



NRO-240-12

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
NORTHERN REGIONAL OFFICE

Douglas W. Domenech
Secretary of Natural Resources

13901 Crown Court, Woodbridge, Virginia 22193
(703) 583-3800 Fax (703) 583-3821
www.deq.virginia.gov

David K. Paylor
Director

Thomas A. Faha
Regional Director

COMMONWEALTH OF VIRGINIA Department of Environmental Quality Northern Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Georgia Foam, Inc. – Mid-Atlantic Foam Division
Fredericksburg, Virginia
Permit No. NRO-40779

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Georgia Foam, Inc. – Mid-Atlantic Foam Division has applied for a Title V Operating Permit for its Fredericksburg, Virginia facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact: Elizabeth Aiken Date: 10/3/12
Elizabeth Aiken
(703) 583-3890

Air Permit Manager: James B. Schubert Date: 10/9/12

Regional Director: Thomas A. Faha Date: 10-12-12

FACILITY INFORMATION

Permittee

Georgia Foam, Inc.
P.O. Box 303
Gainesville, Georgia 30503

Facility

Mid-Atlantic Foam Division
P.O. Box 742
Fredericksburg, Virginia 22404

County-Plant Identification Number: 51-177-00058

SOURCE DESCRIPTION

NAICS Code: 326140 – *This industry comprises establishments primarily engaged in manufacturing polystyrene foam products. The facility manufactures expanded polystyrene products primarily, but not exclusively, for construction, architectural forms, insulation, packing, filler, and packaging.*

The facility is a Title V major source of Volatile Organic Compounds. This source is located in an attainment area for all pollutants, and is a PSD minor source. The facility is currently permitted under a Minor NSR Permit issued on July 22, 2010.

COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, has been conducted. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

Fuel Burning Equipment:							
Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
AB	2	One (1) Cleaver Brooks natural gas fired boiler, Model No. CB600-200	8.4 MMBtu/hr	--	--	--	7/22/10
AA	1	One (1) Industrial Boiler Co. natural gas fired boiler, Model No. PPF753PUC607	3.15 MMBtu/hr	--	--	--	7/22/10

Process Equipment:							
Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
AF	10	One (1) Dingledein expander, Model No. V-A-K	1.5 tons/hour	--	--	--	7/22/10
AL	11	One (1) Sunghoontech shape mold, Model No. SHM- 1614VSN	0.22 tons/hr	--	--	--	7/22/10
AM	12	One (1) Sunghoontech shape mold, Model No. SHM-400VS	0.21 tons/hr	--	--	--	7/22/10
AG	6, 9	Bead Storage Drying Rooms,	1.4 tons/hr (Block); 28 parts/hr (shape)	--	--	--	7/22/10

Process Equipment (Con't):								
Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date	
AD	4	One (1) Dae Kong block mold, Model No. DKB-416VS	4,200 lbs/hr	--	--	--	7/22/10	
AC	3	One (1) Dae Kong expander, Model No. DKF-1800SP	2,000 lbs/hr	--	--	--	7/22/10	
AE	5, 11	One (1) Dae Kong shape molds, Model No. 400 SVS	480 lbs/hr	--	--	--	7/22/10	

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

EMISSIONS INVENTORY

A copy of the 2011 annual emission update is attached. Emissions are summarized in the following tables.

2011 Actual Emissions

2011 Criteria Pollutant Emission in Tons/Year				
VOC	CO	SO ₂	PM ₁₀	NO _x
26.293	0.072	0.002	0.023	0.510

EMISSION UNIT APPLICABLE REQUIREMENTS

Fuel Burning Equipment (Ref. No. AA and AB) –

Limitations

Condition 1 identifies the approved fuel for the two boilers as natural gas per Condition 4 of 7/22/10 minor NSR permit.

Condition 2 sets the short term and annual NO_x and CO emission limits for the two boilers per Condition 5 of 7/22/10 minor NSR permit.

Condition 3 limits visible emissions to five percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed ten percent opacity per Condition 7 of 7/22/10 minor NSR permit.

Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing required by the facility's 7/22/10 minor NSR permit. These records include:

- a. The daily and annual throughput of natural gas (in million cubic feet) for the boilers. The annual throughput shall be calculated monthly as the sum of each consecutive twelve (12) month period.
- b. All VEE and emission stack test reports.
- c. maintain records of the required training including a statement of time, place and nature training provided. The permittee shall have available good written operating procedures and a maintenance schedule for the boiler(s).

Testing

The permit does not require source tests. The Department and EPA have authority to require testing not included in this permit, if necessary, to determine compliance with an emission limit or standard.

Process Equipment Requirements – (Ref. No. AF, AL, AM, AG, AD, AC, and AE)

Limitations

Condition 1 limits pentane emissions by using product that contains no more than 4.8% (by weight) pentane on an average weekly basis per Condition 2 of 7/22/10 minor NSR

Condition 2 limits facility production to 5427 tons of expanded polystyrene per year, per Condition 3 of 7/22/10 minor NSR permit.

Condition 3 limits hourly and annual VOC emissions to 162.0 lbs/hr and 177.3 tons per year per Condition 6 of 7/22/10 minor NSR permit.

Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing required per Condition 11 of 7/22/10 minor NSR permit. These records include:

- a. Weekly and monthly hours of operation of the molding machines,
- b. Annual production of expanded polystyrene
- c. Hourly, monthly, and annual VOC calculations
- d. Receipts of all raw materials (polystyrene beads) purchased, showing the average percent by weight of pentane.
- e. Scheduled and unscheduled maintenance and operator training.

Streamlined Requirements

There are no streamlined conditions.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

Comments on General Conditions

B. Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.2-604 and §10.1-1185 of the *Code of Virginia*, and the "Department of Environmental Quality Agency Policy Statement No. 2-09".

This general condition cites the sections that follow:

- 9 VAC 5-80-80. Application
- 9 VAC 5-80-140. Permit Shield
- 9 VAC 5-80-150. Action on Permit Applications

F. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

This general condition cites the sections that follow:

- 9 VAC 5-40-41. Emissions Monitoring Procedures for Existing Sources
- 9 VAC 5-40-50. Notification, Records and Reporting
- 9 VAC 5-50-50. Notification, Records and Reporting

This general condition contains a citation from the Code of Federal Regulations as follows:
40 CFR 60.13 (h). Monitoring Requirements.

J. Permit Modification

This general condition cites the sections that follow:

- 9 VAC 5-80-50. Applicability, Federal Operating Permit For Stationary Sources

9 VAC 5-80-190. Changes to Permits.
9 VAC 5-80-260. Enforcement.
9 VAC 5-80-1100. Applicability, Permits For New and Modified Stationary Sources
9 VAC 5-80-1605. Applicability, Permits For Major Stationary Sources and Modifications
Located in Prevention of Significant Deterioration Areas
9 VAC 5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications
Locating in Nonattainment Areas

U. Malfunction as an Affirmative Defense

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on general condition F.

This general condition cites the sections that follow:

9 VAC 5-20-180. Facility and Control Equipment Maintenance or Malfunction
9 VAC 5-80-110. Permit Content

Y. Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

This general condition contains a citation from the Code of Federal Regulations that follow:

40 CFR 61.145, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to demolition and renovation.
40 CFR 61.148, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to insulating materials.
40 CFR 61.150, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to waste disposal.

This general condition cites the regulatory sections that follow:

9 VAC 5-60-70. Designated Emissions Standards
9 VAC 5-80-110. Permit Content

STATE ONLY APPLICABLE REQUIREMENTS

No State Only Applicable Requirements have been identified

FUTURE APPLICABLE REQUIREMENTS

No Future Applicable Requirements have been identified

INAPPLICABLE REQUIREMENTS

Citation	Title of Citation	Description of Applicability
40 CFR 60, Subpart DDD	Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry	Is not applicable to this facility because they do not manufacture polystyrene beads.
40 CFR 63 Subpart JJJ	National Emission Standards for Hazardous Air Pollutants - Group IV Polymer and Resins	Is not applicable because the facility does not manufacture polystyrene resin and is not a major source of HAPs.

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
AH	Block Storage	9 VAC 5-80-720 B	VOC	--
AI	Hot Wire Cutters	9 VAC 5-80-720 B	VOC	--
AJ	Roll Laminator	9 VAC 5-80-720 B	VOC	--
AK	Shipping	9 VAC 5-80-720 B	VOC	--
BA	Air Compressor	9 VAC 5-80-720 B	VOC	--
BB	Vinyl Assembly	9 VAC 5-80-720 B	VOC	--
BC	Scrap Bag	9 VAC 5-80-720 B	VOC	--
BD	Grinder	9 VAC 5-80-720 B	VOC	--
BE	Contour Cutter	9 VAC 5-80-720 B	VOC	--
BF	Fold Form Tie Assembly	9 VAC 5-80-720 B	VOC	--
BG	Down Cutter	9 VAC 5-80-720 B	VOC	--
BH	Lathe	9 VAC 5-80-720 B	VOC	--
BI	Slicer	9 VAC 5-80-720 B	VOC	--
BJ	Fabrication Saw	9 VAC 5-80-720 B	VOC	--

¹The citation criteria for insignificant activities are as follows:

9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application

9 VAC 5-80-720 B - Insignificant due to emission levels

9 VAC 5-80-720 C - Insignificant due to size or production rate

Facility's Green House Gas (GHG) Compliance Status

There are no greenhouse gas related Clean Air Act requirements applicable to Georgia Foam – Mid Atlantic Foam Division, as this facility has not triggered major New Source Review requirements for GHG emissions as outlined in the Commonwealth of Virginia's State Air Pollution Control Board's Regulations for the Control and Abatement of Air Pollution.

PUBLIC PARTICIPATION

The proposed permit will be placed on public notice in the Free Lance Star on August 9, 2012 and the public participation period will run from August 10, 2012 to September 10, 2012

Appendix A:
2011 Annual Emissions Update

Commonwealth of Virginia
Department of Environmental Quality

Annual Update for Calendar Year: 2011

Registration#: 40779
Plant Name: Mid-Atlantic Foam
Physical Location: 57 Joseph Mills Dr
Mailing Address: P. O. Box 303
Gainesville, VA 30503

Region: NVRO
County: 177 Spotsylvania County
Plant ID: 00059
Contact Person: Orr, Gerald
Telephone: (770)536-8888
Employees: 33
Principal Product: polystyrene foam
SIC: 3086 NAICS: 326150
Inspector: Page, Tadic
Classification: Major/Potential Major

Summary Data for Calendar Year: 2010

Slk	Pt Seg	Segment Description	SCC	Annual Thruput	Units	% Sulfur	% Ash	Heat Content (mmBtu/ SCC unit)	% Overall Effic	Primary Control Equip	Secondary Control Equip	% Annual Thruput												Operating Schedule				Stack Parameters									
												Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Hr Dy	Hr Wk	Dy Yr	% Hr	% Space Heat	Exit Temp (f)	Exit Dia (ft)	Exit Flow Rate (ACFM)	Plume Ht (ft)	Elevation (ft)				
1	1	1 POLY BEADS USED - TONS/YR	30800799	586	811	0	0	0	0				25	25	25	25	25	25	25	25	25	25	25	25	24	24	24	7	7	8760	0	0	68	1.2	68	1	190
2	2	1 INDUSTRIAL NG-FIRED BOILER	10100604	0	0	0	0	0	0				25	25	25	25	25	25	25	25	25	25	25	25	24	24	24	7	7	8760	0	0	68	1.2	68	1	190
2	2	2 Cleaver Brooks Boiler - NG Fired	10100604	6	6	0	0	0	0				25	25	25	25	25	25	25	25	25	25	25	25	24	24	24	7	7	8760	0	0	68	1.2	68	1	190



