



## DEPARTMENT OF NATURAL RESOURCES

## MISSOURI AIR CONSERVATION COMMISSION

## PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: 022011-002

Project Number: 2010-12-054  
Installation Number: 157-0020

Parent Company: Atlas Roofing

Parent Company Address: 802 Hwy 19 North, Suite 90, Meridian, MS 39307

Installation Name: Atlas EPS, A Division of Atlas Roofing

Installation Address: 911 Industrial Drive, Perryville, MO 63775

Location Information: Perry County, S35, T84N, R11E

Application for Authority to Construct was made for:  
Installation of an additional block mold (EP-31). This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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- Standard Conditions (on reverse) are applicable to this permit.
- Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

FEB 8 2011

EFFECTIVE DATE

  
\_\_\_\_\_  
DIRECTOR OR DESIGNEE  
DEPARTMENT OF NATURAL RESOURCES

## STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Departments' Air Pollution Control Program of the anticipated date of start up of these air contaminant sources. The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of these air contaminant sources.

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant sources(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

Page No.	3
Permit No.	
Project No.	2010-12-054

#### SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

*The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."*

Atlas EPS, A Division of Atlas Roofing  
Perry County, S35, T84N, R11E

1. **Superseding Condition**  
The conditions of this permit supersede Special Condition 2 found in the previously issued construction permit Permit No.112004-002 issued by the Air Pollution Control Program.
2. **Emission Limitation**
  - A. Atlas EPS, A Division of Atlas Roofing shall emit less than 250.0 tons of Volatile Organic Compounds (VOCs) in any consecutive 12-month period from the entire installation. This limit applies to the VOC emissions from all equipment/processes installed or permitted at Atlas EPS, A Division of Atlas Roofing as of the issuance date of this permit
  - B. Attachment A or an equivalent form, such as an electronic form, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Condition 2.A.
3. **Record Keeping and Reporting Requirements**
  - A. Atlas EPS, A Division of Atlas Roofing shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include Material Safety Data Sheets (MSDS) for all materials used
  - B. Atlas EPS, A Division of Atlas Roofing shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.
4. **Shut Down of Existing Equipment at Installation**
  - A. Atlas EPS, A Division of Atlas Roofing shall render the following emission units inoperable (listed below) before the date the new equipment being

Page No.	4
Permit No.	
Project No.	2010-12-054

**SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

added under this permit begins operations. The equipment listed below may not be operated after the start up of the new equipment without first obtaining a New Source Review permit or receiving approval for the like-kind replacement of other existing equipment at the installation from the Air Pollution Control Program.

- 1) EP-06 8' Weiser Block Mold
- 2) EP-23 Painting/Stenciling
- 3) EP-24 V200 Expander
- 4) EP-30 Embossing Lines
- 5) EP-42A V300 Expander

B. Atlas EPS, A Division of Atlas Roofing shall notify the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 15 days after the following events occur:

- 1) The date of initial start-up of the new equipment added under this permit, and
- 2) The date the existing equipment (as indicated in Special Condition 4.A was rendered inoperable.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE  
SECTION (6) REVIEW

Project Number: 2010-12-054  
Installation ID Number: 157-0020  
Permit Number:

Atlas EPS, A Division of Atlas Roofing  
911 Industrial Drive  
Perryville, MO 63775

Complete: January 5, 2011

Parent Company:  
Atlas Roofing  
802 Hwy 19 North, Suite 90  
Meridian, MS 39307

Perry County, S35, T84N, R11E

REVIEW SUMMARY

- Atlas EPS, A Division of Atlas Roofing has applied for authority to install an additional block mold.
- Hazardous Air Pollutant (HAP) emissions are not expected from the proposed equipment.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to this installation. None of the currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment. 40 CFR Part 63, Subpart JJJ, *National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resins* does not apply to the new equipment since the installation only uses polystyrene in its processes and does not manufacture polystyrene.
- No air pollution control equipment is being used in association with the new equipment.
- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, Construction Permits Required. Potential emissions of VOC for the project are above de minimis levels, but below major source levels. Installation-wide VOC emissions are conditioned to below major source levels.
- This installation is located in Perry County, an attainment area for all criteria pollutants.

- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.
- Ambient air quality modeling was not performed for this review. No model is currently available which can accurately predict ambient ozone concentrations caused by this installation's VOC emissions.
- Emissions testing is not required for the equipment.
- A revision to your Part 70 Operating Permit application is required for this installation within one year of equipment startup.
- Approval of this permit is recommended with special conditions.

### INSTALLATION DESCRIPTION

Atlas EPS, A Division of Atlas Roofing Corporation (formerly named Falcon Foam), is an expandable polystyrene (EPS) block mold manufacturer and fabricator. They formerly had printing operations (including painting/stenciling), but the pressroom and associated operations were removed in October of 2010. The Air Pollution Control Program has issued a Part 70 Operating Permit (Permit Number OP2007-028) to Atlas EPS. The following construction permits have been issued to Atlas EPS by the Air Pollution Control Program.

Table 1: Issued Construction Permits

Permit Number	Description
0187-006	To construct a facility for the production of Styrofoam packaging materials and Styrofoam insulation using expanded polystyrene.
0388-004	Expansion of expanded polystyrene production and installation of a 3.57 mmBtu/hr boiler.
1289-006	Installation of two (2) LPG storage tanks with capacity of 1,000 gallons each.
0995-016	Replacement of Wieser Block Mold, Hirsch 6,000 Batch Expander, V-200 Pre-Expander, and V-300 Pre-Expander with a Monoflex V Block Mold, and VSD 4,600 Batch Expander.
0696-005	Replacement of a 300 HP wood gasification boiler to replace a 75 and a 125 HP natural gas fired boilers.
012002-012	Addition of new expanding, molding, and curing equipment.
082003-006	Addition of a new embossing line.
112004-002	Installation of a Hirsch expandable polystyrene (EPS0 expander.

### PROJECT DESCRIPTION

Atlas EPS has applied for the authority to install an additional block mold (EP-31) at their existing expandable polystyrene (EPS) manufacturing installation located in Perryville, Missouri. The purpose of the additional block mold is to minimize production downtime by having a backup for the other block mold and to also allow for blocks of

two different specifications (e.g. quality, density, etc.) and/or bead grade (i.e. the mold will better manage off-spec beads) to be concurrently produced, when orders dictate such. The addition of the new block mold is not expected to affect potential emissions on an annual basis due to bottlenecks associated with the capacity of the cure areas, as well as the quantity of existing downstream processing equipment (e.g. cutters). However, the addition of the block mold is considered a change in operation and a physical change, thus a modification, because the addition of the new block mold will increase production capability for all equipment prior to the block mold on a short term basis (i.e. increases throughput on a hourly or daily basis).

The production of EPS molds starts with the pre-expansion of the polystyrene beads in a steam chamber. After being dried and allowed to cure in the curing silo, the pre-expanded beads are then fed into a block mold, where the beads are further heated by steam. The heat causes the beads to expand and fill the confines of the mold. The blocks then are allowed to cure before they are cut and grinded before being shipped to the customer.

In the manufacturing of EPS beads, the blowing agent (in this case, pentane) is retained in the raw material (beads) as they come from the supplier. The pentane, which is a VOC, is then released from the beads starting with the pre-expansion stage. Pentane continues to evaporate throughout the entire process of making the EPS molds including molding as well as in the handling and storage areas.

## EMISSIONS/CONTROLS EVALUATION

As stated above, the addition of the new block mold is considered a modification. The only emissions of concern for this project are the VOC emissions associated with the evaporation of the pentane. Throughput of the cutting line and grinder area will not increase either on a short-term or long-term basis. Since the pentane is released over the entire process, a potentials minus actuals calculation will be conducted on the pentane emissions. No air pollution control equipment will be used in associated with the new equipment.

The maximum throughput of the installation is 0.75 tons of beads per hour. According to the information supplied with the application, the beads contain approximately six percent pentane by weight. For these calculations, 100% of the pentane is assumed to be evaporated although some pentane may be retained in the product. Therefore, the VOC potential emissions are equal to amount of pentane contained in the beads. Baseline emissions are the two-year average actual emissions obtained from Atlas EPS' 2004 and 2005 Emission Inventory Questionnaire (EIQs). The project emissions increase is the difference of the potential and the baseline emission. The following table provides an emissions summary of the project.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions <sup>1</sup>	Potential Emissions of the Application	Baseline	Project Emissions Increase	New Installation Conditioned Potential
PM <sub>2.5</sub>	10.0	N/D	N/A	N/A	N/A	N/A
PM <sub>10</sub>	15.0	N/D	N/A	N/A	N/A	N/A
SO <sub>x</sub>	40.0	N/D	N/A	N/A	N/A	N/A
NO <sub>x</sub>	40.0	N/D	N/A	N/A	N/A	N/A
VOC	40.0	<250.0	394.2	150.2	244.0	<250.0
CO	100.0	N/D	N/A	N/A	N/A	N/A
HAPs	10.0/25.0	N/D	N/A	N/A	N/A	N/A

N/A = Not Applicable; N/D = Not Determined

<sup>1</sup> Existing potential emissions are taken from Permit No. 112004-002 which limited the VOC emissions from the entire installation to less than 250.0 tons per year.

### PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of VOC for the project are above de minimis levels, but below major source levels. Installation-wide VOC emissions are conditioned to below major source levels.

### APPLICABLE REQUIREMENTS

Atlas EPS, A Division of Atlas Roofing shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

#### GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110  
The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required June 1 for the previous year's emissions.
- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170



- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

### STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

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Susan Heckenkamp  
Environmental Engineer

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Date

### PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated December 22, 2010, received December 23, 2010, designating Atlas Roofing as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Southeast Regional Office Site Survey, dated January 11, 2011.
- Material Safety Data Sheet

## Attachment A: VOC Tracking Record

Atlas EPS, A Division of Atlas Roofing  
 Perry County, S18, T35N, R11E  
 Project Number: 2010-12-054  
 Installation ID Number: 157-0020  
 Permit Number:

This sheet covers the period from \_\_\_\_\_ to \_\_\_\_\_.  
 (month, year) (month, year)

Copy this sheet as needed

Column A	Column B	Column C	Column D	Column E
Emission Point	Description	Amount Processed (lb/month)	VOC Emission Factor (lb VOC/lb bead)	VOC Emissions (Note 2) (tons)
Note 1	EPS Bead Usage		0.06	
EP27	300 HP Gasification Boiler (wood usage)	1928 lb/hr	0.0000286	0.24
EP27	125 HP Natural Gas Boiler	4180 ft <sup>3</sup> /hr	0.0000055 lb/ft <sup>3</sup>	0.00
Total VOC Emissions from the Installation for this Month (Note 3)				
12-Month VOC Emissions Total from the Previous Month's Worksheet (Note 4)				
Monthly VOC Emissions Total from the Previous Year's Worksheet (Note 5)				
Current 12-Month Total VOC Emissions (Note 6)				

Note 1: EPS Bead Usage includes the following Emission Points: Hirsch EPS Expander (EP-28), No.1 Kurtz 1014 Shape Mold (EP-07), No. 2 Kurtz 1014 Shape Mold (EP-07A), No. 1 Bag Aging (EP-05), No. 2 Bag Aging (EP-05A), Warehouse Aging (EP-25), 16' Kurtz/Weiser Block Mold (EP-06A), Kurtz VSD4600 Batch Expander (EP-24B), No. 1 Shape Mold (EP-07B), No. 2 Shape Mold (EP-07C), and Block Mold (EP-31)

Note 2: [Column E] = [Column C] x [Column D] x 0.0005, Emissions from EP23 and EP27 are potential emissions based upon 8,760 hours of operation.

Note 3: Sum of VOC emissions reported in Column E.

Note 4: Running 12-month total of emissions from previous month's worksheet.

Note 5: Emissions reported for this month in the last calendar year.

Note 6: Amount reported for Note 4 minus amount reported for Note 5 plus amount reported for Note 3.

Mr. Anthony Antonellis  
Environmental Support  
Atlas EPS, A Division of Atlas Roofing  
PO Box 125  
Perryville, MO 63775

RE: New Source Review Permit - Project Number: 2010-12-054

Dear Mr. Antonellis:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your revised operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact Susan Heckenkamp at the Department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, or by telephone at (573) 751-4817. Thank you for your time and attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale  
New Source Review Unit Chief

KBH:shk

Enclosures

c: Southeast Regional Office  
PAMS File: 2010-12-054

Permit Number: