

Synthetic Minor Determination and/or Netting Determination

Permit To Install **03-16133**

A. Source Description

GMC Powertrain in Defiance is a manufacturer of automobile parts. The facility is a major PSD facility and has applied for a modification of the facility's lost foam system for aluminum castings.

B. Facility Emissions and Attainment Status

The facility is a major PSD facility for NOx, PM & VOC's. Defiance county is classified as attainment for all pollutants.

C. Source Emissions

The company is requesting federally enforceable limits to keep the allowable emissions associated with the proposed modification to 46.0 tons VOC per year. The net emissions increase associated with the modification results in a 41.01 tons per year increase in VOC when compared to the average actual emissions over the last two years. The net emissions increase exceeds the PSD significance threshold of 40 tons for VOC. The company will use netting over a five year contemporaneous period to show a net emissions decrease and avoid PSD (see netting determination below):

VOC EMISSIONS INCREASES (TPY)

<u>CONST. DATE</u>	<u>STARTUP DATE</u>	<u>PTI#</u>	<u>SOURCE</u>	<u>INCREASE</u>
04/01/99	10/09/00	03-13115	P403 cold box core machine #116	10.28
04/01/99	10/09/00	03-13115	P404 cold box core machine #117	10.28
04/01/99	10/09/00	03-13115	P405 cold box core machine #118	10.28
04/01/99	10/09/00	03-13115	P406 core dipping and oven	13.79
12/01/00	07/30/01	03-13364	P430 cold box core machine #119	4.93
04/01/01		03-13364	P407 LF cell #1 bead pre-expander (group limit for cells 1-4)	36.97
	02/01/01	03-13364	P408 LF cell #2 bead pre-expander	grouped limit
	06/01/01	03-13364	P409 LF cell #3 bead pre-expander	grouped limit
	06/01/01	03-13364	P410 LF cell #4 bead pre-expander	grouped limit
	09/01/01	03-13364	P411 LF cell #1 castline	1.8
	06/01/01	03-13364	P412 LF cell #2 castline	1.8
	11/01/01	03-13364	P419 LF cell #1 sand reclaim furnace	0.57
	09/01/01	03-13364	P420 LF cell #2 sand reclaim furnace	0.57
	08/01/01	03-13364	P423 receiving furnace #1	0.15
	05/01/01	03-13364	P426 holding furnace #1	0.15
	06/01/01	03-13364	B003 boiler #3	0.53
	06/01/01	03-13364	B004 boiler #4	0.53
	06/01/01	03-13364	B005 boiler #5	0.53
	06/01/01	03-13364	preheater	0.05
	06/01/01	03-13364	HVAC unit	0.03
	06/01/01	03-13364	pattern-curing (4 units)	4.6
	06/01/01	03-13364	pattern making (4 units)	4.6
	06/01/01	03-13364	pattern coating/drying stations (4 units)	0.09
	01/01/02	03-13364	P413 LF cell #3 castline	1.8
	01/01/02	03-13364	P414 LF cell #4 castline	1.8
	03/01/02	03-13364	P421 LF cell #3 sand reclaim furnace	0.57
	04/01/02	03-13364	P422 LF cell #4 sand reclaim furnace	0.57
	03/01/02	03-13364	P424 receiving furnace #2	0.15
	01/01/02	03-13364	P427 holding furnace #2	0.15
09/01/02	01/01/03	03-14001	P434 cold box core machine #120	2.54
09/01/02	01/01/03	03-14001	P435 cold box core machine #121	2.54
09/01/02	01/01/03	03-14001	P436 cold box core machine #122	1.69
		03-14001	P452 cold box core machine #125	3.33
		03-14001	P453 cold box core machine #126	3.33
	04/15/04	03-13364	P407 LF cell #1 bead pre-expander (group limit for cells 1-4, 46.0 tons)	9.03
	04/15/04	03-13364	P408 LF cell #2 bead pre-expander	grouped limit

04/15/04	03-13364	P409 LF cell #3 bead pre-expander	grouped limit
04/15/04	03-13364	P410 LF cell #4 bead pre-expander	<u>grouped limit</u>
TOTAL			<u>130.03</u>

VOC EMISSIONS DECREASE (TPY)

SHUTDOWN

<u>DATE</u>	<u>SOURCE</u>	<u>DECREASE</u>
04/01/99	P112 core vert oven #11	4.42
03/01/99	P111 core vert oven #10	11.51
09/24/99	P231 batch oven	25.9
06/28/99	P296 furnace - wire mesh (holcoft)	0.05
12/23/99	Z004 experimental core facilities	0.19
03/01/99	P250 jensen oven	8.01
05/29/00	P249 core machine h.b. #25	13.92
09/25/00	P361 oven shell (toyota)	2.78
09/25/00	P252 core machine U900 (8 of 10 units shutdown)	20.44
09/25/00	P362 core machine shell #44 (toyota)	0.51
01/21/01	P261 core machine h.b. #24	5.36
03/23/01	P009 sand system shell & core	0.015
03/23/01	P025 core machine shelco #1 - #22	83.82
03/23/01	P252 core machine U900 (2 of 10 units shutdown)	5.11
03/23/01	P270 core machine #41 - 42	11.86
03/23/01	P275 core machine shell #1 - #8	29.2
05/03/01	P389 core machine h.b. #102 -103	1.44
09/15/01	P293 core machine h.b. #43-44	4.72
09/15/01	P295 core machine h.b. #45-46	5.54
10/01/01	P184 core machine h.b. #14-15	3.77
10/15/01	Z191 core machine h.b. #51-52 (X3-2)	15.28
10/15/01	Z192 core machine h.b. #53 -54 (X3-1)	15.28
11/15/01	P214 core machine h.b. #23-23	10.49
03/23/01	P024 hot boxes #1,4,5&6	0.64
10/15/01	Z193 hot box dip dry oven (X5-1)	2.37
10/27/02	P234 oven h.b. drying	15.37
11/21/02	Z188 core machine c.b. #62	0.245
11/21/02	Z189 core machine c.b. #63	1.32
11/21/02	Z190 core machine c.b. #64	<u>1.455</u>
TOTAL		301.01

D. CONCLUSION

Over the contemporaneous period VOC emissions show a decrease of 170.98 tons. Therefore, a PSD analysis is not necessary as a result of this action.



State of Ohio Environmental Protection Agency

Street Address:

Lazarus Gov. Center
122 S. Front Street
Columbus, OH 43215

TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049
Columbus, OH 43216-1049

**RE: DRAFT PERMIT TO INSTALL
DEFIANCE COUNTY
Application No: 03-16133**

CERTIFIED MAIL

	TOXIC REVIEW
	PSD
Y	SYNTHETIC MINOR
	CEMS
	MACT
	NSPS
	NESHAPS
Y	NETTING
	MAJOR NON-ATTAINMENT
	MODELING SUBMITTED
	GASOLINE DISPENSING FACILITY

DATE: 5/13/2004

GM Powertrain Group, Defiance Plant
Lisa Horan
26437 St Rte 281 E
Defiance, OH 435120070

You are hereby notified that the Ohio Environmental Protection Agency has made a draft action recommending that the Director issue a Permit to Install for the air contaminant source(s) [emissions unit(s)] shown on the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the proposed installation. A public notice concerning the draft permit will appear in the Ohio EPA Weekly Review and the newspaper in the county where the facility will be located. Public comments will be accepted by the field office within 30 days of the date of publication in the newspaper. Any comments you have on the draft permit should be directed to the appropriate field office within the comment period. A copy of your comments should also be mailed to Robert Hodanbosi, Division of Air Pollution Control, Ohio EPA, P.O. Box 1049, Columbus, OH, 43266-0149.

A Permit to Install may be issued in proposed or final form based on the draft action, any written public comments received within 30 days of the public notice, or record of a public meeting if one is held. You will be notified in writing of a scheduled public meeting. Upon issuance of a final Permit to Install a fee of **\$400** will be due. Please do not submit any payment now.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469. If you have any questions about this draft permit, please contact the field office where you submitted your application, or Mike Ahern, Field Operations & Permit Section at (614) 644-3631.

Very truly yours,

Michael W. Ahern

Michael W. Ahern, Supervisor
Field Operations and Permit Section
Division of Air Pollution Control

CC: USEPA

NWDO

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PUBLIC NOTICE

ISSUANCE OF DRAFT PERMIT TO INSTALL **03-16133** FOR AN AIR CONTAMINANT SOURCE FOR
GM POWERTRAIN GROUP, DEFIANCE PLANT

On 5/13/2004 the Director of the Ohio Environmental Protection Agency issued a draft action of a Permit To Install an air contaminant source for **GM Powertrain Group, Defiance Plant**, located at **26427 St Rte 281 E, Defiance, Ohio**.

Installation of the air contaminant source identified below may proceed upon final issuance of Permit To Install 03-16133:

Modification of four bead preparation units. Terms in this permit supersede those identified in PTI 03-13364 issued 01/06/04 for emissions units P407, P408, P409 and P410 only.

Comments concerning this draft action, or a request for a public meeting, must be sent in writing to the address identified below no later than thirty (30) days from the date this notice is published. All inquiries concerning this draft action may be directed to the contact identified below.

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



**Permit To Install
Terms and Conditions**

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

DRAFT PERMIT TO INSTALL 03-16133

Application Number: 03-16133

APS Premise Number: 0320010001

Permit Fee: **To be entered upon final issuance**

Name of Facility: GM Powertrain Group, Defiance Plant

Person to Contact: Lisa Horan

Address: 26437 St Rte 281 E
Defiance, OH 435120070

Location of proposed air contaminant source(s) [emissions unit(s)]:
**26427 St Rte 281 E
Defiance, Ohio**

Description of proposed emissions unit(s):
Modification of four bead preparation units. Terms in this permit supersede those identified in PTI 03-13364 issued 01/06/04 for emissions units P407, P408, P409 and P410 only.

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Part I - GENERAL TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install General Terms and Conditions

1. Monitoring and Related Recordkeeping and Reporting Requirements

- a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - i. The date, place (as defined in the permit), and time of sampling or measurements.
 - ii. The date(s) analyses were performed.
 - iii. The company or entity that performed the analyses.
 - iv. The analytical techniques or methods used.
 - v. The results of such analyses.
 - vi. The operating conditions existing at the time of sampling or measurement.
- b. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
 - i. Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
 - ii. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the appropriate Ohio EPA District Office or local air agency. The written reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the

previous calendar quarters. See B.9 below if no deviations occurred during the quarter.

- iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the appropriate Ohio EPA District Office or local air agency every six months, i.e., by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
- iv. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

2. Scheduled Maintenance/Malfunction Reporting

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

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

3. Risk Management Plans

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

4. Title IV Provisions

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

5. Severability Clause

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or

condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.

6. General Requirements

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

7. 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.

8. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

9. Compliance Requirements

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

10. Permit To Operate Application

- a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or

modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).

- b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this Permit To Install is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. 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 source(s) covered by this permit.

11. 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.

12. 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.

B. State Only Enforceable 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 of state-only enforceable 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 state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the 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 quarterly, i.e., 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. 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.

4. 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.

5. Construction of New Sources(s)

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.

6. 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.

7. 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.

8. 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.

9. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations (See Section A of This Permit)

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

C. 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**

<u>Pollutant</u>	<u>Tons Per Year</u>
VOC	46.0

Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install Facility Specific Terms and Conditions

None

B. State Only Enforceable Permit To Install Facility Specific Terms and Conditions

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions 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 emissions 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 Emissions Limitations/Control Measures</u>
P407 - expandable polystyrene (EPS) bead preparation (one pre-expander unit and one pentane reduction chamber) - Cell #1	OAC rule 3745-31-05(C)	46.0 tons volatile organic compounds (VOC)/yr, based upon a rolling 12-month summation of bead throughput (see A.I.2.a & A.II.1)
modification of PTI #03-13364 issued 01/06/04 to increase allowable emission rates associated with the addition of a pentane reduction chamber	OAC rule 3745-31-05(A)	3.65 lbs VOC/hr, 15.99 tons VOC/yr (see A.I.2.b & A.II.1)
	OAC rule 3745-21-07(G)	See A.I.2.c

2. Additional Terms and Conditions

- 2.a OAC rule 3745-31-05(C) establishes federally enforceable restrictions to limit the potential to emit from the emissions unit contained in this permit to install by limiting the polystyrene bead usage. Combined annual VOC emissions from emissions unit P407, P408, P409 & P410 shall not exceed 46.0 tons/yr, based on a rolling 12-month restriction of polystyrene bead throughput (see A.II.2).
- 2.b The 3.65 lbs VOC/hr emission limitation was established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limitation.
- 2.c This emissions unit is not subject to the requirements in OAC rule 3745-21-07(G) because no liquid organic material, as defined in OAC rule 3745-21-01(C)(3), enters the EPS cell as a separate raw material.

II. Operational Restrictions

1. The raw expandable polystyrene beads used in this emissions unit shall not exceed a total VOC content of 7.0 percent by weight based on a weighted monthly average.
2. The maximum annual polystyrene bead throughput for emissions units P407, P408, P409 and P410 shall not exceed 1,839,600 lbs, combined per rolling 12-month period.

Rolling emission limitations were established in Permit to Install (PTI) 03-13364 which was issued on March 1, 2001, and as such, rolling VOC emission records exist. The applicant shall use the existing records to determine compliance upon startup of operations under this permit. Therefore, it is not necessary to establish federally enforceable restrictions for the first 12 months of operation under the provisions of this permit.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for emissions units P407, P408, P409 and P410:
 - a. the company identification for each lot* of polystyrene beads processed;
 - b. the VOC content of polystyrene beads, weight percent, for each batch processed (Cvoc);
 - c. the amount of polystyrene beads processed, in pounds, for each batch processed (Mc);
 - d. the amount of polystyrene beads processed, in pounds, for the month (summation of c);
 - e. the weighted average of VOC content (in weight percent) of the polystyrene beads for the month calculated as follows:
$$Cvoc(avg) = \frac{\sum(Cvoc_i \times Mc_i)}{\sum Mc_i}$$
 - f. the annual amount of polystyrene beads processed, in pounds, based on a rolling 12-month summation of the monthly amount of polystyrene beads processed.

*[the VOC content is determined for each lot with many batches of polystyrene beads being processed from a lot. All batches from the same lot are therefore assumed to have the same VOC content]

2. In addition to the above information, the permittee shall also record the following information each month for emission units P407, P408, P409, and P410:
 - a. the calculated VOC emission rate, in tons per month, [Cvoc(avg) x A.III.1.d];
 - b. the annual VOC emission rate, based on a rolling, 12-month summation of the monthly VOC emissions.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedance of any of the following:
 - a. the annual bead usage restrictions and emission limitation per rolling 12-month period.

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

V. Testing Requirements

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:
 - a. the emissions testing shall be conducted within 6 months after start-up of the modified emissions unit.
 - b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for VOC.
 - c. The following test method shall be employed to demonstrate compliance with the allowable mass emission rate: for VOC, Methods 1-4 and either 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.
 - d. The test shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.
2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit and “Intent to Test” notification to the appropriate Ohio EPA District Office or local air agency. 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 District Office’s or local air agency’s refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency 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 unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c) above.

3. Compliance with the emission limitations of this permit shall be determined in accordance with the following methods:

a. Emission Limitation: 46.0 tons VOC per rolling 12-month period

Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be determined by the record keeping specified in section A.III.2 of the terms and conditions of this permit.

b. Emission Limitation: 3.65 lb VOC/hr, 15.99 tons VOC/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions 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 emissions 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 Emissions Limitations/Control Measures</u>
P407 - expandable polystyrene (EPS) bead preparation (one pre-expander unit and one pentane reduction chamber) - Cell #1 modification of PTI #03-13364 issued 01/06/04 to increase allowable emission rates associated with the addition of a pentane reduction chamber	See B.IV.	See B.IV.

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

1. The permit to install for this permit action as evaluated based on the actual materials (pentane beads) 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 Concentration (MAGLC). The following summarizes the results of the modeling for the “worst case” pollutant(s):

- a. Pollutant: pentane
TLV (mg/m³): 1770
Maximum Hourly Emission Rate (lbs/hr): 0.58(increase)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): P001 -19.65, E001 - 15.55
MAGLC (ug/m³): 42,143
2. 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 (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any 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.).
3. 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(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.
4. 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.

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions 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 emissions 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 Emissions Limitations/Control Measures</u>
P408 - expandable polystyrene (EPS) bead preparation (one pre-expander unit and two pentane reduction chambers) - Cell #2	OAC rule 3745-31-05(C)	46.0 tons volatile organic compounds (VOC)/yr, based upon a rolling 12-month summation of bead throughput (see A.I.2.a & A.II.1)
modification of PTI #03-13364 issued 01/06/04 to increase allowable emission rates associated with the addition of a pentane reduction chamber	OAC rule 3745-31-05(A)	7.30 lbs VOC/hr, 31.97 tons VOC/yr (see A.I.2.b & A.II.1)
	OAC rule 3745-21-07(G)	See A.I.2.c

2. Additional Terms and Conditions

- 2.a OAC rule 3745-31-05(C) establishes federally enforceable restrictions to limit the potential to emit from the emissions unit contained in this permit to install by limiting the polystyrene bead usage. Combined annual VOC emissions from emissions unit P407, P408, P409 & P410 shall not exceed 46.0 tons/yr, based on a rolling 12-month restriction of polystyrene bead throughput (see A.II.2).
- 2.b The 7.30 lbs VOC/hr emission limitation was established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limitation.
- 2.c This emissions unit is not subject to the requirements in OAC rule 3745-21-07(G) because no liquid organic material, as defined in OAC rule 3745-21-01(C)(3), enters the EPS cell as a separate raw material.

II. Operational Restrictions

1. The raw expandable polystyrene beads used in this emissions unit shall not exceed a total VOC content of 7.0 percent by weight based on a weighted monthly average.
2. The maximum annual polystyrene bead throughput for emissions units P407, P408, P409 and P410 shall not exceed 1,839,600 lbs, combined per rolling 12-month period.

Rolling emission limitations were established in Permit to Install (PTI) 03-13364 which was issued on March 1, 2001, and as such, rolling VOC emission records exist. The applicant shall use the existing records to determine compliance upon startup of operations under this permit. Therefore, it is not necessary to establish federally enforceable restrictions for the first 12 months of operation under the provisions of this permit.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for emissions units P407, P408, P409 and P410:
 - a. the company identification for each lot* of polystyrene beads processed;
 - b. the VOC content of polystyrene beads, weight percent, for each batch processed (Cvoc);
 - c. the amount of polystyrene beads processed, in pounds, for each batch processed (Mc);
 - d. the amount of polystyrene beads processed, in pounds, for the month (summation of c);
 - e. the weighted average of VOC content (in weight percent) of the polystyrene beads for the month calculated as follows:

$$Cvoc(avg) = \frac{\sum(Cvoc_i \times Mc_i)}{\sum Mc_i}$$

- f. the annual amount of polystyrene beads processed, in pounds, based on a rolling 12-month summation of the monthly amount of polystyrene beads processed.

*[the VOC content is determined for each lot with many batches of polystyrene beads being processed from a lot. All batches from the same lot are therefore assumed to have the same VOC content]

2. In addition to the above information, the permittee shall also record the following information each month for emission units P407, P408, P409, and P410:
 - a. the calculated VOC emission rate, in tons per month, [Cvoc(avg) x A.III.1.d];
 - b. the annual VOC emission rate, based on a rolling, 12-month summation of the monthly VOC emissions.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedance of any of the following:
 - a. the annual bead usage restrictions and emission limitation per rolling 12-month period.

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

V. Testing Requirements

1. The permittee shall conduct, or have conducted, emissions testing in accordance with the following requirements:
 - a. the emissions testing shall be conducted within 6 months after start-up of the modified emissions unit.
 - b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rate for VOC.
 - c. The following test method shall be employed to demonstrate compliance with the allowable mass emission rate: for VOC, Methods 1-4 and either 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.
 - d. The test shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Director or appropriate Ohio EPA District Office or local air agency.
2. Not later than 30 days prior to the proposed test date(s), the permittee shall submit and “Intent to Test” notification to the appropriate Ohio EPA District Office or local air agency. 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 District Office’s or local air agency’s refusal to accept the results of the emission test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency 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 unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee shall include in the report the operating parameters as required in (V)(1)(c) above.

3. Compliance with the emission limitations of this permit shall be determined in accordance with the following methods:

a. Emission Limitation: 46.0 tons VOC per rolling 12-month period

Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be determined by the record keeping specified in section A.III.2 of the terms and conditions of this permit.

b. Emission Limitation: 7.30 lb VOC/hr, 31.97 tons VOC/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions 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 emissions 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 Emissions Limitations/Control Measures</u>
P408 - expandable polystyrene (EPS) bead preparation (one pre-expander unit and two pentane reduction chambers) - Cell #2 modification of PTI #03-13364 issued 01/06/04 to increase allowable emission rates associated with the addition of a pentane reduction chamber	See B.IV.	See B.IV.

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

1. The permit to install for this permit action as evaluated based on the actual materials (pentane beads) 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 Concentration (MAGLC). The following summarizes the results of the modeling for the “worst case” pollutant(s):

- a. Pollutant: pentane
TLV (mg/m³): 1770
Maximum Hourly Emission Rate (lbs/hr): 0.58(increase)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): P002 -19.65, E002 - 15.55
MAGLC (ug/m³): 42,143
2. 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 (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any 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.).
3. 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(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.
4. 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.

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions 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 emissions 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 Emissions Limitations/Control Measures</u>
P409 - expandable polystyrene (EPS) bead preparation (one pre-expander unit and one pentane reduction chamber) - Cell #3	OAC rule 3745-31-05(C)	46.0 tons volatile organic compounds (VOC)/yr, based upon a rolling 12-month summation of bead throughput (see A.I.2.a & A.II.1)
modification of PTI #03-13364 issued 01/06/04 to increase allowable emission rates associated with the addition of a pentane reduction chamber	OAC rule 3745-31-05(A)	3.65 lbs VOC/hr, 15.99 tons VOC/yr (see A.I.2.b & A.II.1)
	OAC rule 3745-21-07(G)	See A.I.2.c

2. Additional Terms and Conditions

- 2.a OAC rule 3745-31-05(C) establishes federally enforceable restrictions to limit the potential to emit from the emissions unit contained in this permit to install by limiting the polystyrene bead usage. Combined annual VOC emissions from emissions unit P407, P408, P409 & P410 shall not exceed 46.0 tons/yr, based on a rolling 12-month restriction of polystyrene bead throughputs (see A.II.2).
- 2.b The 3.65 lbs VOC/hr emission limitation was established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limitation.
- 2.c This emissions unit is not subject to the requirements in OAC rule 3745-21-07(G) because no liquid organic material, as defined in OAC rule 3745-21-01(C)(3), enters the EPS cell as a separate raw material.

II. Operational Restrictions

1. The raw expandable polystyrene beads used in this emissions unit shall not exceed a total VOC content of 7.0 percent by weight based on a weighted monthly average.
2. The maximum annual polystyrene bead throughput for emissions units P407, P408, P409 and P410 shall not exceed 1,839,600 lbs, combined per rolling 12-month period.

Rolling emission limitations were established in Permit to Install (PTI) 03-13364 which was issued on March 1, 2001, and as such, rolling VOC emission records exist. The applicant shall use the existing records to determine compliance upon startup of operations under this permit. Therefore, it is not necessary to establish federally enforceable restrictions for the first 12 months of operation under the provisions of this permit.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for emissions units P407, P408, P409 and P410:
 - a. the company identification for each lot* of polystyrene beads processed;
 - b. the VOC content of polystyrene beads, weight percent, for each batch processed (Cvoc);
 - c. the amount of polystyrene beads processed, in pounds, for each batch processed (Mc);
 - d. the amount of polystyrene beads processed, in pounds, for the month (summation of c);
 - e. the weighted average of VOC content (in weight percent) of the polystyrene beads for the month calculated as follows:
$$Cvoc(avg) = \frac{\sum(Cvoc_i \times Mc_i)}{\sum Mc_i}$$
 - f. the annual amount of polystyrene beads processed, in pounds, based on a rolling 12-month summation of the monthly amount of polystyrene beads processed.

*[the VOC content is determined for each lot with many batches of polystyrene beads being processed from a lot. All batches from the same lot are therefore assumed to have the same VOC content]

2. In addition to the above information, the permittee shall also record the following information each month for emission units P407, P408, P409, and P410:
 - a. the calculated VOC emission rate, in tons per month, [Cvoc(avg) x A.III.1.d];
 - b. the annual VOC emission rate, based on a rolling, 12-month summation of the monthly VOC emissions.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedance of any of the following:
 - a. the annual bead usage restrictions and emission limitation per rolling 12-month period.

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

V. Testing Requirements

1. Compliance with the emission limitations of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation: 46.0 tons VOC per rolling 12-month period

Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be determined by the record keeping specified in section A.III.2 of the terms and conditions of this permit.

- b. Emission Limitation: 3.65 lb VOC/hr, 15.99 tons VOC/yr

Applicable Compliance Method: Compliance with the lb/hr limitation shall be determined through the testing required in sections A.V.1 and A.V.2 of the terms and conditions of this permit.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions 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 emissions 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 Emissions Limitations/Control Measures</u>
P409 - expandable polystyrene (EPS) bead preparation (one pre-expander unit and one pentane reduction chamber) - Cell #3 modification of PTI #03-13364 issued 01/06/04 to increase allowable emission rates associated with the addition of a pentane reduction chamber	See. B.IV.	See B.IV.

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

1. The permit to install for this permit action as evaluated based on the actual materials (pentane beads) 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 Concentration (MAGLC). The following summarizes the results of the modeling for the “worst case” pollutant(s):

- a. Pollutant: pentane
TLV (mg/m³): 1770
Maximum Hourly Emission Rate (lbs/hr): 4.23 (increase)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): P003 -143.34, E003 - 113.42
MAGLC (ug/m³): 42,143
2. 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 (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any 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.).
3. 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(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.
4. 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.

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions 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 emissions 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 Emissions Limitations/Control Measures</u>
P410 - expandable polystyrene (EPS) bead preparation (one pre-expander unit and two pentane reduction chambers) - Cell #4	OAC rule 3745-31-05(C)	46.0 tons volatile organic compounds (VOC)/yr, based upon a rolling 12-month summation of bead throughput (see A.I.2.a & A.II.1)
modification of PTI #03-13364 issued 01/06/04 to increase allowable emission rates associated with the addition of a pentane reduction chamber	OAC rule 3745-31-05(A)	7.30 lbs VOC/hr, 31.97 tons VOC/yr (see A.I.2.b & A.II.1)
	OAC rule 3745-21-07(G)	See A.I.2.c

2. Additional Terms and Conditions

- 2.a OAC rule 3745-31-05(C) establishes federally enforceable restrictions to limit the potential to emit from the emissions unit contained in this permit to install by limiting the polystyrene bead usage. Combined annual VOC emissions from emissions unit P407, P408, P409 & P410 shall not exceed 46.0 tons/yr, based on a rolling 12-month restriction of polystyrene bead throughputs (see A.II.2).
- 2.b The 7.30 lbs VOC/hr emission limitation was established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop record keeping and/or reporting requirements to ensure compliance with this limitation.
- 2.c This emissions unit is not subject to the requirements in OAC rule 3745-21-07(G) because no liquid organic material, as defined in OAC rule 3745-21-01(C)(3), enters the EPS cell as a separate raw material.

II. Operational Restrictions

1. The raw expandable polystyrene beads used in this emissions unit shall not exceed a total VOC content of 7.0 percent by weight based on a weighted monthly average.
2. The maximum annual polystyrene bead throughput for emissions units P407, P408, P409 and P410 shall not exceed 1,839,600 lbs, combined per rolling 12-month period.

Rolling emission limitations were established in Permit to Install (PTI) 03-13364 which was issued on March 1, 2001, and as such, rolling VOC emission records exist. The applicant shall use the existing records to determine compliance upon startup of operations under this permit. Therefore, it is not necessary to establish federally enforceable restrictions for the first 12 months of operation under the provisions of this permit.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for emissions units P407, P408, P409 and P410:
 - a. the company identification for each lot* of polystyrene beads processed;
 - b. the VOC content of polystyrene beads, weight percent, for each batch processed (Cvoc);
 - c. the amount of polystyrene beads processed, in pounds, for each batch processed (Mc);
 - d. the amount of polystyrene beads processed, in pounds, for the month (summation of c);
 - e. the weighted average of VOC content (in weight percent) of the polystyrene beads for the month calculated as follows:

$$Cvoc(avg) = \frac{\sum(Cvoc_i \times Mc_i)}{\sum Mc_i}$$

- f. after the first 12 calendar months of operation under the provisions of this permit, the annual amount of polystyrene beads processed, in pounds, based on a rolling 12-month summation of the monthly amount of polystyrene beads processed.

*[the VOC content is determined for each lot with many batches of polystyrene beads being processed from a lot. All batches from the same lot are therefore assumed to have the same VOC content]

2. In addition to the above information, the permittee shall also record the following information each month for emission units P407, P408, P409, and P410:
 - a. the calculated VOC emission rate, in tons per month, [Cvoc(avg) x A.III.1.d];

- b. the annual VOC emission rate, based on a rolling, 12-month summation of the monthly VOC emissions.

IV. Reporting Requirements

- 1. The permittee shall submit deviation (excursion) reports which identify all exceedance of any of the following:
 - a. the annual bead usage restrictions and emission limitation per rolling 12-month period.

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

V. Testing Requirements

- 1. Compliance with the emission limitations of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation: 46.0 tons VOC per rolling 12-month period

Applicable Compliance Method: Compliance with the rolling 12-month emission limitation shall be determined by the record keeping specified in section A.III.2 of the terms and conditions of this permit.

- b. Emission Limitation: 7.30 lb VOC/hr, 31.97 tons VOC/yr

Applicable Compliance Method: Compliance with the hourly emission limitation shall be demonstrated by stack testing of a similar emissions unit. If required, the permittee shall demonstrate compliance with the hourly emission limitation in accordance with Methods 1-4 and either 18, 25, or 25A, as appropriate, of 40 CFR, Part 60 Appendix A.

The tons/yr emission limitation was developed by multiplying the lb/hr limitation by the maximum operating schedule of 8760 hours/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance will also be shown with the annual limitation.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions 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 emissions 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 Emissions Limitations/Control Measures</u>
P410 - expandable polystyrene (EPS) bead preparation (one pre-expander unit and two pentane reduction chambers) - Cell #4 modification of PTI #03-13364 issued 01/06/04 to increase allowable emission rates associated with the addition of a pentane reduction chamber	See B.IV.	See B.IV.

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

1. The permit to install for this permit action as evaluated based on the actual materials (pentane beads) 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 Concentration (MAGLC). The following summarizes the results of the modeling for the “worst case” pollutant(s):

- a. Pollutant: pentane
TLV (mg/m³): 1770
Maximum Hourly Emission Rate (lbs/hr): 4.23 (increase)
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): P003 -143.34, E003 - 113.42
MAGLC (ug/m³): 42,143
2. 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 (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any 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.).
3. 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(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.
4. 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.

V. Testing Requirements

None

VI. Miscellaneous Requirements

None