



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

6/6/2013

Douglas Dean
Third Dimension, Inc.
633 Pleasant Ave
Geneva, OH 44041

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 0204030449
Permit Number: P0112551
Permit Type: Initial Installation
County: Ashtabula

Certified Mail

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

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

How to appeal this permit

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

Environmental Review Appeals Commission
77 South High Street, 17th Floor
Columbus, OH 43215

How to save money, reduce pollution and reduce energy consumption

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: www.ohioairquality.org/clean_air

How to give us feedback on your permitting experience

Please complete a survey at www.epa.ohio.gov/dapc/permitsurvey.aspx and give us feedback on your permitting experience. We value your opinion.

How to get an electronic copy of your permit

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

If you have any questions, please contact Ohio EPA DAPC, Northeast District Office at (330)425-9171 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



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

Cc: Ohio EPA-NEDO



Response to Comments

Facility ID:	0204030449
Facility Name:	Third Dimension, Inc.
Facility Description:	Molded foam products
Facility Address:	633 Pleasant Ave Geneva, OH 44041 Ashtabula County
Permit:	P0112551, Permit-To-Install and Operate - Initial Installation
A public notice for the draft permit issuance was published in the Ohio EPA Weekly Review and appeared in the The Star Beacon on 05/07/2013. The comment period ended on 06/06/2013.	
Hearing date (if held)	
Hearing Public Notice Date (if different from draft public notice)	

The following comments were received during the comment period specified. Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Often, public concerns fall outside the scope of that authority. For example, concerns about zoning issues are addressed at the local level. Ohio EPA may respond to those concerns in this document by identifying another government agency with more direct authority over the issue.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format. PDF copies of the original comments in the format submitted are available upon request.

1. Topic: None

- a. Comment: None
- b. Response: None



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
Third Dimension, Inc.**

Facility ID:	0204030449
Permit Number:	P0112551
Permit Type:	Initial Installation
Issued:	6/6/2013
Effective:	6/6/2013
Expiration:	1/30/2017



**Division of Air Pollution Control
Permit-to-Install and Operate**

for
Third Dimension, Inc.

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Final Permit-to-Install and Operate
Third Dimension, Inc.
Permit Number: P0112551
Facility ID: 0204030449
Effective Date: 6/6/2013

Authorization

Facility ID: 0204030449
Application Number(s): A0046596
Permit Number: P0112551
Permit Description: Initial installation permit for pre-expansion line No. 3 for blue EPS
Permit Type: Initial Installation
Permit Fee: \$200.00
Issue Date: 6/6/2013
Effective Date: 6/6/2013
Expiration Date: 1/30/2017
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

Third Dimension, Inc.
633 Pleasant Ave
Geneva, OH 44041

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

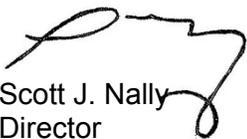
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

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

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency


Scott J. Nally
Director



Final Permit-to-Install and Operate

Third Dimension, Inc.

Permit Number: P0112551

Facility ID: 0204030449

Effective Date: 6/6/2013

Authorization (continued)

Permit Number: P0112551

Permit Description: Initial installation permit for pre-expansion line No. 3 for blue EPS

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

Emissions Unit ID:	P007
Company Equipment ID:	P007
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



Final Permit-to-Install and Operate
Third Dimension, Inc.
Permit Number: P0112551
Facility ID: 0204030449
Effective Date: 6/6/2013

A. Standard Terms and Conditions



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

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

2. Who is responsible for complying with this permit?

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

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

3. What records must I keep under this permit?

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

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

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

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

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

- Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

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

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is



very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

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

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

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

7. What reports must I submit under this permit?

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

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

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.



10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Ohio EPA DAPC, Northeast District Office in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

12. What happens if one or more emissions units operated under this permit is/are shut down permanently?

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting¹ a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emissions unit once the certification has been submitted to Ohio EPA by the authorized official.

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

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

¹ Permittees that use Ohio EPA's "Air Services" can mark the affected emissions unit(s) as "permanently shutdown" in the facility profile along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).



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

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

14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

15. What happens if a portion of this permit is determined to be invalid?

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.



Final Permit-to-Install and Operate
Third Dimension, Inc.
Permit Number: P0112551
Facility ID: 0204030449
Effective Date: 6/6/2013

B. Facility-Wide Terms and Conditions



1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
 - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None.
 - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (1) B.2.a), B.4.a), B.4.b) and B.4.c)
2. Federally Enforceable Permit to Install and Operate P0112551 for this air contaminant source takes into account the following voluntary restriction, regarding the emissions units specified in 3., as proposed by the permittee for the purpose of avoiding Title V requirements under OAC rules 3745-77-02 through 3745-77-10:
 - a) The emissions of volatile organic compounds (VOCs) from the emissions units specified in B.3, shall not exceed 94.1 tons/year, based on a rolling, 12-month summation, and shall be achieved by employing the operational restrictions specified in B.4 within this permit for emissions units P001 through P007.
3. Voluntary restrictions to limit potential facility-wide emissions of VOCs by material usage restrictions, concern the following emissions units:
 - a) P001 - Pre-expansion line No. 1 with pre-puff aging for expandable polystyrene (EPS) and expandable polyethylene/polystyrene (EPE/EPS) foam products;
 - b) P002 - Pre-expansion line No. 2 with pre-puff aging for expandable polystyrene (EPS) and expandable polyethylene/polystyrene (EPE/EPS) foam products;
 - c) P003 - Molding machines Nos. 2 and 3 for expandable polystyrene foam and polystyrene/polyethylene foam products with product aging;
 - d) P004 - Molding machine No. 4 for expandable polystyrene foam and polystyrene/polyethylene foam products with product aging;
 - e) P005 - Molding machine No. 5 for expandable polystyrene foam and polystyrene/polyethylene foam products with product aging;
 - f) P006 - Molding machine No. 6 for expandable polystyrene foam and polystyrene/polyethylene foam products with product aging; and
 - g) P007 - Pre-expansion line No. 3 with pre-puff aging for expandable polystyrene (EPS) foam products.



4. Operational Restrictions

- a) Only pre-puff resin that is processed at an on-site pre-expansion line (P001, P002, or P007) may be molded at any of the mold machine nos. 2 - 6 (P003 – P006).
- b) The maximum annual resin materials usage for the pre-expansion lines (P001, P002, and P007) shall not exceed 1,980,000 pounds, combined, based upon a rolling, 12-month summation of the materials usage rates.
- c) The blowing agent (pentane) content of each resin employed shall not exceed 10%, by weight.

5. Monitoring and/or Record Keeping Requirements

- a) The permittee shall maintain monthly records of the following information for the emissions units identified in B.3.a), B.3.b), and B.3.g):
 - (1) the total monthly resin usage at each pre-expansion emissions unit, in lbs/month;
 - (2) the combined total monthly resin usage at all operations identified in B.3.a), B.3.b), and B.3.g), in lbs/month; and
 - (3) the combined rolling, 12-month summation of total resin usage at all operations identified in B.3.a), B.3.b), and B.3.g), in tons/year.
- b) The permittee shall maintain monthly records of the following information for the emissions units identified in B.3.a) through B.3.g):
 - (1) the total monthly VOC emissions from the use of all pre-puff materials employed at each emissions unit, in tons/month;
 - (2) the combined total monthly VOC emissions from all operations identified in B.3.a) through B.3.g), in tons/month; and
 - (3) the combined rolling, 12-month summation of total VOC emissions from all operations identified in B.3.a) through B.3.g), in tons/year.

6. Reporting Requirements

- a) The permittee shall submit quarterly deviation (excursion) reports for the following emissions unit(s) that identify:
 - (1) all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:

<u>Emissions Unit ID(s)</u>	<u>Term & Condition</u>
P001, P002, and P007	B.2.a), B.4.b) and B.4.c)
P003 through P006	B.2.a), B.4.a) and B.4.c)



- (2) the probable cause of each deviation (excursion);
- (3) any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- (4) the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

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

7. Testing Requirements

- a) Compliance with the emission limitations specified in B.2.a) of these terms and conditions shall be determined in accordance with the following method:

- (1) Emission Limitation:

The emissions of VOC from the emissions units specified in B.3 shall not exceed 94.1 tons/year, based on a rolling, 12-month summation, and shall be achieved within this permit for emissions units P001 through P007.

Applicable Compliance Method:

Compliance shall be demonstrated by employing the operational restrictions specified in B.4 and the record keeping requirements specified in B.5.a) and B.5.b).

8. Miscellaneous Requirements

- a) None.



Final Permit-to-Install and Operate
Third Dimension, Inc.
Permit Number: P0112551
Facility ID: 0204030449
Effective Date: 6/6/2013

C. Emissions Unit Terms and Conditions



1. P007, P007

Operations, Property and/or Equipment Description:

Pre-expansion line No. 3 with pre-puff aging for blue expandable polystyrene (EPS)

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) **Applicable Emissions Limitations and/or Control Requirements**

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T)	The volatile organic compound (VOC) emissions shall not exceed 25.0 lbs/hr. The requirements of this rule are equivalent to OAC rule 3745-31-05(D)(1)(b).
b.	OAC rule 3745-31-05(D)(1)(b) – voluntary restrictions to avoid Title V requirements	The volatile organic compound (VOC) emissions shall not exceed 63.9 tons/year, based upon a rolling, 12-month summation. See b)(2)a, b)(2)b, and g)(1).
c.	OAC rule 3745-31-05(D)(1)(b) – voluntary restrictions to avoid Title V requirements	See B.2. through B.7.



(2) Additional Terms and Conditions

- a. To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the emission levels specified in the following table:

Maximum Allowable
Cumulative Emissions of VOCs

Month(s)	Tons
1	5.3
1-2	10.7
1-3	16.0
1-4	21.3
1-5	26.6
1-6	32.0
1-7	37.3
1-8	42.6
1-9	48.0
1-10	53.3
1-11	58.6
1-12	63.9

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual emission limitation for VOCs shall be based upon a rolling, 12-month summation of the daily emissions in accordance with the record keeping requirements specified in d)(1)g; see g)(1).

- b. The maximum annual operating hours for this emissions unit shall not exceed 5112, based upon a rolling, 12-month summation of the operating hours.

To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the operating hours specified in the following table:



Maximum Allowable
Cumulative Operating Hours

Month(s)	Hours
1	426
1-2	852
1-3	1278
1-4	1704
1-5	2130
1-6	2556
1-7	2982
1-8	3408
1-9	3834
1-10	4260
1-11	4686
1-12	5112

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual emission limitation for operating hours shall be based upon a rolling, 12-month summation of the daily actual number of hours this emissions unit was in operation in accordance with the record keeping requirements specified in d)(1)f.

c) Operational Restrictions

- (1) The blowing agent (pentane) content of each resin employed shall not exceed 10%, by weight.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall collect and record the following information each day for this emissions unit:
 - a. the name and company identification of each resin material employed;
 - b. an identification of each resin material composition as expandable polystyrene (EPS);



- c. the weight of each resin material employed, in pounds per day;
 - d. the blowing agent (pentane) content, PC, of each resin material employed, in percent by weight;
 - e. the total daily VOC emissions from the use of all resin materials employed, in pounds per day;
 - f. the actual number of hours this emissions unit was in operation, in hours per day; and
 - g. the average, hourly VOC emission rate, i.e., (e)/(f), in pound per hour (average).
- (2) The permittee shall maintain monthly records of the following information:
- a. the VOC emissions rate for each month of operations; see g)(1);
 - b. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the VOC emissions;
 - c. during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative VOC emissions for each calendar month; and
 - d. the operating hours for each month;
 - e. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the operating hours; and
 - f. during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative operating hours for each calendar month.
- (3) Modeling to demonstrate compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F)(4)(b), was not necessary because the emissions unit(s) maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit-to-install and operate (PTIO) prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new PTIO.
- e) Reporting Requirements
- (1) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services by the due date identified in the Authorization section of this permit.



The permit evaluation report shall cover a reporting period of no more than 12-months for each air contaminant source identified in this permit.

The permittee shall identify in the annual permit evaluation report the following information during the 12-month reporting period for this emissions unit:

- a. each day during which the average hourly VOC emissions rate exceeded 25.0 lbs/hr, and the actual, average hourly VOC emissions rate;
 - b. the probable cause of each deviation (excursion);
 - c. any corrective actions that were taken to remedy the deviation (excursions) or prevent future deviations (excursions); and
 - d. the magnitude and duration of each deviation (excursion).
- (2) The permittee shall submit quarterly deviation (excursion) reports for the emissions unit that identify the following information:
- a. all exceedances of the rolling, 12-month emissions limitation for VOCs and, for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, all exceedances of the maximum allowable cumulative emission levels;
 - b. all exceedances of the rolling, 12-month limitation on the hours of operation for this emissions unit; and for the first 12 calendar months of operation or the first 12 calendar month following the issuance of this permit, all exceedances of the maximum allowable cumulative hours of operation;
 - c. the probable cause of each deviation (excursion);
 - d. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
 - e. the magnitude and duration of each deviation (excursion).

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

f) **Testing Requirements**

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

The volatile organic compound (VOC) emissions shall not exceed 25.0 lbs/hr.



Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in d)(1)g. Determination of the daily VOC emissions may be based on the following equation:

$$E_{\text{VOC}} = [\text{summation of } (W_i \text{Ri} \times P_i) \text{ from } i = 1 \text{ to } i = n] \times (EF_{\text{pre-expand}} + EF_{\text{pre-puff}})$$

Where:

E_{VOC} = the daily, VOC emissions for all resin materials from the pre-expansion operation and the pre-puff aging operation, in pounds per day;

$W_i \text{Ri}$ = the weight of resin “i” employed, in pounds per day;

i = an identifier denoting an individual resin material;

n = the total number of different resin materials employed throughout the day;

P_i = the available blowing agent (pentane) content of resin “i”;

$EF_{\text{pre-expand_EPS}}$ = emission factor for VOC emissions from the pre-expansion operation, which is 0.30 lb VOC pounds per pound of available pentane content from EPS resin, as noted on page 11 of “Expandable Polystyrene: Storage and Handling Safety Guide”, by Nova Chemicals, an EPS resin bead manufacturer; and

$EF_{\text{per-puff_EPS}}$ = emission factor for VOC emissions from the pre-puff aging operation, which is 0.20 lb VOC pounds per pound of available pentane content from EPS resin, as noted on page 11 of “Expandable Polystyrene: Storage and Handling Safety Guide”, by Nova Chemicals, an EPS resin bead manufacturer.

b. Emission Limitation:

The volatile organic compound (VOC) emissions shall not exceed 63.9 tons/year, based upon a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the record keeping requirements specified in d)(2)b and d)(2)c, which include the maintenance of a rolling 12-month summation of the specified emissions.

- (2) Any determination of initial blowing agent (pentane) content (percent by weight) or density of a resin material shall be based on the material as employed. The permittee shall determine the composition of the material by formulation data supplied by the manufacturer or from data determined by an analysis of each material, as employed, by U.S. EPA Reference Method 24 as referenced in 40 CFR Part 60, Appendix A. If formulation data is employed, Ohio EPA may require the permittee to have a Reference



Final Permit-to-Install and Operate

Third Dimension, Inc.

Permit Number: P0112551

Facility ID: 0204030449

Effective Date: 6/6/2013

Method 24 analysis or an equivalent alternative method (as approved by Ohio EPA) performed on the material(s).

g) Miscellaneous Requirements

(1) None.