



Department of Environmental Protection

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January 29, 2014

Mr. Tom Eckel
Storopack, Inc.
4758 Devitt Drive
Cincinnati, Ohio 45426

RE: Westborough
Transmittal No.: X257209
Application No.: CE-13-025
Air quality class: SM25
FMF No.: 50976
SSEIS No. 118-0048
Air Quality PLAN APPROVAL

Dear Mr. Eckel:

The Massachusetts Department of Environmental Protection (“MassDEP”), Bureau of Waste Prevention, Permitting Section has reviewed your Non-Major Comprehensive Plan Application (“Application”) listed above. This Application concerns the proposed construction, substantial reconstruction, and/or alteration, and subsequent operation, of the Storopack facility located at 125 Flanders Drive, Westborough, MA 01581 (“Facility”). The Application bears the seal and signature of Dale T. Raczynski, Massachusetts Registered Professional Engineer No. 36207.

This Application was submitted in accordance with 310 CMR 7.02 Plan Approval and Emission Limitations as contained in 310 CMR 7.00 “Air Pollution Control” regulations adopted by MassDEP pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-N, Chapter 21C, Section 4 and 6, and Chapter 21E, Section 6. MassDEP’s review of your Application has been limited to air pollution control regulation compliance and does not relieve you of the obligation to comply with any other regulatory requirements.

MassDEP has determined that the Application is administratively and technically complete and that the Application is in conformance with the Air Pollution Control regulations and current air pollution control engineering practice, and hereby grants this **Plan Approval** for said Application, as submitted, subject to the conditions listed below.

Please review the entire Plan Approval, as it stipulates the conditions with which the Facility owner/operator (“Permittee”) must comply in order for the Facility to be operated in compliance with this Plan Approval.

1. DESCRIPTION OF FACILITY AND APPLICATION

Storopack, Inc. is a manufacturer of expandable polystyrene (EPS) loose fill packing. The facility is located at 125 Flanders Road in Westborough, MA and began operating at this location in 1978. The Facility's manufacturing process consists of bead expansion, bead aging, and storage and it results in the release of pentane, a Volatile Organic Compound (VOC), to the ambient air at all three process steps.

The Facility uses polystyrene beads that contain a nominal 6% VOC blowing agent. The blowing agent is pentane or isopentane, a VOC. The process begins by expanding pentane-impregnated polystyrene resin beads in a vertical expander, the 'first pass.' Expanded beads are then pneumatically transferred to aging bags to allow for off-gassing of moisture and pentane for 48 hours. The first pass aged beads are then pneumatically conveyed to a rotary expander for a 'second pass' expansion. Expanded beads are then pneumatically transferred to aging bags to allow for 24 hours of further off-gassing. The second pass aged beads are then pneumatically conveyed to a rotary expander for a 'third pass' expansion and allowed to off-gas for another 24 hours. The beads are then transferred to either product storage or packaged for shipment.

The Permittee obtained a comprehensive air quality Plan Approval (Tr. No. W052874) from MassDEP on January 17, 2006, for the operation of the Facility's processing equipment that included two vertical (EUs 1 and 3) steam expanders and two rotary (EUs 2 and 4) 29 storage bags (EU 6) and a natural gas fired York Shipley Boiler that provided steam for bead expansion. That Plan Approval required this boiler to provide some VOC control from the bead expanders and restricted the Facility to 8.9 tons/year and 1,520 pounds/month of VOC.

Stack testing on August 3, 2006, indicated much lower VOC capture and destruction rates than expected. Steam discharging from the expanders and plumbed back into the boiler repeatedly caused boiler flame-out. This result rendered the boiler unviable for controlling VOCs, especially from the vertical expanders. Several strategies were attempted to improve the overall VOC control efficiency of the processes, including, but not limited to, condensing the exhaust prior to introducing it back into the boiler.

Subsequently, Plan Approval Tr. No. X238472 was issued on August 11, 2011, which limited facility-wide VOC emissions to 5 tons per year without controls and required the installation of a new stack serving the EPS production line. Pollution prevention techniques including raw material substitution and the installation of production equipment that manufactures non-VOC based product has reduced VOC emissions from the Facility.

Project Description

This Plan Approval (Tr. No. X257209) will allow the installation of an additional rotary expander (EU 5) and seven aging bags¹ and will limit facility-wide VOC emissions to 12 tons per year. The Application included an analysis of various thermal or catalytic oxidizers to further control VOC emissions. Best Available Control Technology for the Facility is considered to be compliance with daily, monthly and annual production and emission limits, best management practices, and the manufacture of non-VOC based products.

¹ Plan Approvals Tr. Nos. W052874 and X238472 both authorized 29 aging bags. The Facility has 16 bags installed at this time. This Plan Approval will authorize a total of 23 aging bags, the 16 existing and 7 new.

This Plan Approval will supercede Plan Approval Tr. No. X238472 in its entirety.

The National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers (40 CFR 63 Subpart JJJJJ) does not apply to the York-Shipley boiler because the boiler is fired only with natural gas.

2. EMISSION UNIT (EU) IDENTIFICATION

Each Emission Unit (EU) identified in Table 1 is subject to and regulated by this Plan Approval:

Table 1 Emission Unit Description			
EU#	Description	Design Capacity	Pollution Control Device (PCD)
1	Expander #1: Polystyrene Bead vertical batch expander (first pass)	1000 pounds EPS per hour	None
2	Expander #2: Polystyrene Bead rotary expander (second/third pass)	625 pounds EPS per hour	None
3	Expander #3: Polystyrene Bead vertical batch expander (first pass)	1000 pounds EPS per hour	None
4	Expander #4: Polystyrene Bead rotary expander (second/third pass)	625 pounds EPS per hour	None
5	Expander #5: Polystyrene Bead rotary expander (any pass)	1000 pounds EPS per hour	None
6	Aging Bags 1-23	1000 pounds per single bag 2000 pounds per double bag	None

Table 1 Key:

EPS = Expanded Polystyrene
 EU# = Emission Unit Number

3. APPLICABLE REQUIREMENTS

A. OPERATIONAL, PRODUCTION and EMISSION LIMITS

The Permittee is subject to, and shall not exceed the Operational, Production and Emission Limits as contained in Table 2:

Table 2			
EU#	Operational / Production Limit	Air Contaminant	Emission Limit
1 through 6	<ol style="list-style-type: none"> 1. 342 tons of beads processed per each 12-month rolling period 2. 75,000 pounds of beads processed per calendar month 3. 10,000 pounds of beads processed per day 4. 0.060 pounds of VOC per pound of bead based on a certificate of analysis or testing 	VOC	<ol style="list-style-type: none"> 1. 12 tons per each 12-month rolling period 2. 2,625 pounds per calendar month 3. 350 pounds per day

Table 2 Key:

EU# = Emission Unit Number
 VOC = Volatile Organic Compounds

B. COMPLIANCE DEMONSTRATION

The Permittee is subject to, and shall comply with, the monitoring, testing, record keeping, and reporting requirements as contained in Tables 3, 4, and 5:

Table 3	
EU#	Monitoring and Testing Requirements
Facility-wide	<ol style="list-style-type: none"> 1. The Permittee shall monitor all operations to ensure sufficient information is available to comply with 310 CMR 7.12 - Source Registration. 2. If and when MassDEP requires it, the Permittee shall conduct emission testing in accordance with USEPA Reference Test Methods and 310 CMR 7.13.

Table 3 Key:

EU# = Emission Unit Number

Table 4	
EU#	Record Keeping Requirements
1 through 6	<ol style="list-style-type: none"> 1. The Permittee shall obtain and maintain a Certificate of Analysis showing the VOC content of each lot of beads used. 2. VOC emissions shall be calculated each day using an emission factor of 0.035 pounds of VOC per pound of bead processed, except as indicated below. This emission factor is based on the incoming bead VOC content of 0.060 pounds of VOC per pound of bead less a nominal 0.025 pounds of VOC per pound of bead remaining in the finished product (0.060 - 0.025 = 0.035). If a Certificate of Analysis or test results indicate the incoming bead VOC content is higher than 0.060 pounds of VOC per pound of bead or the finished product VOC content is less than 0.025 pounds of VOC per pound of bead, then the emission factor shall be recalculated using the higher incoming bead and/or lower finished product VOC content.
Facility-wide	<ol style="list-style-type: none"> 3. The Permittee shall maintain adequate records on-site to demonstrate compliance with all operational, production, and emission limits contained in Table 2 above. Records shall also include the actual emissions of air contaminant(s) emitted for each day, calendar month and for each consecutive twelve-month period (current month plus prior eleven months). The daily records shall be compiled daily. The calendar month and twelve-month period records shall be compiled no later than the 15th day following each month. An electronic version of the MassDEP approved record keeping form, in Microsoft Excel format, can be downloaded at: http://www.mass.gov/eea/agencies/massdep/air/approvals/limited-emissions-record-keeping-and-reporting.html#WorkbookforReportingOn-SiteRecordKeeping. 4. The Permittee shall maintain records of monitoring and testing as required by Table 3. 5. The Permittee shall maintain a copy of this Plan Approval, the underlying Application and the most up-to-date Standard Operating and Maintenance Procedure for the EU(s) approved herein on-site. 6. The Permittee shall maintain a record of routine maintenance activities performed on the approved EUs. The records shall include, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed. 7. The Permittee shall maintain a record of all malfunctions affecting air contaminant emission rates on the approved EUs. At a minimum, the records shall include: date and time the malfunction occurred; description of the malfunction; corrective actions taken; the date and time corrective actions were initiated and completed; and the date and time emission rates and monitoring equipment returned to compliant operation. 8. The Permittee shall maintain records to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration. 9. The Permittee shall maintain records required by this Plan Approval on-site for a minimum of five (5) years. 10. The Permittee shall make records required by this Plan Approval available to MassDEP and USEPA personnel upon request.

Table 4 Key:

EU# = Emission Unit Number
 PCD = Pollution Control Device
 USEPA = United States Environmental Protection Agency

Table 5	
EU#	Reporting Requirements
Facility-wide	<ol style="list-style-type: none"> 1. The Permittee shall submit to MassDEP all information required by this Plan Approval over the signature of a “Responsible Official” as defined in 310 CMR 7.00 and shall include the Certification statement as provided in 310 CMR 7.01(2)(c). 2. The Permittee shall notify the Central Regional Office of MassDEP, BWP Permit Chief by telephone: 508-767-2845, email: CERO.Air@massmail.state.ma.us, or fax : 508-792-7621, as soon as possible, but no later than one (1) business day after discovery of an exceedance(s) of Table 2 requirements. A written report shall be submitted to Permit Chief at MassDEP within three (3) business days thereafter and shall include: identification of exceedance(s), duration of exceedance(s), reason for the exceedance(s), corrective actions taken, and action plan to prevent future exceedance(s). 3. The Permittee shall report every three years to MassDEP, in accordance with 310 CMR 7.12, all information as required by the Source Registration/Emission Statement Form. The Permittee shall note therein any minor changes (under 310 CMR 7.02(2)(e), 7.03, 7.26, etc.), which did not require Plan Approval. 4. The Permittee shall provide a copy to MassDEP of any record required to be maintained by this Plan Approval within 30 days from MassDEP’s request. 5. The Permittee shall submit to MassDEP for approval a stack emission pretest protocol, at least 30 days prior to emission testing, for emission testing as defined in Table 3 Monitoring and Testing Requirements. 6. The Permittee shall submit to MassDEP a final stack emission test results report, within 45 days after emission testing, for emission testing as defined in Table 3 Monitoring and Testing Requirements.

Table 5 Key:

EU# = Emission Unit Number

4. SPECIAL TERMS AND CONDITIONS

A. The Permittee is subject to, and shall comply with, the Special Terms and Conditions as contained in Table 6 below:

Table 6	
EU#	Special Terms and Conditions
Facility-wide	<ol style="list-style-type: none"> 1. The Permittee shall obtain written approval from MassDEP, Bureau of Waste Prevention, Permitting Section – Central Regional Office prior to the use of any resin products other than unmodified Rapac bead, which contains 6.0% pentane. 2. The Permittee shall notify MassDEP, Bureau of Waste Prevention, Permitting Section – Central Regional Office at least 30 days prior to any planned change in blowing agent formulation.

Table 6	
EU#	Special Terms and Conditions
	3. The Permittee is not required to notify MassDEP prior to a change in blowing agent formulation if the new formulation is a non-VOC blowing agent.
	4. The Permittee shall make every effort to comply with 310 CMR 7.18(1) by storing and disposing of VOC containing materials in a manner which will minimize VOC evaporation to the atmosphere. The Permittee shall continue to evaluate pollution prevention techniques that include but are not limited to product substitution and the transport and storage of EPS beads in plastic lined cardboard boxes that minimize pentane loss.

Table 6 Key:

EU# = Emission Unit Number

- B. The Permittee shall install and use an exhaust stack, as required in Table 7, on each of the Emission Units that is consistent with good air pollution control engineering practice and that discharges so as to not cause or contribute to a condition of air pollution. Each exhaust stack shall be configured to discharge the gases vertically and shall not be equipped with any part or device that restricts the vertical exhaust flow of the emitted gases, including, but not limited to, rain protection devices known as “shanty caps” and “egg beaters.”
- C. The Permittee shall install and utilize exhaust stacks with the following parameters, as contained in Table 7, for the Emission Units that are regulated by this Plan Approval:

Table 7				
EU#	Stack Height Above Ground (feet)	Stack Inside Exit Dimensions (feet)	Stack Gas Exit Velocity Range (feet per second)	Stack Gas Exit Temperature Range (°F)
1 through 5	30 ¹	2.67	31-33	90-120

Table 7 Key:

EU# = Emission Unit Number
 °F = Degrees Fahrenheit

Table 7 Notes:

1. The stack shall extend at least ten (10) feet above the roof and any appurtenances.

5. GENERAL CONDITIONS

The Permittee is subject to, and shall comply with, the following general conditions:

- A. Pursuant to 310 CMR 7.01, 7.02, 7.09 and 7.10, should any nuisance condition(s), including but not limited to smoke, dust, odor or noise, occur as the result of the operation of the Facility, then the Permittee shall immediately take appropriate steps including shutdown, if necessary, to abate said nuisance condition(s).
- B. If asbestos remediation/removal will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that all removal/remediation of asbestos shall be done in accordance with 310 CMR 7.15 in its entirety and 310 CMR 4.00.
- C. If construction or demolition of an industrial, commercial or institutional building will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that said construction or demolition shall be done in accordance with 310 CMR 7.09(2) and 310 CMR 4.00.
- D. Pursuant to 310 CMR 7.01(2)(b) and 7.02(7)(b), the Permittee shall allow MassDEP and/or USEPA personnel access to the Facility, buildings, and all pertinent records for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.
- E. This Plan Approval does not negate the responsibility of the Permittee to comply with any other applicable Federal, State, or local regulations now or in the future.
- F. Should there be any differences between the Application and this Plan Approval, the Plan Approval shall govern.
- G. Pursuant to 310 CMR 7.02(3)(k), MassDEP may revoke this Plan Approval if the construction work is not commenced within two years from the date of issuance of this Plan Approval, or if the construction work is suspended for one year or more.
- H. This Plan Approval may be suspended, modified, or revoked by MassDEP if MassDEP determines that any condition or part of this Plan Approval is being violated.
- I. This Plan Approval may be modified or amended when in the opinion of MassDEP such is necessary or appropriate to clarify the Plan Approval conditions or after consideration of a written request by the Permittee to amend the Plan Approval conditions.
- J. Pursuant to 310 CMR 7.01(3) and 7.02(3)(f), the Permittee shall comply with all conditions contained in this Plan Approval. Should there be any differences between provisions contained in the General Conditions and provisions contained elsewhere in the Plan Approval, the latter shall govern.

6. MASSACHUSETTS ENVIRONMENTAL POLICY ACT

MassDEP has determined that the filing of an Environmental Notification Form (ENF) with the Secretary of Energy & Environmental Affairs, for air quality control purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act (MEPA) and 301 CMR 11.00, Section 11.04, provide certain “Fail-Safe Provisions,” which allow the Secretary to require the filing of an ENF and/or an Environmental Impact Report (EIR) at a later time.

7. APPEAL PROCESS

This Plan Approval is an action of MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Plan Approval.

Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts, which are the grounds for the request, and the relief sought. Additionally, the request must state why the Plan Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars (\$100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

This request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

MassDEP may waive the adjudicatory hearing-filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

Enclosed is a stamped approved copy of the application submittal.

Should you have any questions concerning this Plan Approval, please contact Stephen Majkut by telephone at 508-767-2773, or in writing at the letterhead address.

This final document copy is being provided to you electronically by the
Department of Environmental Protection. A signed copy of this document
is on file at the DEP office listed on the letterhead.

Roseanna E. Stanley
Acting Permit Chief
Bureau of Waste Prevention

Enclosure

ecc: Westborough Board of Health
Westborough Fire Department
Dale Raczynski, P.E.
MassDEP/Boston - Yi Tian
PIMS Administrator/FMF Data Manager