel, the total number of gallons or total weight of the cleanup material and/or mold cleaner applied in emissions units R008 and R022 plus the same material's use in the emissions unit(s) sharing the recovery vessel and credit, between the date each recovery vessel was first used ("a") to the date recovered material was last added prior to shipment ("b"), i.e., the sum of the daily material usage between and including these dates for the individual emissions units sharing the recovery vessel, from each individual emissions unit's records for acetone usage (emissions units P010 and P016) or similar mold cleaner usage (Americast Systems, emissions units R012, R013, R014, R015, and R023) in their Sections C.1 and from Sections C.3 in emissions units R008 and R022;
- j. the percent of cleanup material and mold cleaner lost and not recovered (% of each), calculated for each recovery vessel shipped (referenced with its identification number/code), calculated as the difference between the total usage of the cleanup material and/or mold cleaner applied in the emissions units sharing the recovery vessel ("i"), or if the vessel is not shared, the total usage applied in emissions units R008 and R022, alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, minus the total recovered material in the recovery vessel at shipment ("e"), divided by the total usage of the cleanup material and/or mold cleaner applied in the emissions units sharing the recovery vessel ("i") or applied in emissions units R008 and R022, alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, i.e., $[(i - e) / i]$ or $[(h - e) / h]$;
- k. the daily average OC and/or VOC credit for cleanup material and/or mold cleaner recovered from emissions units R008 and R022, calculated based on each recovery vessel shipped:
 - i. calculated for emissions units R008 and R022 alone (if the recovery vessel contains only cleanup material and/or mold cleaner recovered from emissions units R008 and R022) by dividing the total VOC and/or OC recovery credit by the number of days it took to fill the vessel, i.e., "g"/"d";
or

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- ii. if sharing a recovery vessel, the calculated portion of the emissions credit, calculated in "g", to be credited to the daily average emissions from emissions units R008 and R022 in pounds, i.e., "g"/"d" times the cleanup material and/or mold cleaner usage in emissions units R008 and R022 (recorded in "h") divided by the cleanup material and/or mold cleaner usage in all the emissions units sharing the recovery vessel and credit (recorded in "i"), i.e., ("g"/"d") x ("h"/"i"); and

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- I. the total VOC and/or OC credit for all recovery vessels shipped during the month and containing cleanup material or mold cleaner applied in emissions units R008 or R022 (sum of all recovery vessels shipped between first and last day of the month, as recorded in "g") (referenced with its identification number/code); and if sharing the vessel with other emissions units, the portion of the emissions calculated in "g" above to be credited to the monthly emissions from emissions units R008 and R022, in pounds or tons/month, calculated as "g" times the monthly mold cleaner usage in emissions units R008 and R022 (recorded in "h") divided by the mold cleaner usage in all the emissions units sharing the credit ("i"), i.e., ("g") x ("h"/"i").

The permittee shall take a representative sample of the first full drum of recovered cleanup material and/or mold cleaner collected following the issuance of this permit, which shall be tested at an outside laboratory for the OC and VOC content. A representative sample of the recovered cleanup material and/or mold cleaner shall be re-tested once every five years and following any change in the resins, mold cleaner, and/or cleanup materials applied, using a representative sample from the first full drum following the change. Solvent soaked rags may not be included in any recovery credit to emissions.

* The weight and gallons of recovered cleanup material and/or mold cleaner, to be applied in calculations of emissions, shall be recorded at the time it is shipped off-site, and shall not include the weight of the recovery vessel, which shall remain closed/sealed at all times except during material additions and/or preparation for off-site recovery or disposal.

** Until testing results documenting a higher OC and VOC content are received, the lowest OC and VOC content of the range provided by the manufacturer of the cleanup material and/or mold cleaner shall be used in calculating the credit for the recovered materials.

*** An alternative uncontrolled styrene emission factor may be used if approved by Ohio EPA.

5. The permittee shall collect and record the following information, including the calculation, on a monthly basis for emissions units R008 and R022, combined:
 - a. the monthly total OC and VOC emissions, calculated as the sum of emissions from all process resins (sum of C.3.j), cleanup materials (sum of C.3.k), mold cleaner (sum of C.3.l), and controlled styrene from process resins (C.3.o) employed in these emissions units during the month, and subtracting the credit to

these emissions for recovered cleanup material and/or mold cleaner shipped during the month, i.e., the total OC and VOC emissions minus the total emissions credit, recorded in C.4.l above, for all recovery vessels shipped during the month; and

- b. the monthly total controlled styrene emissions from all process materials employed in emissions units R008 and R022, combined, i.e., the sum of the daily emissions, in pounds or tons per month, from term C.3.o above.

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6. At the end of each month the permittee shall collect, calculate, and record the following rolling, 12-month emissions:
 - a. the rolling, 12-month VOC emissions from all of the VOC-containing (non-frit) coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, and cleanup materials applied in the emissions units contained in this permit, including emissions units: P010, P011, P012, P013, P014, P015, P016, R008, R012, R013, R014, R015, R018, R022, and R023; and two tons of VOC emissions shall be added to the rolling, 12-month emissions records, to represent the potential annual VOC emissions from the combustion of natural gas in the drying ovens, curing furnaces, and the thermal oxidizer, permitted in the following emissions units: K001, R005, R008, R009, R018, R019, R020, and R022;
 - b. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - c. the rolling, 12-month styrene emissions from emissions units R008 and R022; and
 - d. the rolling, 12-month total combined HAP emissions, based upon a summation of the following:
 - i. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - ii. the rolling, 12-month styrene emissions from emissions units R008 and R022;
 - iii. the rolling, 12-month emissions of MDI from emissions units R012, R013, R014, R015, R018, and R023; and
 - iv. any other HAP(s) documented in the product data for coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, cleanup materials, or other process materials employed, and calculated as the emissions for a rolling, 12-month period.
7. The permit to install for emissions units R008 and R022 was evaluated based on the actual materials applied and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio

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EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Styrene

TLV (mg/m³): 85.2 mg/m³

Maximum Hourly Emission Rate (lbs/hr): 3.99 lbs/hr (R008 + R022)

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 279 ug/m³

MAGLC (ug/m³): 2,029 ug/m³

8. Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:
 - a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
 - c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter,

etc.).

9. If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
 - b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
 - c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.
10. For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of the other fuel burned in this emissions unit.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that identify all 3-hour blocks of time (i.e., 12 a.m. to 3 a.m., 3 a.m. to 6 a.m., etc.) during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified above.
2. The permittee shall submit quarterly deviation (excursion) reports that identify all periods of time during which the permanent total enclosure was either not maintained at the required differential pressure or average facial velocity, through each NDO.

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3. The permittee shall submit quarterly deviation (excursion) reports that include the following information:
 - a. an identification of each day during which the average OC emissions from emissions units R008 and R022, combined, exceeded 17.52 pounds per hour and the actual average hourly OC emissions for each such day;
 - b. an identification of each day during which the average VOC emissions from emissions units R008 and R022, combined, exceeded 4.07 pounds per hour and the actual average hourly VOC emissions for each such day;
 - c. an identification of each day during which the average styrene emissions from emissions units R008 and R022, combined, exceeded 3.99 pounds per hour and the actual average hourly styrene emissions for each such day;
 - d. an identification of each month during which the rolling, 12-month styrene emissions from emissions units R008 and R022, combined, exceeded 9.95 tons; and
 - e. an identification of each month during which the rolling, 12-month VOC emissions from emissions units R008 and R022, combined, exceeded 10.28 tons.
4. During the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any month during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 6.10 tons of VOC per month;
 - b. 0.83 ton of styrene per month;
 - c. 0.42 ton of MEK per month; and
 - d. 1.25 tons of total aggregate HAPs per month.
5. After the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any rolling, 12-month period during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 73.18 tons of VOC;

- b. 9.95 tons of styrene;
 - c. 5.0 tons of MEK; and
 - d. 15.0 tons of total aggregate HAPs.
6. The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. The reports shall include the type and quantity of fuel used.
 7. All deviation reports shall be submitted quarterly as required in the General Terms and Conditions of this permit.
 8. The permittee shall also submit annual reports that specify the total volatile organic compound emissions from this emissions unit (or from the combined emissions units R008 and R022) for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this or these emissions unit(s) in the annual Fee Emission Report.

E. Testing Requirements

1. Emission Limitations:
3.99 pounds styrene/hr from emissions units R008 and R022 combined
100% by weight capture efficiency
87% by weight control efficiency

Applicable Compliance Method:

The permittee shall conduct, or have conducted, emission testing for this emissions unit (R022) and emissions unit R008 in accordance with the following requirements:

- a. The emission testing shall be conducted within 6 months after the date this permit is issued.
- b. The following test method(s) shall be employed to document the uncontrolled emission rate of styrene, the capture efficiency of the permanent total enclosure, the total control efficiency for styrene (87%), and demonstrate compliance with the allowable mass emission rate of styrene, 3.99 lbs/hr:

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Methods 204 through 204F of 40 CFR Part 51, Appendix M for the permanent total enclosure containing emissions units R008 and R022:

U.S. EPA Reference Methods 1 through 4, and Method 18 of 40 CFR Part 60, Appendix A conducted at the following points:

- i. the inlet to the Polyad concentrator from the permanent total enclosure for R008 and R022; and
 - ii. the combined exhaust stack serving the Polyad system, cyclone, and oxidizer.
- c. The test(s) shall be conducted while both emissions units R008 and R022 are operating at or near their maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northeast District Office. The test methods shall be employed to demonstrate compliance with the total control efficiency of the Polyad control system (Polyad Preconcentrator and thermal oxidizer) and the pound per hour emission limitation for styrene. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA. The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10(C). The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.
- d. The capture efficiency shall be determined using Methods 204 through 204F, as specified in 40 CFR Part 51, Appendix M, or the permittee may request to use an alternative method or procedure for the determination of capture efficiency in accordance with the USEPA's "Guidelines for Determining Capture Efficiency," dated January 9, 1995. (The Ohio EPA will consider the request, including an evaluation of the applicability, necessity, and validity of the alternative, and may approve the use of the alternative if such approval does not contravene any other applicable requirement.)
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Northeast District Office's refusal to accept the results of the

emission test(s).

- f. Personnel from the Ohio EPA, Northeast District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
 - g. A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Northeast District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Northeast District Office.
2. Emission Limitation:
17.52 pounds per hour (daily average) of OC emissions from emissions units R008 and R022, combined

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.3. If required, compliance shall be determined through stack testing, performed in accordance with OAC rule 3745-21-10(C) and using test Methods 1 through 4 and 18, 25, or 25A, as appropriate, from 40 CFR Part 60, Appendix A.

3. Emission Limitation:
29.76 tons per year of OC emissions from emissions units R008 and R022 combined

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.3

4. Emission Limitation:
4.07 pounds per hour (daily average) of VOC emissions from emissions units R008 and R022 combined

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in Section C.3. If required, compliance shall be determined through stack testing, performed in accordance with OAC rule 3745-21-10(C) and using test Methods 1 through 4 and 18,

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25, or 25A, as appropriate, from 40 CFR Part 60, Appendix A.

5. Emission Limitation:
10.28 tons per rolling, 12-month period of VOC emissions from emissions units R008 and R022 combined

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Section C.3.
6. Emission Limitation:
3.99 pounds per hour (daily average) of styrene emissions from emissions units R008 and R022 combined

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Section C.3 and the testing requirements specified in Section E.1 above.
7. Emission Limitation:
9.95 tons per rolling, 12-month period of styrene emissions from emissions units R008 and R022 combined:

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Section C.3.
8. Emission Limitations from emissions units R008 and R022, combined, from natural gas combustion:
0.005 pound per hour of particulate emissions;
0.03 pound per hour of OC emissions;
0.016 pound per hour of VOC emissions;
0.29 pound per hour of NO_x emissions;
0.24 pound per hour of CO emissions; and
0.002 pound per hour of SO₂ emissions.

Applicable Compliance Method:
Compliance with the hourly emission limitations from natural gas combustion may be demonstrated by multiplying the appropriate AP-42 emission factors from "Compilation of Air Pollutant Emission Factors", Tables 1.4-1 and 1.4-2 (7/98) for natural gas, by the maximum hourly natural gas usage rate of the curing ovens and thermal oxidizer. If required, the permittee shall demonstrate compliance with the hourly emission

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limitations in accordance with the appropriate U.S. EPA test methods specified in 40 CFR Part 60, Appendix A.

9. Emission Limitations from emissions units R008 and R022 combined, from natural gas combustion:
 - 0.02 ton per year of particulate emissions;
 - 0.14 ton per year of OC emissions;
 - 0.07 ton per year of VOC emissions;
 - 1.26 tons per year of NO_x emissions;
 - 1.05 tons per year of CO emissions; and
 - 0.008 ton per year of SO₂ emissions.

Applicable Compliance Method:

The annual emission limitations are based on the allowable hourly emission rates multiplied by the maximum possible operating hours (8,760 hrs/yr), and divided by 2,000 lbs/ton.

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Therefore, provided compliance is shown with the hourly emission limitations, compliance will also be shown for the annual emissions limitations.

10. Emission Limitations:

During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:

- a. 6.10 tons of VOC per month;
- b. 0.83 ton of styrene per month;
- c. 0.42 ton of MEK per month; and
- d. 1.25 tons of total aggregate HAPs per month.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

11. Emission Limitations:

After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- a. 73.18 tons of VOC;
- b. 9.95 tons of styrene;
- c. 5.0 tons of MEK; and
- d. 15.0 tons of total aggregate HAPs.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

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12. Emission Limitations:

1.25 tons of total aggregate HAPs for the first 12 months and 15.0 tons of total aggregate HAPs per rolling, 12-month period for emissions units K001, P010, P011, P012, P013,

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P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, combined.

Applicable Compliance Method:

The HAP emissions, styrene, from the lamination resins applied in emissions units R088 and R022 shall be calculated monthly per Section C.5, using the daily records for total resin usage, and with emissions calculated as required in C.3.i and C.3.o.

F. Miscellaneous Requirements

The requirements of this Permit to Install (02-18111) shall supersede the requirements for this emissions unit contained in Permit to Install number 02-1950 issued on December 6, 2001. The following terms and conditions are federally enforceable requirements: A, B, C (except C.7, C.8, and C.9), D, E, and F.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emission Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emission limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emission Limitations/Control Measures</u>
R023 - Americast I Admiral System Clamp 8.	OAC rule 3745-31-05(A)(3)	Emissions from this emissions unit shall not exceed the following limitations: organic compound (OC) emissions shall not exceed 0.18 pound per hour and 0.77 ton per year; and volatile organic compound (VOC) emissions shall not exceed 0.03 pound per hour and 0.11 ton per rolling, 12-month period.
	OAC rule 3745-21-07(G)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(C)	See Sections A.2.a and A.2.b below.

2. Additional Terms and Conditions

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- 2.a** During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations:
- i. 6.10 tons of VOC per month;
 - ii. 0.83 ton of styrene per month;
 - iii. 0.42 ton of methyl ethyl ketone (MEK) per month; and
 - iv. 1.25 tons of total aggregate HAPs per month.
- 2.b** After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:
- i. 73.18 tons of VOC;
 - ii. 9.95 tons of styrene;
 - iii. 5.0 tons of MEK; and
 - iv. 15.0 tons of total aggregate HAPs.

B. Operational Restrictions

None

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall collect and record the following information on a daily basis for each material employed in this emissions unit:
 - a. the company identification for each process resin, mold release agent, and mold cleaner employed;

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- b. the number of gallons or pounds of each process resin employed;
- c. the number of gallons or pounds of each mold release agent employed;
- d. the number of gallons or pounds of the/each mold cleaner employed;
- e. the OC, VOC, and 4,4'-methylene diphenyl diisocyanate (MDI) content of each process resin employed, in pounds per gallon or in weight percent;
- f. the OC and VOC content of each mold release agent employed, in pounds per gallon or in weight percent;
- g. the OC and VOC content of the/each mold cleaner, in pounds per gallon or in weight percent;
- h. if any process resin contains any organic compound(s) not emitted as MDI, the daily OC and VOC emissions from all such process resins employed, in pounds per day, i.e., the sum of "b" x ("e"-MDI content) for each process resin;
- i. the daily OC and VOC emissions from all mold release agents employed, in pounds per day, i.e., the sum of "c" x "f" for each mold release agent applied;
- j. the daily OC and VOC emissions from all mold cleaner(s) employed prior to any credit for recovered materials, in pounds per day, i.e., the sum of "d" x "g" for each mold cleaner applied;
- k. the daily OC and VOC emissions from all mold cleaner(s) employed following the credit* for recovered mold cleaner, in (or converted to) pounds per day, calculated by subtracting the daily average VOC and/or OC credit(s) for recovered mold cleaner, as calculated in C.2.k below, from the total emissions calculated from the daily usage of mold cleaner in "C.1.j" above, and also documented from the product of "C.1.j" x "C.2.j";
- l. the total OC and VOC emissions from all materials applied during the day, i.e., sum of "h" + "i" + "k" above;
- m. the total number of hours the emissions unit was in operation, i.e., hours/day; and
- n. the average hourly OC and VOC emission rates for all materials employed in this emissions unit, in pounds per hour, i.e., "l"/"m" for both pollutants.

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- * The daily credit for recovered mold cleaner, applied to the emissions in "C.1.k" and recorded in "C.2.k", shall be calculated from the last drum shipped containing mold cleaner recovered from this emissions unit.
2. If a credit for recovered mold cleaner is used in the calculation of the monthly and/or the rolling, 12-month emissions from this emissions unit or if a recovery credit is used as a factor in daily emission calculations, the permittee shall maintain the following records for the recovered mold cleaner and a log for the recovery drum(s)/tank(s) (recovery vessel(s)). The recovery log shall contain the identification number for each recovery vessel, the material it contains (i.e., mold cleaner 540), the dates of the first and last addition of recovered material, the emissions units from which the mold cleaner was recovered (emissions units R012, R013, R014, R015, and/or R023) or emissions unit R023 if not sharing recovery with other emissions units, the weight of the recovered material at shipment (including and excluding the weight of the recovery vessel), and the date the vessel was shipped off-site. Each recovery vessel shall be marked or labeled with the

identification number documented in the log. The following information shall be recorded, calculated, and maintained for this emissions unit if an emissions credit is to be used for recovered mold cleaner:

- a. the date mold cleaner is first added to each recovery vessel and the recovery vessel's identification number/code;
- b. the date of the last day mold cleaner is added to each recovery vessel before it is shipped (referenced with its identification number/code);
- c. the date each recovery vessel (referenced with its identification number/code) is shipped off site;
- d. the number days the recovery vessel (referenced with its identification number/code) accumulated mold cleaner, determined from "a" and "b" above;
- e. the number of gallons and weight* of the mold cleaner contained in each recovery vessel (referenced with its identification number/code) when it is shipped off site;
- f. the OC and VOC content of the recovered mold cleaner, as determined from the most recent lab test results from a representative sample of the recovered material; and until such test results are received, the minimum OC and VOC** content of the mold cleaner collected, in pounds per gallon or percent by weight;
- g. the total emissions credit for each recovery vessel shipped during the month (referenced with its identification number/code), in pounds of OC and/or VOC per recovery vessel, i.e., "e" x "f";
- h. the number of gallons or weight of the mold cleaner applied in emissions unit R023, between the date each recovery vessel was first used ("a") to the date mold cleaner was last added prior to shipment ("b"), i.e., the sum of the usage as recorded in C.1.d for each such day;
- i. if sharing a recovery vessel, the total number of gallons or total weight of the mold cleaner applied in emissions unit R023 plus the same mold cleaner's use in the emissions unit(s) sharing the recovery vessel and credit, between the date each recovery vessel was first used ("a") to the date mold cleaner was last added prior to shipment ("b"), i.e., the sum of the daily mold cleaner usage between and including these dates for the individual emissions units sharing the recovery vessel, from each individual emissions unit's term for mold cleaner usage in

Sections C.1.d for the Americast Systems;

- j. the percent of the mold cleaner lost and not recovered (% of each, if more than one type of mold cleaner is later applied and recovered), calculated for each recovery vessel shipped (referenced with its identification number/code), calculated as the difference between the total usage of the mold cleaner applied in the emissions units sharing the recovery vessel ("i"), or if the vessel is not shared, the total usage applied in emissions unit R023 alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, minus the total recovered mold cleaner in the recovery vessel at shipment ("e"), divided by the total usage of the mold cleaner applied in the emissions units sharing the recovery vessel ("i") or applied in emissions unit R023 alone ("h"), since the date of the recovery vessel's first use to the date of the last addition prior to its shipment, i.e., $[(i-e)/i]$ or $[(h-e)/h]$;
- k. the daily average OC and/or VOC credit for mold cleaner recovered from emissions unit R023, calculated based on each recovery vessel shipped:
 - i. calculated for emissions unit R023 alone (if the recovery vessel contains only mold cleaner recovered from emissions unit R023) by dividing the total VOC and/or OC recovery credit by the number of days it took to fill the vessel, i.e., "g"/"d"; or
 - ii. if sharing a recovery vessel, the calculated portion of the emissions credit, calculated in "g", to be credited to the daily average emissions from emissions unit R023 in pounds, i.e., "g"/"d" times the mold cleaner usage in emissions unit R023 (recorded in "h") divided by the mold cleaner usage in all the emissions units sharing the recovery vessel and credit (recorded in "i"), i.e., $(g/d) \times (h/i)$; and
- l. the total VOC and/or OC credit for all recovery vessels shipped during the month and containing mold cleaner applied in this emissions unit (sum of all recovery vessels shipped between first and last day of the month, as recorded in "g") (referenced with its identification number/code); and if sharing the vessel with other emissions units, the portion of the emissions calculated in "g" above to be credited to the monthly emissions from emissions unit R023, in pounds or tons/month, calculated as "g" times the monthly mold cleaner usage in emissions unit R023 (recorded in "h") divided by the mold cleaner usage in all the emissions units sharing the credit ("i"), i.e., $(g) \times (h/i)$.

The permittee shall take a representative sample of the first full drum of recovered mold

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cleaner collected following the issuance of this permit, which shall be tested at an outside laboratory for the OC and VOC content. A representative sample of the recovered mold cleaner shall be re-tested once every five years and following any change in the resins, mold cleaner, and/or mold release applied, using a representative sample from the first full drum following the change. Solvent soaked rags may not be included in any recovery credit to emissions.

* The weight and gallons of recovered mold cleaner, to be applied in calculations of emissions, shall be recorded at the time it is shipped off-site, and shall not include the weight of the recovery vessel, which shall remain closed/sealed at all times except during material additions and/or preparation for off-site recovery or disposal.

** Until testing results documenting a higher OC and VOC content are received, the lowest OC and VOC content of the range provided by the manufacturer of the mold cleaner shall be used in calculating the credit for the recovered materials.

3. The permittee shall collect and record the following information, including the calculation, on a monthly basis for this emissions unit:
 - a. the monthly total OC and VOC emissions, calculated as the sum of emissions from all process resins (sum of C.1.h), mold release agents (sum of C.1.i), and mold cleaner(s) (sum of C.1.j) employed in this emissions unit during the month, and subtracting the credit to these emissions for recovered mold cleaner shipped during the month, i.e., the total OC and VOC emissions minus the total emissions credit, recorded in C.2.l above, for all recovery vessels shipped during the month; and
 - b. the monthly MDI emissions, estimated using the calculation of emissions from the Alliance for the Polyurethanes Industry "MDI/Polymeric MDI Emissions Reporting Guidelines for the Polyurethane Industry (1999)", and substituting the variables for the average process temperature in degrees Kelvin and the monthly volume of displaced air (ft³/month).
4. At the end of each month the permittee shall collect, calculate, and record the following rolling, 12-month emissions:
 - a. the rolling, 12-month VOC emissions from all of the VOC-containing (non-frit) coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, and cleanup materials applied in the emissions units contained in this permit, including emissions units: P010, P011, P012, P013, P014, P015,

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P016, R008, R012, R013, R014, R015, R018, R022, and R023; and two tons of VOC emissions shall be added to the rolling, 12-month emissions records, to represent the potential annual VOC emissions from the combustion of natural gas in the drying ovens, curing furnaces, and the thermal oxidizer, permitted in the following emissions units: K001, R005, R008, R009, R018, R019, R020, and R022;

- b. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
- c. the rolling, 12-month styrene emissions from emissions units R008 and R022; and
- d. the rolling, 12-month total combined HAP emissions, based upon a summation of the following:
 - i. the rolling, 12-month MEK emissions from emissions units P010, P014, and P016;
 - ii. the rolling, 12-month styrene emissions from emissions units R008 and R022;

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- iii. the rolling, 12-month emissions of MDI from emissions units R012, R013, R014, R015, R018, and R023; and
- iv. any other HAP(s) documented in the product data for coatings, resins, adhesives, mold cleaners, mold release agents, sealers, primers, solvents, cleanup materials, or other process materials employed, and calculated as the emissions for a rolling, 12-month period.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports that include the following information:
 - a. an identification of each day during which the average OC emissions from the emissions unit exceeded 0.18 pound per hour and the actual average hourly OC emissions for each such day;
 - b. an identification of each day during which the average VOC emissions from the emissions unit exceeded 0.03 pound per hour and the actual average hourly VOC emissions for each such day; and
 - c. an identification of each month during which the rolling, 12-month VOC emissions from this emissions unit exceeded 0.11 tons.
2. During the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any month during which the sum of the emissions from all 20 emissions units contained in this permit exceed any of the following limitations:
 - a. 6.10 tons of VOC per month;
 - b. 0.83 ton of styrene per month;
 - c. 0.42 ton of MEK per month; and
 - d. 1.25 tons of total aggregate HAPs per month.
3. After the first 12 months following the issuance of this permit, the permittee shall submit quarterly deviation (excursion) reports that identify any rolling, 12-month period during which the sum of the emissions from all 20 emissions units contained in this permit

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exceed any of the following limitations:

- a. 73.18 tons of VOC;
 - b. 9.95 tons of styrene;
 - c. 5.0 tons of MEK; and
 - d. 15.0 tons of total aggregate HAPs.
4. All deviation reports shall be submitted quarterly as required in the General Terms and Conditions of this permit.
 5. The permittee shall also submit annual reports that specify the total volatile organic compound emissions from this emissions unit for the previous calendar year. The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

E. Testing Requirements

1. Emission Limitations:
0.18 pound per hour (daily average) and 0.77 ton per year of OC emissions

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Section C.1.
2. Emission Limitations:
0.03 pound per hour (daily average) and 0.11 ton per rolling, 12-month period of VOC emissions

Applicable Compliance Method:
Compliance shall be based upon the record keeping requirements specified in Section C.1.
3. Emission Limitations:
During the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following

emission limitations:

- a. 6.10 tons of VOC per month;
- b. 0.83 ton of styrene per month;
- c. 0.42 ton of MEK per month; and
- d. 1.25 tons of total aggregate HAPs per month.

Modification Issued: 11/30/2006Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

4. Emission Limitations:

After the first 12 months of operation following the issuance of this permit, the total emissions from all of the emissions units contained in this permit, including emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023, shall not exceed the following emission limitations for any rolling, 12-month period:

- a. 73.18 tons of VOC;
- b. 9.95 tons of styrene;
- c. 5.0 tons of MEK; and
- d. 15.0 tons of total aggregate HAPs.

Applicable Compliance Method:

Compliance shall be based upon the record keeping and reporting requirements specified in Sections C and D of this permit.

5. Emission Limitations:

1.25 tons of total aggregate HAPs for the first 12 months and 15.0 tons of total aggregate HAPs per rolling, 12-months for emissions units K001, P010, P011, P012, P013, P014, P015, P016, R005, R008, R009, R012, R013, R014, R015, R018, R019, R020, R022, and R023 combined.

Applicable Compliance Method:

The HAP emissions, MDI, from the polyurethane resins used in the Americast Systems (emissions units R012, R013, R014, R015, and R023) shall be calculated monthly using the following formula from the Alliance for the Polyurethanes Industry "MDI/Polymeric MDI Emissions Reporting Guidelines for the Polyurethane Industry (1999)", and substituting the variables for the average process temperature in degrees Kelvin and the monthly volume of displaced air (ft³/month):

$$L_{pk} = V_{air} \times (1/359) \times (273/T_{proc}) \times (VP_{mdi}/760) \times M_w \times K_{mdi}$$

Ameri**PTI A****Modification Issued: 11/30/2006**Emissions Unit ID: **R023** L_{pk} = emissions (lb/mo) V_{air} = monthly volume of displaced air (ft³/mo) T_{proc} = process temperature in degrees K VP_{mdi} = vapor pressure of MDI (mm Hg) M_w = molecular weight of MDI, 254.38 K_{mdi} = adjustment factor to the VP that is a function of the MDI concentration in the feedstock, assume 1.0**F. Miscellaneous Requirements**

The following terms and conditions are federally enforceable requirements: A, C, D, E, and F.