



Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

## Department of Environmental Protection

Western Regional Office • 436 Dwight Street, Springfield MA 01103 • 413-784-1100

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### AIR QUALITY OPERATING PERMIT

Issued by the Massachusetts Department of Environmental Protection ("MassDEP") pursuant to its authority under M.G.L. c. 111, §142B and §142D, 310 CMR 7.00 et seq., and in accordance with the provisions of 310 CMR 7.00: Appendix C.

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**ISSUED TO ["the Permittee"]:**

Solutia Inc.  
730 Worcester Street  
Springfield, MA 01151

**FACILITY LOCATION:**

Solutia Inc.  
730 Worcester Street  
Springfield, MA 01151

**NATURE OF BUSINESS:**

Resins, Sealants, Plastics,  
Plastic Film, & Plastic Sheet

**RESPONSIBLE OFFICIAL:**

Name: B. Shayne Cowan  
Title: Site Manager

**INFORMATION RELIED UPON:**

Application No. : 1-O-09-020  
Transmittal No. : X229245  
(Ref: FINAL OPERATING PERMIT;  
Appl. #1-O-09-015; Trans. #X228552)

**FACILITY IDENTIFYING NUMBERS:**

AQ ID: 042/0086  
FMF FAC NO.: 298974  
FMF RO NO.: 305464

**STANDARD INDUSTRIAL CODE (SIC):**

Primary-3081 (Secondary-2821 & 2869)

**NORTH AMERICAN INDUSTRIAL CLASSIFICATION SYSTEM (NAICS):**

Primary-326113 (Secondary -325211, 325199)

**FACILITY CONTACT PERSON:**

Name: Chris Aberg  
Title: Environmental Supervisor  
Phone: (413) 730-3551

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This operating permit shall expire on October 25, 2023.  
For the Department of Environmental Protection

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.

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Michael Gorski, Regional Director  
Department of Environmental Protection  
Western Regional Office

October 25, 2018

Date

## TABLE OF CONTENTS

Section	Special Conditions for Operating Permit	Page No.
1	Permitted Activities	4
2	Emission Unit Identification – Table 1	8
3	Identification of Exempt Activities - Table 2	8
4(i)	<p>Applicable Requirements: <b>Site-Wide:</b>            Table 1(i) – Emission Unit Identification for Site-Wide</p> <p>A. Operational and/or Production Emission Limits and Restrictions – Table 3(i)            B. Compliance Demonstration                - Monitoring and Testing Requirements – Table 4(i)                - Record Keeping Requirements - Table 5(i)                - Reporting Requirements – Table 6(i)            C. General Applicable Requirements            D. Requirements Not Currently Applicable -Table 7(i)</p>	9
5(i)	Special Terms and Conditions: <b>Site-Wide</b> – Table 8(i)	14
4(ii)	<p>Applicable Requirements: <b>Powerhouse:</b>            Table 1(ii) – Emission Unit Identification for Powerhouse</p> <p>A. Operational and/or Production Emission Limits and Restrictions – Table 3(ii)            B. Compliance Demonstration                - Monitoring and Testing Requirements – Table 4(ii)                - Record Keeping Requirements - Table 5(ii)                - Reporting Requirements – Table 6(ii)            C. General Applicable Requirements            D. Requirements Not Currently Applicable -Table 7(ii)</p>	15
5(ii)	Special Terms and Conditions: <b>Powerhouse</b> – Table 8(ii)	25
4(iii)	<p>Applicable Requirements: <b>South Butvar:</b>            Table 1(iii) – Emission Unit Identification for South Butvar</p> <p>A. Operational and/or Production Emission Limits and Restrictions – Table 3(iii)            B. Compliance Demonstration                - Monitoring and Testing Requirements – Table 4(iii)                - Record Keeping Requirements - Table 5(iii)                - Reporting Requirements – Table 6(iii)            C. General Applicable Requirements            D. Requirements Not Currently Applicable -Table 7(iii)</p>	26
5(iii)	Special Terms and Conditions: <b>South Butvar</b> – Table 8(iii)	45
4(iv)	<p>Applicable Requirements: <b>Saflex:</b>            Table 1(iv) – Emission Unit Identification for Saflex</p> <p>A. Operational and/or Production Emission Limits and Restrictions – Table 3(iv)            B. Compliance Demonstration                - Monitoring and Testing Requirements – Table 4(iv)                - Record Keeping Requirements - Table 5(iv)                - Reporting Requirements – Table 6(iv)            C. General Applicable Requirements            D. Requirements Not Currently Applicable -Table 7(iv)</p>	48
5(iv)	Special Terms and Conditions: <b>Saflex</b> – Table 8(iv)	55
4(v)	<p>Applicable Requirements: <b>RB-9100:</b>            Table 1(v) – Emission Unit Identification for RB-9100</p> <p>A. Operational and/or Production Emission Limits and Restrictions – Table 3(v)            B. Compliance Demonstration                - Monitoring and Testing Requirements – Table 4(v)                - Record Keeping Requirements - Table 5(v)                - Reporting Requirements – Table 6(v)            C. General Applicable Requirements            D. Requirements Not Currently Applicable -Table 7(v)</p>	56
5(v)	Special Terms and Conditions: <b>RB-9100</b> – Table 8(v)	62

<b>Section</b>	<b>Special Conditions for Operating Permit</b>	<b>Page No.</b>
4(vi)	Applicable Requirements: <b>Miscellaneous</b> : Table 1(vi) – Emission Unit Identification for Miscellaneous  A. Operational and/or Production Emission Limits and Restrictions – Table 3(vi) B. Compliance Demonstration - Monitoring and Testing Requirements – Table 4(vi) - Record Keeping Requirements - Table 5(vi) - Reporting Requirements – Table 6(vi) C. General Applicable Requirements D. Requirements Not Currently Applicable -Table 7(vi)	63
5(vi)	Special Terms and Conditions: <b>Miscellaneous</b> – Table 8(vi)	71
6	Alternative Operating Scenarios	74
7	Emissions Trading	74
8	Compliance Schedule	74
<b>Section</b>	<b>General Conditions for Operating Permit</b>	<b>Page No.</b>
9	Fees	75
10	Compliance Certification	75
11	Noncompliance	76
12	Permit Shield	76
13	Enforcement	77
14	Permit Term	77
15	Permit Renewal	77
16	Reopening for Cause	78
17	Duty to Provide Information	78
18	Duty to Supplement	78
19	Transfer of Ownership or Operation	78
20	Property Rights	78
21	Inspection and Entry	79
22	Permit Availability	79
23	Severability Clause	79
24	Emergency Conditions	79
25	Permit Deviation	80
26	Operational Flexibility	81
27	Modifications	81
28	Ozone Depleting Substances	81
29	Prevention of Accidental Releases	83
30	Appeal Conditions for Operating Permit	84
Attachment A	Consent Decree dated May 2, 2013	85

## **SPECIAL CONDITIONS FOR OPERATING PERMIT**

### **1. PERMITTED ACTIVITIES**

In accordance with the provisions of 310 CMR 7.00:Appendix C and applicable rules and regulations, Solutia, Inc. (hereinafter "Permittee") is authorized to operate air emission units as shown in Tables 1(i) through 1(vi) and exempt, and insignificant activities as described in 310 CMR 7.00:Appendix C(5)(h) and (i). The units described in Tables 1(i) through 1(vi) are subject to the terms and conditions shown in Sections 4, 5, and 6 for each process area and to other terms and conditions as specified in this permit. Emissions from the exempt activities shall be included in the total facility emissions for the emission-based portion of the fee calculation described in 310 CMR 4.00 and this permit.

Each process area section contains Tables 3 through 9 which outline the air quality requirements and regulations to which the Permittee is subject or, in the case of Tables 7(i through vi), the "Requirements not Currently Applicable," to the process area.

### **DESCRIPTION OF FACILITY AND OPERATIONS**

The Permittee, a subsidiary of Eastman Chemical Company, owns and operates the Indian Orchard facility located at 730 Worcester St. in Springfield, Massachusetts. The Indian Orchard facility includes a variety of manufacturing operations, a research and development center with laboratories and pilot plant facilities, and offices, warehouses and other facility support functions. Products manufactured are: Butvar® resin, Butvar® Dispersions and Saflex® interlayer. The site is co-located with a separately operated company: INEOS Melamines to which Solutia provides contractual support.

This operating permit (OP) is organized into six process areas:

- (i) Site-Wide: Including the Permittee's Leak Detection and Repair (LDAR) program, greenhouse gas, opacity, and noise requirements applicable to the entire site.
- (ii) Powerhouse: Steam generation for electrical and process needs;
- (iii) South Butvar: Manufacturing of polyvinyl butyral resin, solvent-based;
- (iv) Saflex: Manufacturing of polyvinyl butyral sheets;
- (v) RB-9100: Manufacturing of polyvinyl butyral resin, water-based; and
- (vi) Miscellaneous processes: degreasing operations, miscellaneous operations requiring particulate control and all plant-wide emergency engine requirements.

The facility is subject to the Operating Permit and Compliance Program pursuant to 310 CMR 7.00: Appendix C(2) since it has the potential to emit nitrogen oxides (NOx) and volatile organic compounds (VOCs) in amounts that equal or exceed the thresholds set forth in 310 CMR 7.00 Appendix C(2)(a)1.

The facility is a “major stationary source” pursuant to the PSD regulations of 40 CFR § 52.21 since it emits NO<sub>x</sub>, carbon monoxide (CO) and particulate matter (PM) in amounts that are equal to or that exceed the thresholds set forth therein.

Solutia, Inc. is an existing major stationary source of VOCs and NO<sub>x</sub> pursuant to the Emission Offsets and Nonattainment Review regulations of 310 CMR 7.00: Appendix A because the existing facility has the potential to emit more than 50 tons per year of VOCs and more than 50 tons per year of NO<sub>x</sub>.

## **REGULATORY APPLICABILITY**

The South Butvar and RB-9100 processes at this facility are subject to 40 CFR Part 63 Subpart FFFF (MON MACT) which requires emission limitations and control devices for any Group 1<sup>1</sup> process vents, storage tanks, wastewater streams, transfer racks and heat exchangers.

- The South Butvar process area has Group 1 batch process vents, one Group 1 storage tank, Group 2 continuous process vents (distillation columns and pre-dissolver), additional Group 2 storage tanks, and Group 2 wastewater streams. This process area complies with 40 CFR 63 Subpart UU for equipment leak standards and with 40 CFR 63 Subpart SS for control devices and closed vent systems.
- The RB-9100 process area has Group 2 batch process vents and wastewater streams, so no Subpart FFFF emission limits apply. However, the RB-9100 complies with all applicable parts of Subpart FFFF. There are no fugitive components in HAP service<sup>2</sup> and so the RB-9100 process is not subject to the MON MACT equipment leak standards.
- Heat exchange systems are exempt from the MON MACT for both the South Butvar and the RB-9100 process areas and there are no applicable MON MACT transfer racks.

The Permittee has three natural gas-fired boilers and must comply with the applicable requirements of Part 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants (“NESHAP”) for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters. In addition, the Reasonably Available Control Technology (RACT) for Sources of Oxides of Nitrogen is applicable (310 CMR 7.19). The applicable requirements have been included in Section 4(ii) of this operating permit.

All of the facility’s emergency generators are subject to 40 CFR 63, Subpart ZZZZ (RICE MACT)). All but one engine meet the definition of existing engines based upon installation date for purposes of RICE MACT. One emergency generator was installed in 2009 and therefore is a new emergency generator for RICE MACT and also subject to 40 CFR 60, Subpart IIII (NSPS IIII) and the MassDEP Environmental Results Program (ERP) for Emergency Engines (310 CMR 7.26(42)).

Massachusetts amended 310 CMR 7.71: Reporting of Greenhouse Gas Emissions regulations on August 11, 2017. Pursuant to 310 CMR 7.71(3)(a)1., the Permittee is subject to the applicable

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<sup>1</sup> Group 1 and Group 2 batch and continuous process vents, storage tanks, transfer racks and wastewater streams are defined in 40 CFR §63.2550.

<sup>2</sup> *In organic HAP service* means that a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 5 percent by weight of total organic HAP as determined according to the provisions of 40 CFR §63.180(d).

requirements of this regulation. The applicable requirements of 310 CMR 7.71 have been included in this operating permit

As part of the facility's VOC RACT Compliance Plan per 310 CMR 7.18(20) (dated 6/20/1989), the Solutia site is subject to the monitoring, testing and recordkeeping procedures of the Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006 (40 CFR 60, Subpart VV). However, the Permittee has no process units which are subject to Subpart VV.

The site is subject to 40 CFR 82, Protection of Stratospheric Ozone.

Solutia has two emission units (EUs) that are subject to the Compliance Assurance Monitoring (CAM) rule<sup>3</sup>:

- EU 142 S04 – “South Butvar, React Polyvinyl Acetate to Polyvinyl Butyral.” The Permittee is over the major source threshold for VOC. VOCs are controlled using various chilled condensers;
- EU 142 S06 – “South Butvar, Resin Drying.” The Permittee is over the major source threshold for VOC. VOCs are controlled using a VOC wet scrubber or a VOC wet scrubber followed by a biofilter.

The CAM Plan for each emission unit was revised and submitted by the facility on October 29, 2009 and October 21, 2009, respectively. Both CAM plans have been incorporated into the OP Applicable Requirements and Special Terms and Conditions sections for the South Butvar process.

## **AMENDMENTS AND CHANGES TO THE OPERATING PERMIT**

The following OP Renewal Application amendments were submitted by the Permittee:

- Letter from the Permittee dated October 23, 2009 to update the South Butvar resin dryer CAM Plan. Updated monitoring and testing procedures for EU 142 S06 and 142 S11 were added to Table 4(iii).
- Transmittal #X233766<sup>4</sup>, dated June 14, 2010 to add newly established permit limit for minimum water flow to a Saflex process scrubber per Plan Approval #1-P-10-013 (6/9/2010);
- Transmittal #X237170<sup>4</sup>, dated February 28, 2011 to request removal of all references, requirements, and responsibilities related to the Resimenes Department. MassDEP issued on September 14, 2011 a Final Approval Amendment to Plan Approval #1-P-09-002 (5/26/2009) to eliminate the reference to the Resimene process which is now operated by

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<sup>3</sup> 40 CFR Part 64.

<sup>4</sup> This correspondence was submitted by the Permittee as an OP Minor Modification. However, the OP was in the renewal period and so the submittal was considered to be an amendment to the renewal application.

INEOS Melamines, LLC. The control device SSM Plan was also modified to require reporting consistent with the facility's Title V OP requirements;

- Transmittal #X240719<sup>4</sup>, dated October 28, 2011 to include conditions from Plan Approval #1-P-10-041 relative to storage tank condenser upgrades in the South Butvar process;
- Transmittal #X257305<sup>4</sup>, dated August 26, 2013 and September 5, 2013 to add the 40 CFR Part 63 Subpart FFFF requirements to the South Butvar scrubber (currently EU 142 S03, Stack #142 P644);
- Letter from the Permittee dated December 2, 2013 to change the fuel source of the #9 and #11 Boilers (EU 150 S01 and EU 150 S02, respectively) to natural gas only;
- Letter from the Permittee dated November 12, 2014: Notice of shut-down of the Gelva Multipolymer Emulsions (GME) and the Gelva Multipolymer Solutions (GMS) adhesive production processes. As a result, the two (2) adhesives sections were removed from the operating permit. In addition, a cold cleaning degreaser (GME/GMS, Bldg 103) was removed from Table 1 of the Miscellaneous emission unit section;
- Transmittal #X265785, dated April 22, 2015 for a "Bag-in-a-Box" (IO-BIAB) emission unit to be added to the Miscellaneous section of the OP;
- Transmittal #X267615, dated 9/25/2015 was received to incorporate new information related to the Saflex cyclone replacement, Powerhouse (Boiler #11) natural gas retrofit, and the ethyl acetate loading and tank condenser;
- Letter dated September 23, 2016. An OP Renewal Amendment to add emergency generators to the miscellaneous section of the operating permit;
- Letter dated April 21, 2017. An OP Renewal Amendment to add Plan Approval #WE-16-018 (X272440, dated 2/21/2017) to replace two (2) process vessels. This Limited Plan Approval (LPA) imposes conditions on the chiller system that are common to the process vessels being replaced as well as other existing equipment and emissions units that were not modified. For consistency and clarity, Solutia proposed that the Monitoring and Testing, Recordkeeping, Reporting and Special Conditions in Tables 3 through 6 of the LPA that specifically relate to the common chiller system supersede all previous conditions for Monitoring and Testing, Recordkeeping, Reporting and Special Conditions that specifically relate to the common chiller system.

The following changes were incorporated into this operating permit renewal:

- Pursuant to Section V.B., Paragraph 16 of the May 2, 2013 Consent Decree, the facility has developed a comprehensive "enhanced" Leak Detection and Repair (LDAR) program (ELP). In communications with MassDEP, the EPA Region 1 has cited 40 CFR §70.6(c)(3) which incorporates 40 CFR §70.5(c)(8), as basis to append the Consent Decree to this OP. Until its termination, the Consent Decree: *United States of America versus Solutia, Inc. and INEOS Melamines, LLC* dated May 2, 2013 will be appended as Attachment A of this Operating Permit.
- July 2014: A new cyclone was installed within the Saflex process area to replace three cyclones (EU 099 S002, stack numbers 091 P006, 091 P008, and 091 P066);

- Plan Approval #WE-14-013, X261407 dated 2/4/2015 was added to the Powerhouse section of the OP. This Plan Approval was for the conversion of Boiler #11 (EU 150 S03) from a coal-fired boiler to natural gas;
- Plan Approval #WE-15-008, X266367 dated August 19, 2015 was added to the South Butvar section of the OP (Section iii). The Plan Approval was for a new condenser to replace an original (EU 142 S008, stack #TP6 T600) as well as connect a vent line originating from loading docks #7 and #9 to the new condenser;
- A new requirement to record chiller flow rates approximately every 30 days, except during periods of a process shutdown, was added to Table 5(iii) of the South Butvar section;
- A new requirement was added to the South Butvar section Special Terms & Conditions table requiring a SSM Plan for Emission Units 142 S02, 142 S03, and 142 S15, including the two central chillers;
- The grouping of emission unit 142 S16 designation was eliminated and HAP batch process vent requirements were transferred to EU 142 S02 and EU 142 S03;
- An administrative change to correct the Plan Approval number referenced in the South Butvar section of the OP from 1-P-07-023 to 1-P-07-024;
- A change was made throughout the document to replace the “75/75/90 percent of the time” monitoring requirement with a more straightforward “95% of the time” monitoring requirement;
- Plan Approval #18-AQ01P-0000032 (4/17/2018) was added to the South Butvar section of the OP. This Plan Approval was for the construction and operation of four new process tanks which are described as Ward Tank and Heat Exchanger Corporation, jacketed stainless steel, vertical fixed roof tanks; and
- Various other administrative changes were made to correct typographical errors and omissions.

**2. EMISSION UNIT IDENTIFICATION**

See Tables 1(i) through 1 (vi) for emission unit identification.

**3. IDENTIFICATION OF EXEMPT ACTIVITIES**

The following are considered exempt activities in accordance with the criteria contained in 310 CMR 7.00: Appendix C(5)(h):

<b>Table 2</b>	
<b>Description of Current Exempt Activities</b>	<b>Reason</b>
The list of current exempt activities is contained in the Operating Permit application and shall be updated by the Permittee to reflect changes at the facility over the permit term. An up-to-date copy of exempt activities list shall be kept on-site at the facility and a copy shall be submitted to the MassDEP’s Regional Office. Emissions from these activities shall be reported on the annual emissions statement pursuant to 310 CMR 7.12.	310 CMR 7.00:Appendix C(5)(h)



**4(i). APPLICABLE REQUIREMENTS: Site-Wide**

EMISSION UNIT IDENTIFICATION: **Site-Wide**

The following emission units are subject to and regulated by this operating permit:

<b>Table 1(i) – Site-Wide</b>				
<b>Emission Unit (EU)</b>	<b>Description of Emission Unit</b>	<b>Stack #</b>	<b>EU Design Capacity</b>	<b>Pollution Control Device</b>
Site-Wide	Leak Detection and Repair (LDAR) valves, pumps, etc.	n/a	n/a	various
	All vents to atmosphere with opacity	various	various	various or none
	All vents to atmosphere with VOC and/or HAP pollutant emissions	various	various	various or none
	All vents to atmosphere with any pollutant emissions	various	various	various or none

**Table 1(i) Key:**

EU = Emission Unit  
 VOC = volatile organic compound  
 HAP = Hazardous Air Pollutants

PCD = Pollution Control Device

**Table 1(i) Footnote:** none

A. EMISSION LIMITS AND RESTRICTIONS: **Site-Wide** – The Permittee is subject to the emission limits/restrictions as contained in Table 3(i) below:

Table 3(i) – Site-Wide				
EU #	Fuel or Raw Material	Pollutant	Emission Limits / Restrictions	Applicable Regulation and/or Approval No.
Site-Wide	various	VOC and HAP	> 10,000 ppm reading constitutes a leak for subject valves, pumps, process drains, manhole covers, agitators, and flanges. All components that meet the definition of leaking will be repaired in accordance with the Applicable Regulations and/or MassDEP Approval.	Regulation 310 CMR 7.18(17)  MassDEP RACT Approval (6/20/1989)  Leak Detection and Repair Program Approval (4/14/1987)
		Greenhouse gas <sup>1</sup>	N/A	310 CMR 7.71 (state only)
	any	opacity	≤ 20%, except 20 to ≤ 40% for ≤ 2 minutes during any one hour	310 CMR 7.06(1)(b)

**Table 3(i) Key:**

EU = Emission Unit  
 ppm = parts per million  
 ≤ = less than or equal to  
 % = percent  
 CO<sub>2</sub> = Carbon Dioxide  
 N/A = not applicable  
 N<sub>2</sub>O = nitrous oxide  
 CH<sub>4</sub> = methane

CMR = Code of Massachusetts Regulations  
 MassDEP = Massachusetts Department of Environmental Protection  
 VOC = Volatile Organic Compounds  
 HAP (total) = total Hazardous Air Pollutants.  
 HAP (single) = maximum single Hazardous Air Pollutant  
 USEPA = United States Environmental Protection Agency  
 SF<sub>6</sub> = sulfur hexafluoride  
 RACT = Reasonably Available Control Technology

**Table 3(i) Foot Notes:**

- Greenhouse Gas means any chemical or physical substance that is emitted into the air and that the department may reasonably anticipate will cause or contribute to climate change including, but not limited to, CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, SF<sub>6</sub>, hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs)

B. COMPLIANCE DEMONSTRATION: **Site-Wide** – The Permittee is subject to the monitoring, testing, record-keeping, and reporting requirements as contained in Tables 4(i), 5(i), and 6(i) below and 310 CMR 7.00 Appendix C (9) and (10): and applicable requirements as contained in Table 3(i).

Table 4(i) Site-Wide	
EU #	Monitoring/Testing Requirements
Site-Wide	<p>Solutia shall</p> <ol style="list-style-type: none"> <li>1) In accordance with 310 CMR 7.18(17)(h), upon request of the MassDEP, perform or have performed tests to demonstrate compliance with 310 CMR 7.18(17) for applicable emission units. Testing shall be conducted in accordance with EPA Method 24 and/or Method 25 as described in CFR Title 40 Part 60, or by other methods approved by the MassDEP and EPA.</li> <li>2) In accordance with 310 CMR 7.13 <u>Stack Testing</u>, conduct stack testing, upon written request of the MassDEP, for any air contaminant for which the MassDEP has determined testing is necessary to ascertain compliance with the MassDEP's regulations or design approval provisos. All such testing shall be conducted in accordance with 310 CMR 7.13 (1) and (2), and in accordance with the applicable procedures specified in 40 CFR 60 Appendix A or other method if approved by the MassDEP and EPA.</li> <li>3) In accordance with 310 CMR 7.71(1) and Appendix C(9), the Permittee shall establish and maintain data systems or record keeping practices (e.g. fuel use records, SF<sub>6</sub> usage documentation, Continuous Emissions Monitoring System) for greenhouse gas emissions to ensure compliance with the reporting provisions of M.G.L. c. 21N, the Climate Protection and Green Economy Act, St. 2008, c. 298, § 6. (State Only Requirement)</li> </ol>

**Table 4(i) Key:**

EU = Emission Unit  
 % = percent

CMR = Code of Massachusetts Regulations  
 MassDEP = Massachusetts Department of Environmental Protection  
 USEPA = United States Environmental Protection Agency

**Table 4(i) Foot Notes:** none

Table 5(i) – Site-Wide	
EU #	Record-keeping Requirements
Site-Wide	<p>Solutia shall</p> <ol style="list-style-type: none"> <li>1) In accordance with 310 CMR 7.00, Appendix C(10), the Permittee shall maintain adequate records on-site to demonstrate compliance status with all operational, production, and emission limits contained in Tables 3(i) through 3(vi). Records shall also include the actual emissions of air contaminant(s) emitted for each calendar month and for each consecutive twelve-month period (current month plus prior eleven months). These records shall be compiled for the previous month no later than the last business day of the following month. An electronic version of the MassDEP approved record keeping form, in Microsoft Excel format, can be downloaded at: <a href="http://www.mass.gov/eea/agencies/massdep/air/approvals/limited-emissions-record-keeping-and-reporting.html#WorkbookforReportingOn-SiteRecordKeeping">http://www.mass.gov/eea/agencies/massdep/air/approvals/limited-emissions-record-keeping-and-reporting.html#WorkbookforReportingOn-SiteRecordKeeping</a>.</li> <li>2) The Permittee shall maintain records of monitoring and testing as required by Tables 4(i) through 4(vi).</li> <li>3) The Permittee shall maintain a record of routine maintenance activities performed on the approved EU(s). 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.</li> <li>4) The Permittee shall maintain a record of all malfunctions affecting air contaminant emission rates on the approved EU(s) and monitoring equipment. At a minimum, the records shall include: date</li> </ol>

<b>Table 5(i) – Site-Wide</b>	
<b>EU #</b>	<b>Record-keeping Requirements</b>
	<p>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.</p> <ol style="list-style-type: none"> <li>5) The Permittee shall maintain records to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration.</li> <li>6) In accordance with 310 CMR 7.12(3)(b), retain copies of Source Registration and other information supplied to the MassDEP to comply with 310 CMR 7.12 for five years from the date of submittal.</li> <li>7) In accordance with 310 CMR 7.00 Appendix C(10)(b), the Permittee shall maintain records of all monitoring data and supporting information on-site for a minimum of five (5) years.</li> <li>8) The Permittee shall make records, required through Plan Approval or by 310 CMR 7.00, Appendix C, available to MassDEP and USEPA personnel upon request.</li> </ol>

**Table 5(i) Key:**

EU = Emission Unit	CMR = Code of Massachusetts Regulations
% = percent	MassDEP = Massachusetts Department of Environmental Protection
PCD = Pollution Control Device	USEPA = United States Environmental Protection Agency
	SOMP = Standard Operating and Maintenance Procedure

**Table 5(i) Notes:** none

<b>Table 6(i) – Site-Wide</b>	
<b>EU #</b>	<b>Reporting Requirements</b>
Site-Wide	<p>Solutia shall</p> <ol style="list-style-type: none"> <li>1) The Permittee shall report annually 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.</li> <li>2) The Permittee shall submit to MassDEP all information required by each 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).</li> <li>3) In accordance with 310 CMR 7.00 Appendix C(10)(a), submit to the MassDEP any record relevant to this operating permit or to the emissions of any air contaminant from the facility within 30 days of the request by the MassDEP or EPA.</li> <li>4) In accordance with 310 CMR 7.13(1)(d), submit to the MassDEP any stack test results for any air contaminant obtained from stack testing required by the MassDEP within such time as agreed to in the approved test protocol.</li> <li>5) In accordance with 310 CMR 7.71(5), the Permittee shall electronically submit and certify by April 15th of each year a greenhouse gas emissions report to MassDEP. (State Only Requirement).</li> </ol>

**Table 6(i) Key:**

EU = Emission Unit	USEPA = United States Environmental Protection Agency
CMR = Code of Massachusetts Regulations	MassDEP = Massachusetts Department of Environmental Protection

**Table 6(i) Notes:** none

- C. GENERAL APPLICABLE REQUIREMENTS: **Site-Wide** – The Permittee shall comply with all general applicable requirements contained in 310 CMR 7.00 et. seq. and 310 CMR 8.00 et. seq., when subject.
- D. REQUIREMENTS NOT CURRENTLY APPLICABLE: **Site-Wide** – The Permittee is currently not subject to the following requirements:

Table 7(i) – Site-Wide	
Regulation	Reason
40 CFR 60 Subpart VV for LDAR	The site does not have a SOCM I process unit which has been constructed, modified, or reconstructed after January 5, 1981 and before November 7, 2006.
40 CFR 60 Subpart VVa for LDAR	The site does not have a SOCM I process unit which has been constructed, modified, or reconstructed after November 7, 2006.
40 CFR 61 Subpart FF for Benzene Waste Operations	The site does not generate any benzene-containing waste.

**Table 7(i) Key:**

CFR = Code of Federal Regulations  
LDAR = Leak Detection and Repair

**Table 7(i) Notes:** none.

**5(i). SPECIAL TERMS AND CONDITIONS: Site-Wide Processes**

The Permittee is subject to the following special provisions that are not contained in Site-Wide Tables 3(i), 4(i), 5(i), and 6(i):

<b>Table 8(i) – Site-Wide</b>	
<b>EU #</b>	<b>Special Terms and Conditions</b>
Site-Wide	<p>Solutia has indicated that it is subject to, and complying with, the requirements of 310 CMR 7.16, U Reduction of Single Occupant Commuter Vehicle Use. Solutia Inc. shall continue to comply with 310 CMR 7.16.</p> <p>Solutia has indicated that it is subject to the requirements of 42 U.S.C. 7401, §112(r) <u>Accidental Release Prevention Requirements: Risk Management under Clean Air Act 112(r)(7)</u>, and did submit to the USEPA the facility's contingency plan for responding to an accidental releases of regulated substances.</p>
	<p>Until its termination, the Consent Decree: United States of America versus Solutia, Inc. and INEOS Melamines, LLC, dated May 2, 2013, will be appended as Attachment A of this Operating Permit. Upon termination of this Consent Decree, the terms contained therein will have no further force or effect on the Permittee or the Facility covered by this Permit. Prior to termination, Permittee shall continue to report deviations from the Consent Decree as required by the Section V.N. of the Consent Decree and those deviations need not be included in the semiannual and annual reports required by General Conditions 10 and 25 of this Permit.</p>

**Table 8(i) Key:**

EU = Emission Unit  
U.S.C. = United States Code

CMR = Code of Massachusetts Regulations  
USEPA = United States Environmental Protection Agency

**Table 8(i) Notes:** none

**4(ii). APPLICABLE REQUIREMENTS: Powerhouse**

EMISSION UNIT IDENTIFICATION: **Powerhouse**

The following emission units are subject to and regulated by this operating permit:

<b>Table 1(ii) - Powerhouse</b>				
<b>Emission Unit (EU)</b>	<b>Description of Emission Unit</b>	<b>Stack #</b>	<b>EU Design Capacity</b>	<b>Pollution Control Device</b>
150 S01	Boiler #9 – Combustion Engineering Model #27VP-12W burning natural gas Continuous Oxygen Trim System	150 P001	112 MMBtu/hr	none
150 S02	Boiler #10 – Babcock & Wilcox Model EM117 burning natural gas Continuous Oxygen Trim System	Height above ground : 196 feet	196 MMBtu/hr	none
150 S03	Boiler #11 – Natural Gas-Fired Foster Wheeler Type S Spreader Stoker boiler (serial #6458), equipped with two Coen Variflame 720 low NO <sub>x</sub> burners. Continuous Oxygen Trim System		124.9 MMBtu/hr per burner	none

**Table 1(ii) Key:**

EU = Emission Unit  
 NO<sub>x</sub> = nitrogen oxide

PCD = Pollution Control Device  
 MMBtu/hr = million British thermal units per hour

**Table 1(ii) Footnote:** none

A. EMISSION LIMITS AND RESTRICTIONS: **Powerhouse** – The Permittee is subject to the emission limits/restrictions as contained in Table 3(ii) below:

Table 3(ii) – Powerhouse				
EU #	Fuel or Raw Material	Pollutant	Emission Limits <sup>(1, 3)</sup>	Applicable Regulation and/or Approval No.
150 S01 150 S02	Natural Gas	sulfur dioxide	1.2 lb SO <sub>2</sub> /MMBtu (calendar year avg.)	310 CMR 7.22 (Acid Rain)
		nitrogen oxides	≤0.20 lb/MMBtu of heat input (based on one (1) hour average)	MassDEP Approval #1-E-94-106 (Emission Control Plan dated 10/28/1996)
		carbon monoxide	≤ 200 ppmvd @3% O <sub>2</sub> , based on one (1) hour average	310 CMR 7.19(4)(a)5.
		smoke	< No. 1 of the Chart <sup>(2)</sup> , except No. 1 to < No. 2 of the Chart for ≤ 6 minutes during any one hour	310 CMR 7.06(1)(a)
		opacity	≤ 20%, except 20 to ≤ 40% for ≤ 2 minutes during any one hour	310 CMR 7.06(1)(b)
150 S01	Natural Gas	particulate matter	0.12 lb/MMBtu	310 CMR 7.02(8)(d) TABLE 4
150 S02	Natural Gas	particulate matter	0.10 lb/MMBtu	MassDEP Approval #PV-76-C-001 (8/6/1976)
150 S03	Natural Gas	sulfur dioxide	≤0.0006 lb SO <sub>2</sub> /MMBtu of heat input	MassDEP Approval #WE-14-013 (2/4/2015)
		VOCs	≤ 0.00539 lb/MMBtu of heat input	
		particulate matter (including PM10 and PM2.5)	≤0.00745 lb/MMBtu of heat input	
		nitrogen oxides	≤0.20 lb/MMBtu of heat input (based on one (1) hour average)	
		carbon monoxide	≤ 200 ppmvd @3% O <sub>2</sub> , based on one (1) hour average	
		smoke	< No. 1 of the Chart <sup>(2)</sup> , except No. 1 to < No. 2 of the Chart for ≤ 6 minutes during any one hour	
		opacity	≤ 20%, except 20 to ≤ 40% for ≤ 2 minutes during any one hour	



**Table 3(ii) Key:**

EU = Emission Unit

O<sub>2</sub> = oxygen

SO<sub>2</sub> = Sulfur Dioxide

VOC = Volatile Organic Compounds

% = percent

≤ = less than or equal to

PM<sub>10</sub> = Particulate Matter less than or equal to 10 microns in diameter

PM<sub>2.5</sub> = Particulate Matter less than or equal to 2.5 microns in diameter

lb/MMBtu = pound per million British thermal units

CMR = Code of Massachusetts Regulations

ppmvd @ 3% O<sub>2</sub> = parts per million by volume, corrected to 3 percent oxygen

**Table 3(ii) Foot Notes:**

- (1) Compliance with the VOC, PM, including PM10 and PM2.5, and SO<sub>2</sub> emission limits shall be based on the results of an applicable USEPA Reference Test Method.
- (2) Chart means the Ringelmann Scale for grading the density of smoke, as published by the United States Bureau of Mines and as referred to in the Bureau of Mines Information Circular No. 8333, or any smoke inspection guide approved by MassDEP.
- (3) The ppmvd and lb/MMBtu emission rates are based on a 1-hour block average.

- B. COMPLIANCE DEMONSTRATION: **Powerhouse** – The Permittee is subject to the monitoring, testing, record-keeping, and reporting requirements as contained in Tables 4(ii), 5(ii), and 6(ii) below and 310 CMR 7.00 Appendix C (9) and (10): and applicable requirements as contained in Table 3(ii).

<b>Table 4(ii) – Powerhouse</b>	
<b>EU #</b>	<b>Monitoring/Testing Requirements</b>
150 S01 150 S02	<p>Solutia shall</p> <p>(1) In accordance with MassDEP Approval #1-E-94-106 (October 28, 1996), comply with the annual NOx emission stack testing requirements contained within all applicable sections of 310 CMR 7.19(13), including 310 CMR 7.19(13)(c) "<u>Stack Testing</u>."</p>
150 S01 150 S02 150 S03	<p>Solutia shall</p> <p>(2) In accordance with 310 CMR 7.04(4)(a), inspect and maintain each boiler in accordance with the manufacturer's recommendations and test each boiler in accordance with the manufacturer's recommendations for efficient operation (consistent with the concurrent requirements to comply with the NOx RACT emission limits) at least once each calendar year.</p> <p>(3) In accordance with 40 CFR 63.7510(e), the Permittee shall complete an initial tune-up by following the procedures described in 40 CFR 63.7540(a)(10)(i) through (vi) no later than the compliance date specified in 40 CFR 63.7495, except as specified in 40 CFR 63.7510(j).</p> <p>(4) In accordance with 40 CFR 63.7540(a)(12), the Permittee shall conduct a 5-year tune-up of each EU to demonstrate continuous compliance as listed below and as specified in 40 CFR 63.7540(a)(10)(i) through (v).</p> <ul style="list-style-type: none"> <li>a. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;</li> <li>b. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;</li> <li>c. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection;</li> <li>d. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO<sub>x</sub> requirement to which the unit is subject; and</li> <li>e. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.</li> </ul> <p>(5) In accordance with 40 CFR 63.7540(a)(12), if an oxygen trim system is utilized on a unit without emission standards to reduce the tune-up frequency to once every 5 years, the Permittee shall set the oxygen level no lower than the oxygen concentration measured during the most recent tune-up.</p> <p>(6) In accordance with 40 CFR 63.7540(a)(13), if EU 150 S03 is not operating on the required date for the annual tune-up, the tune-up shall be conducted within 30 calendar days of startup.</p> <p>(7) In accordance with 40 CFR 63.7510(e), the Permittee shall complete the one-time energy assessment specified in Table 3 of 40 CFR Part 63 Subpart DDDDD, no later than the compliance date specified in 40 CFR 63.7495, except as specified in 40 CFR 63.7510(j).</p> <p>(8) In accordance with Table 3, requirement #4 a. through h. of 40 CFR Part 63, Subpart DDDDD, each EU shall have a one-time energy assessment performed by a qualified energy assessor. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the</p>

<b>Table 4(ii) – Powerhouse</b>	
<b>EU #</b>	<b>Monitoring/Testing Requirements</b>
150 S01 150 S02 150 S03	<p>energy assessment requirements in this table, satisfies the energy assessment requirement. A facility that operates under an energy management program compatible with ISO 50001 that includes the affected units also satisfies the energy assessment requirement. The energy assessment must include the following with extent of the evaluation for items a. to e. appropriate for the on-site technical hours listed in 40 CFR 63.7575:</p> <ul style="list-style-type: none"> <li>a. A visual inspection of the boiler or process heater system.</li> <li>b. An evaluation of operating characteristics of the boiler or process heater systems, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints.</li> <li>c. An inventory of major energy use systems consuming energy from affected boilers and process heaters and which are under the control of the boiler/process heater owner/operator.</li> <li>d. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage.</li> <li>e. A review of the facility's energy management practices and provide recommendations for improvements consistent with the definition of energy management practices, if identified.</li> <li>f. A list of cost-effective energy conservation measures that are within the facility's control.</li> <li>g. A list of the energy savings potential of the energy conservation measures identified.</li> <li>h. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.</li> </ul> <p>(9) Each EU is subject to and shall comply with all applicable monitoring and testing requirements contained in the National Emission Standards for Hazardous Air Pollutants (“NESHAP”) for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR Part 63, Subpart DDDDD.</p>
150 S03	<p>(10) In accordance with 310 CMR 7.19(13)(a)2. and MassDEP Approval #WE-14-013 (February 4, 2015) , compliance with the NO<sub>x</sub> and CO emission standards shall be demonstrated by performing an annual stack test as specified in 310 CMR 7.19(13)(c).</p> <p>(11) In accordance with 310 CMR 7.19(13)(c)3. and MassDEP Approval #WE-14-013 (February 4, 2015)., the Permittee shall conduct annual compliance stack testing for NO<sub>x</sub> and CO in accordance with procedures set forth in Appendix A of 40 CFR Part 60 or another method approved by the Department and EPA.</p>
Site-Wide	<b>See Site-Wide Testing / Monitoring Requirements</b>

**Table 4(ii) Key:**

- |  |   |
|--|---|
| <p>EU = Emission Unit<br/>         CO = Carbon Monoxide<br/>         NO<sub>x</sub> = Nitrogen Oxides<br/>         % = percent<br/>         CMR = Code of Massachusetts Regulations<br/>         CFR = Code of Federal Regulations</p> | <p>MassDEP = Massachusetts Department of Environmental Protection<br/>         ASTM = American Society for Testing and Materials<br/>         USEPA = United States Environmental Protection Agency<br/>         RACT = Reasonably Available Control Technology<br/>         ISO = International Organization for Standardization</p> |
|--|---|

**Table 4(ii) Foot Notes:** none

**Table 5(ii) – Powerhouse**

EU #	Record-keeping Requirements
150 S01 150 S02	(1) In accordance with MassDEP Approval #1-E-94-106 (October 28, 1996), comply with the NO <sub>x</sub> emission recordkeeping and reporting requirements contained within all applicable sections of 310 CMR 7.19(13), including 310 CMR 7.19(13)(d) " <u>Recordkeeping and Reporting.</u> "
150 S01 150 S02 150 S03	<p>Solutia shall</p> <p>(2) In accordance with 310 CMR 7.04(4)(a), the results of fuel utilization facility inspection, maintenance, and testing and the date upon which it was performed shall be recorded and posted conspicuously on or near the boiler.</p> <p>(3) In accordance with 40 CFR 63.7540(a)(10)(vi)(A) and (B), the Permittee shall maintain on-site and submit, if requested by the Administrator, a 5-year report containing the following information:</p> <ul style="list-style-type: none"> <li>a. The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of each EU; and</li> <li>b. A description of any corrective actions taken as a part of the tune-up.</li> </ul> <p>(4) In accordance with 40 CFR 63.7555(a)(1) and (2), the Permittee shall keep the following records:</p> <ul style="list-style-type: none"> <li>a. A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that you submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv).</li> <li>b. Records of performance tests, or other compliance demonstrations and performance evaluations as required in §63.10(b)(2)(viii).</li> </ul> <p>(5) In accordance with 40 CFR 63.7560(a), the Permittee shall maintain records in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1).</p> <p>(6) In accordance with 40 CFR 63.7560(b) and as specified in 40 CFR 63.10(b)(1), the Permittee shall keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.</p> <p>(7) In accordance with 40 CFR 63.7560(c), the Permittee shall keep each record on site, or they must be accessible from on site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1). The Permittee can keep the records off site for the remaining 3 years.</p> <p>(8) Each EU is subject to and shall comply with all applicable recordkeeping requirements contained in the National Emission Standards for Hazardous Air Pollutants (“NESHAP”) for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR Part 63, Subpart DDDDD.</p>

<b>Table 5(ii) – Powerhouse</b>	
<b>EU #</b>	<b>Record-keeping Requirements</b>
150 S03	<p>(9) In accordance with 310 CMR 7.19(13)(d)3. and MassDEP Approval #WE-14-013 (February 4, 2015), the Permittee shall measure and record on a daily basis: type fuel(s) burned each day, heat content of each fuel, the total heating value of the fuel consumed for each day, and the allowable emission rate.</p> <p>(10) In accordance with 310 CMR 7.19(13)(d)8. and MassDEP Approval #WE-14-013 (February 4, 2015), the Permittee shall maintain all records required by 310 CMR 7.19(13)(d) for a period of five years in a permanently bound log book or any other form acceptable to the Department including computer retained and generated data.</p> <p>(11) Pursuant to 40 CFR 52.21(r)(6)(i) and MassDEP Approval #WE-14-013 (February 4, 2015), before beginning actual construction of EU 150 S03, the Permittee shall document and maintain a record of the following information;</p> <ol style="list-style-type: none"> <li>a. A description of the project;</li> <li>b. Identification of the emission unit whose emissions of a regulated New Source Review pollutant could be affected by the project; and</li> <li>c. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded under 40 CFR 52.21 (b)(41)(ii)(c) of this section and an explanation for why such amount was excluded, and any netting calculations, if applicable.</li> </ol> <p>(12) Pursuant to 40 CFR 52.21(r)(6)(iii) and MassDEP Approval #WE-14-013 (February 4, 2015), the Permittee shall monitor the carbon monoxide emissions that could increase as a result of the project and that is emitted by any emissions unit identified in 40 CFR 52.21 (r)(6)(i)(b); and calculate and maintain a record of the carbon monoxide annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change.</p>
Site-Wide	<b>See Site-Wide Record-Keeping Requirements</b>

**Table 5(ii) Key:**

EU = Emission Unit	MassDEP = Massachusetts Department of Environmental Protection
CO = Carbon Monoxide	NSR = New Source Review
NO <sub>x</sub> = Nitrogen Oxides	USEPA = United States Environmental Protection Agency
CMR = Code of Massachusetts Regulations	CFR = Code of Federal Regulations

**Table 5(ii) Notes:** none

<b>Table 6(ii) – Powerhouse</b>	
<b>EU #</b>	<b>Reporting Requirements</b>
150 S01 150 S02	<p>Solutia shall</p> <ol style="list-style-type: none"> <li>1) In accordance with MassDEP Approval #1-E-94-106 (October 28, 1996), comply with the NO<sub>x</sub> emission reporting requirements contained within all applicable sections of 310 CMR 7.19(13), including 310 CMR 7.19(13)(d) "<u>Recordkeeping and Reporting</u>".</li> <li>2) In accordance with MassDEP Approval #1-E-94-106 (October 28, 1996):       <ol style="list-style-type: none"> <li>a. submit a pretest protocol for the required emission test (NO<sub>x</sub> and CO) for review and written MassDEP approval at least 60 days prior to the anticipated date of testing. Include in the pretest protocol a description of sampling point locations, sampling equipment, sampling analytical procedures, and the operating conditions for the required testing, and</li> <li>b. submit the emission test report for the review and written MassDEP approval within 60 days of the completion of the compliance stack testing.</li> </ol> </li> <li>3) In accordance with 310 CMR 7.22(2), in the event that the emission limitation required in 310</li> </ol>

<b>Table 6(ii) – Powerhouse</b>	
<b>EU #</b>	<b>Reporting Requirements</b>
150 S01 150 S02	<p>CMR 7.22(1) is exceeded, the Permittee shall submit to the MassDEP for approval an emission control plan detailing the method and schedule by which compliance with the emission limitation set forth in 310 CMR 7.22(1) shall be achieved and maintained.</p>
150 S01 150 S02 150 S03	<p><b>4)</b> In accordance with 310 CMR 7.19(13)(d)9., the Permittee shall submit compliance records within ten days of written request by the Department or USEPA.</p> <p><b>5)</b> In accordance with 40 CFR 63.7550(a), the Permittee shall submit each report in Table 9 of 40 CFR Part 63 Subpart DDDDD that applies to each EU.</p> <p><b>6)</b> In accordance with 40 CFR 63.7550(b), the Permittee shall submit a 5-year compliance report according to the requirements in 40 CFR 63.7550(b)(1) through (4) and specified below.</p> <ul style="list-style-type: none"> <li>a. The first compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in §63.7495 and ending on December 31 within 5 years after the compliance date that is specified for your source in §63.7495.</li> <li>b. The first 5-year compliance report must be postmarked or submitted no later than January 31. Each subsequent annual compliance report must cover the applicable 1-year period from January 1 to December 31.</li> <li>c. Each subsequent 5-year compliance report must cover the applicable 5-year period from January 1 to December 31.</li> </ul> <p><b>7)</b> In accordance with 40 CFR 63.7550(c)(5)(i) through (iii), (xiv) and (xvii), the 5-year compliance report shall contain the following information.</p> <ul style="list-style-type: none"> <li>a. Company and Facility name and address.</li> <li>b. Process unit information, emissions limitations, and operating parameter limitations.</li> <li>c. Date of report and beginning and ending dates of the reporting period.</li> <li>d. Include the date of the most recent tune-up for each unit subject to only the requirement to conduct a 5-year tune-up according to §63.7540(a)(12). Include the date of the most recent burner inspection if it was not done on a 5-year period and was delayed until the next scheduled or unscheduled unit shutdown.</li> <li>e. For each instance of startup or shutdown include the information required to be monitored, collected, or recorded according to the requirements of §63.7555(d).</li> </ul> <p><b>8)</b> In accordance with 40 CFR 63.7550(h)(3), the Permittee shall submit all reports required by Table 9 of 40 CFR Part 63 Subpart DDDDD electronically using the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through the EPA’s Central Data Exchange (CDX) (<a href="http://www.epa.gov/cdx">www.epa.gov/cdx</a>). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due you must submit the report to the Administrator at the appropriate address listed in 40 CFR 63.13. At the discretion of the Administrator, you must also submit these reports, to the Administrator in the format specified by the Administrator.</p> <p><b>9)</b> Each EU is subject to and shall comply with all applicable reporting requirements contained in the National Emission Standards for Hazardous Air Pollutants (“NESHAP”) for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR Part 63, Subpart DDDDD.</p>
150 S03	<p>Solutia shall</p> <p><b>10)</b> In accordance with 310 CMR 7.19(13)(c)1. and 2. and MassDEP Approval #WE-14-013 (February 4, 2015), the Permittee shall submit a pretest protocol for the required emission test for review and Department approval at least 60 days prior to the anticipated date of test. The pretest protocol shall include a description of sampling point locations, sampling equipment, sampling and analytical procedures, and the operating conditions for the required testing.</p> <p><b>11)</b> In accordance with MassDEP Approval #WE-14-013 (February 4, 2015), the Permittee shall submit to MassDEP a notification of the anticipated test date a minimum of 30 days prior to conducting the stack emission test as required by Table 4(ii) Monitoring and Testing Requirements, Provision #10.</p> <p><b>12)</b> In accordance with 310 CMR 7.19(13)(c)6. and MassDEP Approval #WE-14-013 (February 4,</p>

<b>Table 6(ii) – Powerhouse</b>	
<b>EU #</b>	<b>Reporting Requirements</b>
150 S03	<p>2015), the Permittee shall submit the emission test report for the review and written MassDEP approval within 60 days of the completion of the compliance stack testing.</p> <p><b>13)</b> The emission test report shall contain the results of the testing, a description of the test methods and procedures actually used in the performance of the tests, copies of all process data collected during the testing, copies of all raw test data and copies of all calculations generated during data analysis. The results of the testing shall be expressed in units which allow for a direct comparison, and determination of compliance, with the air contaminant emission limitations contained herein.</p> <p><b>14)</b> The Permittee shall submit to MassDEP after commencing operation, in a format acceptable to MassDEP, a semi-annual report postmarked by no later than January 30<sup>th</sup> of each year (containing the records generated for the immediately preceding July through December six month period) and July 30<sup>th</sup> of each year (containing the records generated for the immediately-preceding January through June six month period), which minimally contains for the prior 6 consecutive calendar month period the following information:</p> <ul style="list-style-type: none"> <li>a. the total amount (in units of million British thermal units) of natural gas fuel used in the boiler each month and in each 12 consecutive month period.</li> <li>b. the calculated nitrogen oxides, carbon monoxide, volatile organic compounds, sulfur dioxide and carbon dioxide equivalent emissions from the boiler during each month and in each 12 consecutive month period. Associated calculations and all supporting data may be required upon request by MassDEP.</li> </ul> <p><b>15)</b> Pursuant to 40 CFR 52.21(r)(6)(v), the Permittee shall submit a report to MassDEP if the annual CO emissions, in tons per year, from EU 150 S03, exceed the baseline actual emissions (as documented and maintained pursuant to 40 CFR 52.21(r)(6)(i)(c)), by a significant amount (as defined in 40 CFR 52.21(b)(23) of this section) for that regulated NSR pollutant, and if such emissions differ from the preconstruction projection as documented and maintained pursuant to 40 CFR 52.21 (r)(6)(i)(c). Such report shall be submitted to MassDEP within 60 days after the end of such year. The report shall contain the following:</p> <ul style="list-style-type: none"> <li>a. The name, address and telephone number of the major stationary source;</li> <li>b. The annual emissions as calculated pursuant to 40 CFR 52.21 (r)(6)(iii); and</li> <li>c. Any other information that the Permittee wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection).</li> </ul> <p><b>16)</b> The Permittee shall notify the Western Regional Office of MassDEP, BAW Compliance &amp; Enforcement Chief by telephone: 413-755-2131, email: saadi.motamedi@state.ma.us, or fax : 413-784-1149, as soon as possible, but no later than three (3) business days after discovery of an exceedance(s) of Table 3(ii) requirements. A written report shall be submitted to Compliance &amp; Enforcement Chief at MassDEP within ten (10) 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).</p>
Site-Wide	<b>See Site-Wide Reporting Requirements</b>

**Table 6(ii) Key:**

- |   |  |
|---|--|
| EU = Emission Unit                      | MassDEP = Massachusetts Department of Environmental Protection |
| CO = Carbon Monoxide                    | NSR = New Source Review  |
| NO <sub>x</sub> = Nitrogen Oxides       | USEPA = United States Environmental Protection Agency          |
| CMR = Code of Massachusetts Regulations | CFR = Code of Federal Regulations                              |
| BAW = Bureau of Air and Waste           |  |

**Table 6(ii) Notes:** none.

- C. GENERAL APPLICABLE REQUIREMENTS: **Powerhouse** – The Permittee shall comply with all general applicable requirements contained in 310 CMR 7.00 et. seq. and 310 CMR 8.00 et. seq., when subject.
- D. REQUIREMENTS NOT CURRENTLY APPLICABLE: **Powerhouse** – The Permittee is currently not subject to the following requirements:

<b>Table 7(ii) - Powerhouse</b>	
<b>Regulation</b>	<b>Reason</b>
40 CFR <sup>1</sup> 60 Subpart D	Boilers 9, 10, & 11 each have a heat input rate of less than 250 Million Btu/hr
40 CFR <sup>1</sup> 60 Subpart Da	Boilers 9, 10, & 11 are not electric utility steam generating units.
40 CFR <sup>1</sup> 60 Subpart Db	Boilers 9, 10, & 11 were not constructed, modified, or reconstructed after June 19, 1984. Per August 8, 2014 LPA application, the Boiler 11 retrofit project did not meet the definition of construction (not a new source), modification (no increase of a regulated pollutant – SO <sub>2</sub> , PM and NO <sub>x</sub> ) or reconstruction (the fixed capital cost of the new components are less than 50% of the fixed capital cost that would be required to construct a comparable entirely new facility).
40 CFR <sup>1</sup> 60 Subpart Dc	Boilers 9, 10, & 11 have a heat input rate greater than 100 Million Btu/hr.

**Table 7(ii) Notes:**

1 - CFR = Code of Federal Regulations



**5(ii). SPECIAL TERM AND CONDITIONS: Powerhouse**

The Permittee is subject to the following special provisions that are not contained in Powerhouse Table 3(ii), 4(ii), 5(ii), and 6(ii):

<b>Table 8(ii) – Powerhouse</b>	
<b>EU #</b>	<b>Special Terms and Conditions</b>
150 S01 150 S02 150 S03	Solutia shall <ol style="list-style-type: none"> <li>1) In accordance with 40 CFR 63.7495(b), each EU shall comply with the National Emission Standards for Hazardous Air Pollutants (“NESHAP”) for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR Part 63, Subpart DDDDD no later than January 31, 2016.</li> <li>2) In accordance with 40 CFR 63.7500(a)(1), each EU shall meet the applicable work practice standard in Table 3 of Subpart DDDDD.</li> <li>3) In accordance with 40 CFR 63.7500(a)(3), at all times, the Permittee shall operate and maintain each EU in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.</li> <li>4) In accordance with 40 CFR 63.7540(a), the Permittee shall demonstrate continuous compliance with the work practice standards in Table 3 of 40 CFR Part 63 Subpart DDDDD.</li> <li>5) In accordance with 40 CFR 63 Subpart DDDDD, including the General Conditions referenced in Table 10 of that Subpart, comply with all applicable Subpart DDDDD provisions in accordance with the applicable timelines.</li> </ol>
Site-Wide	<b>See Site-Wide Reporting Requirements</b>

**Table 8(ii) Key:**

EU = Emission Unit

CMR = Code of Massachusetts Regulations

MassDEP = Massachusetts Department of Environmental Protection

CFR = Code of Federal Regulations

**Table 8(ii) Notes:** none.

**4(iii). APPLICABLE REQUIREMENTS: South Butvar**

EMISSION UNIT IDENTIFICATION: **South Butvar**

The following emission units are subject to and regulated by this operating permit:

Table 1(iii)– South Butvar				
Emission Unit (EU)	Description of Emission Unit	Stack #	EU Design Capacity	Pollution Control Device
142 S01	<u>Vinyl Acetate Distillation &amp; Storage</u> Refined Vinyl Acetate Storage Tank (Group 2 storage tank)	142 P636	5,000 gal.	chilled condenser
142 S02	<u>Polymerization of Vinyl Acetate:</u>			
	Polymerization Reactor #1 (Group 1 batch process vent)	142 P662	-	water cooled “process” condenser & wet scrubber
	Polymerization Reactor #2 (Group 1 batch process vent)	142 P663		
	Two (2) PK Collector Tanks (Group 1 batch process vents)	142 P644	-	Croll Reynolds Wet Scrubber
	Bead Slurry Storage #1 (Group 1 batch process vents)	142 P632	-	None: emissions vented back to polymerization reactors
Bead Slurry Storage #2 (Group 1 batch process vents)	142 P633			
142 S03	<u>Dissolving &amp; Storage of Polyvinyl Acetate:</u>			
	Butvar Gelva Storage Tank #1 (Group 1 batch process vent)	142 P630	-	water cooled “process” condenser & wet scrubber
	Butvar Gelva Storage Tank #2 (Group 1 batch process vent)	142 P630		
Butvar Gelva pre-dissolver (Group 2 continuous process vent)	142 P629	-	none	
142 S04	<u>React Polyvinyl Acetate to Polyvinyl Butyral</u>			
	Hydrolysis Reactor #1	142 P656	-	chilled condenser
	Hydrolysis Reactor #2	142 P901		chilled condenser
	Hydrolysis Reactor #3	142 P658		chilled condenser
	Hydrolysis Reactor #4	142 P813		chilled condenser
PVA Slurry Tank #1	142 P625	chilled condenser		

Table 1(iii)– South Butvar

Emission Unit (EU)	Description of Emission Unit	Stack #	EU Design Capacity	Pollution Control Device
142 S04	PVA Slurry Tank #2 PVA Slurry Tank #3 Butyraldehyde Head Tank Acetal Reactor #1 Acetal Reactor #2 Acetal Reactor #3 Acetal Varnish Storage Tank #1 Acetal Varnish Storage Tank #2	142 P654 142 P902 142 P649 142 P652 142 P653 142 P814 142 P626 142 P627	-	chilled condenser chilled condenser chilled condenser chilled condenser chilled condenser chilled condenser chilled condenser chilled condenser
142 S05	<u>Resin Washing &amp; Stabilization</u> Wash Tank #1 Wash Tank #2 CC-Tank Recycle Tank	142 P650 142 P651 142 P634 142 P628	- - - -	none none none none
142 S05a 142 S05b 142 S05c 142 S05d	<u>4- Ward Tank and Heat Exchanger Corp, vertical fixed roof process tanks:</u>  <u>Stabilization Tank #1 (EU 142 S05a)</u> <u>Stabilization Tank #2 (EU 142 S05b)</u> <u>Stabilization Tank #3 (EU 142 S05c)</u> <u>Stabilization Tank #4 (EU 142 S05d)</u>	142 P646 142 P647 142 P648 142 P815	6,700 gal. 6,700 gal. 6,700 gal. 6,700 gal.	none none none none
142 S06	<u>Resin Drying</u> Tube Drier	140 P619	-	baghouse, packed bed scrubber, & biofilter
142 S07	<u>Resin Transfer, Storage &amp; Blending</u> Off-Grade Hopper Blender Blender Transfer Resin conveying Resin conveying Resin conveying Resin conveying Resin conveying	114 P398 114 P399 114 P400 140 P620 140 P623 140 P816 140 P817 114 P396	-	cyclone/baghouse cyclone/baghouse cyclone/baghouse cyclone/baghouse cyclone/baghouse cyclone/baghouse cyclone/baghouse cyclone/baghouse
142 S08	<u>Recovery Area Storage</u> A-Crude Storage Tank #1 A-Crude Storage Tank #2	TP7 T602 TP7 T625	10,000 gal. 30,000 gal.	chilled condenser chilled condenser

**Table 1(iii)– South Butvar**

Emission Unit (EU)	Description of Emission Unit	Stack #	EU Design Capacity	Pollution Control Device
142 S08	A-Crude Storage Tank #3	TP7 T626	30,000 gal.	chilled condenser
	B-Crude Storage Tank #1	TP7 T603	50,000 gal.	chilled condenser
	B-Crude Storage Tank #2	TP7 T604	50,000 gal.	chilled condenser
	A-Alcohol Storage Tank	TP7 T605	30,000 gal.	chilled condenser
	B-Alcohol Storage Tank #1	TP7 T608	30,000 gal.	chilled condenser
	B-Alcohol Storage Tank #2	TP7 T609	30,000 gal.	chilled condenser
	B-Heads Storage Tank	TP7 T614	10,000 gal.	chilled condenser
	Bulk Ethyl Acetate Storage Tank	TP6 T600	150,000 gal.	chilled condenser
	Ethyl Acetate Day Tank	TP7 T610	10,000 gal.	chilled condenser
	Ethyl Acetate Off-Grade Storage Tank	TP7 T627	30,000 gal.	chilled condenser
	Butyraldehyde Storage Tank	TP7 T607	35,000 gal.	chilled condenser
	Ethanol (SD-29) Storage Tank	TP7 T601	75,000 gal.	chilled condenser
142 S09	<u>Tank Pit 5 Ethyl Acetate Storage</u> TP5 (west) Ethyl Acetate Storage Tank	TP5 T616	100,000 gal.	chilled condenser
142 S10	<u>Distillation Column for Recovery of Reactant</u> B-Column (Group 2 continuous process vent)	142 P640	-	chilled condenser
142 S11	<u>Distillation Column</u> D-Column (Group 2 continuous process vent)	142 P638	-	packed bed scrubber & biofilter
142 S12	<u>Distillation Columns: Solvent/Byproduct Recovery</u> PE-Column	142 P214	-	none
	C-Column	142 P639	-	none
	A-Column	142 P641	-	none
	(Group 2 continuous process vents)			
142 S13	<u>Ethyl Acetate Loading</u> Ethyl Acetate Loading – Dock 7 Ethyl Acetate Loading – Dock 9	TP6 T600	350 gal/min	vent line to Doyle & Roth Model #VS126106H shell & tube chilled condenser
142 S14	<u>Filtration of Polyvinyl Butyral Solution</u> Three (3) Plate & Frame Filter Presses	142 P826	-	none
142 S15	<u>Raw Material Storage Tank</u> Storage Tank – Inhibited Vinyl Acetate (Group 1 storage tank)	TP5 T051	200,000 gal.	packed bed scrubber & chilled condenser

Table 1(iii) Key:

EU = Emission Unit

PCD = Pollution Control Device

Table 1(iii) Footnote: none.

A. EMISSION LIMITS AND RESTRICTIONS: **South Butvar** – The Permittee is subject to the emission limits/restrictions as contained in Table 3(iii) below:

Table 3(iii) – South Butvar				
EU #	Fuel or Raw Material	Pollutant	Emission Limits / Restrictions	Applicable Regulation and/or Approval No.
142S01	monomer	VOC, HAP	Chiller coolant temp. @ chiller supply/outlet $\leq 29^{\circ}\text{F}$	MassDEP Approval #1-P-07-024 (08/28/2007) MassDEP Plan Approval #WE-16-018 (2/21/2017)
142S02 Stack # 142 P662 and 142 P663	monomer	VOC, HAP	cooling water supply temperature $< 95^{\circ}\text{F}$ scrubber flow rate $\geq 5.0$ gallons/minute  reduce collective uncontrolled organic HAP emissions from the sum of all batch process vents within the process by $\geq 98\%$ by weight by scrubber and condenser	MassDEP RACT Approval (6/20/1989); 310 CMR 7.18(17); MassDEP Approval #1-P-07-024 (08/28/2007); MassDEP Approval #1-P-09-002 (05/26/2009 and 9/14/2011)  40 CFR 63 Subpart FFFF (Group 1 Batch Process Vents);
142S02 Stack # 142 P644	monomer	VOC, HAP	Scrubber flow rate $\geq 0.75$ gallons/minute  reduce collective uncontrolled organic HAP emissions from the sum of all batch process vents within the process by $\geq 98\%$ by weight by scrubber and condenser	MassDEP RACT Approval (6/20/1989) 310 CMR 7.18(17) MassDEP Approval #1-P-09-002 (05/26/2009 and 9/14/2011)  40 CFR 63 Subpart FFFF (Group 1 Batch Process Vents)

**Table 3(iii) – South Butvar**

EU #	Fuel or Raw Material	Pollutant	Emission Limits / Restrictions	Applicable Regulation and/or Approval No.
142S03 Stack # 142 P630	polymer, solvent	VOC, HAP	cooling water supply temperature < 95°F scrubber flow rate ≥ 2.0 gallons/minute  reduce collective uncontrolled organic HAP emissions from the sum of all batch process vents within the process by ≥ 98% by weight by scrubber and condenser	MassDEP RACT Approval (6/20/1989); 310 CMR 7.18(17); MassDEP Approval #1-P-07-024 (08/28/2007); MassDEP Approval #1-P-09-002 (05/26/2009 and 9/14/2011).  40 CFR 63 Subpart FFFF (Group 1 Batch Process Vents and Group 2 Continuous Process Vent (pre-dissolver));
142S04	polymer, solvent, reactant	VOC	Chiller coolant temp. @ chiller supply/outlet ≤ 29°F	MassDEP Approval #1-P-07-024 (08/28/2007); MassDEP Plan Approval #WE-16-018 (2/21/2017). 40 CFR 64, Compliance Assurance Monitoring
142S04 Stack # 142 P901	Polymer, solvent, reactant	VOC  Total HAP	Condenser coolant flow ≥ 35 gal/min Chiller coolant temp. @ chiller supply/outlet ≤ 29°F Design control efficiency of 99%  VOC 0.924 lbVOC/batch 1.0 TPY 0.2 TPM  Total HAP 0.003 lbtotHAP/batch 0.002 TPY 0.001 TPM	MassDEP Plan Approval #WE-16-018, Transmittal #X272440 (2/21/2017)
142S04 Stack # 142 P902	Polymer, solvent, reactant	VOC  Total HAP	Condenser coolant flow ≥ 20 gal/min Chiller coolant temp. at chiller supply/outlet ≤ 29°F Design control efficiency of 95%  VOC 0.745 lbVOC/batch 2.0 TPY 0.4 TPM	MassDEP Plan Approval #WE-16-018, Transmittal #X272440 (2/21/2017)

Table 3(iii) – South Butvar				
EU #	Fuel or Raw Material	Pollutant	Emission Limits / Restrictions	Applicable Regulation and/or Approval No.
142S04  Stack # 142 P902			Total HAP 0.001 lbtotalHAP/batch 0.001 TPY 0.001 TPM	
142S05	polymer, water	VOC	none	MassDEP RACT Approval (6/20/1989); 310 CMR 7.18(17).
142 S05a 142 S05b 142 S05c 142 S05d	polymer, water	VOC	The materials contained in each of the stabilization tanks shall not contain any HAPs.  ≤ 1.086 pounds of VOC emitted per batch per stabilization tank.	MassDEP Approval #18-AQ01P-0000032 (4/17/2018)
142S06	polymer	VOC  PM	<u>Scrubber alone:</u> ≥ 95% reduction for ethanol ≥ 70% reduction for ethyl acetate & butyraldehyde  <u>Scrubber &amp; Biofilter:</u> ≥ 85% VOC reduction	MassDEP RACT Approval (6/20/1989); 310 CMR 7.18(17); MassDEP Approval #PV-85-IF-012 (10/29/1985; amended 8/25/1987); MassDEP Approval #1-P-92-006 (5/26/1992); MassDEP Approval #1-P-01-068 (12/19/2001); MassDEP Approval #1-P-03-008 (3/25/2003); MassDEP Approval #1-P-09-0-02 (05/26/2009 and 9/14/2011); 40 CFR 64, Compliance Assurance Monitoring
142S07	polymer	PM	no visible emissions	MassDEP Approvals #PV-75-IF-012 (2/5/1976), #PV-76-IF-005 (11/1/1976), #PV-79-IF-005 (4/20/1979), and #PV-79-IF-015 (10/5/1979) MassDEP Approval #1-P-09-002 (05/26/2009 and 9/14/2011)
142S08	solvents	VOC	Chiller coolant temp. @ chiller supply/outlet ≤ 29°F	MassDEP Approval #1-P-07-024 (08/28/2007) MassDEP Approval #WE-15-008 (8/19/2015) MassDEP Plan Approval #WE-16-018, Transmittal #X272440 (2/21/2017)
142 S09	off-grade ethyl acetate	VOC	Chiller coolant temp. @ chiller supply/outlet ≤ 29°F	MassDEP Approval #1-P-07-024 (08/28/2007) MassDEP Plan Approval #WE-16-018, Transmittal #X272440 (2/21/2017)
142S10	reactant	VOC	Chiller coolant temp. @ chiller supply/outlet ≤ 29°F	MassDEP Approval #1-P-07-024 (08/28/2007) MassDEP Approval Transmittal #46118 (1/15/1993)

**Table 3(iii) – South Butvar**

EU #	Fuel or Raw Material	Pollutant	Emission Limits / Restrictions	Applicable Regulation and/or Approval No.
142S10				MassDEP Plan Approval #1-P-96-054 (12/20/1996) MassDEP Plan Approval #WE-16-018, Transmittal #X272440 (2/21/2017)
142S11	solvent	VOC	≥ 95% scrubber efficiency (alone) for ethanol ≥ 70% scrubber efficiency (alone) for ethyl acetate & butyraldehyde ≥ 85% reduction by scrubber & biofilter	MassDEP Approval PV-85-IF-012 (10/29/1985; amended 8/25/1987) MassDEP Approval #1-P-92-006 (5/26/1992) Transmittal #46119 (12/18/1992; amended 10/13/1993) MassDEP Approval #1-P-03-008 (3/25/2003) MassDEP Approval #1-P-09-002 (05/26/2009 and 9/14/2011)
142S12	solvent	VOC	none	MassDEP RACT Approval (6/20/1989)
142S13	solvent	VOC	Chiller coolant temp. @ chiller supply/outlet ≤ 29°F	MassDEP RACT Approval (6/20/1989) MassDEP Approval #WE-15-008 (8/19/2015) MassDEP Plan Approval #WE-16-018, Transmittal #X272440 (2/21/2017)
142S14	solvent	VOC	none	MassDEP RACT Approval (6/20/1989)
142 S15	solvent	VOC, HAP	Chiller coolant temp. @ chiller supply/outlet ≤ 29°F  Reduce total storage tank HAP emissions by 95 % or more by weight by using packed bed scrubber and chilled condenser	MassDEP Approval #1-P-07-024 (08/28/2007) MassDEP Approval #1-P-09-002 (05/26/2009 and 9/14/2011) MassDEP Plan Approval #WE-16-018, Transmittal #X272440 (2/21/2017)  40 CFR 63 Subpart FFFF (Group 1 Storage Tank)
142S08 (stack #TP6 T600) & 142S13 (stack #TP6 T600)	ethyl acetate	VOC	coolant flow rate ≥ 24.8 gallons per minute <u>ethyl acetate throughput:</u> ≤ 45,620,000 lbs/yr ≤ 9,124,000 lbs/mo. <u>total of standing, working and loading VOC losses:</u> <sup>2</sup> 1.91 TPY 0.38 TPM	MassDEP Approval #WE-15-008 (8/19/2015)



**Table 3(iii) Key:**

EU = Emission Unit  
PM = Particulate matter  
% = percent  
lbs/yr = pounds per year  
lbs/mo = pounds per month  
°F = degrees Fahrenheit  
≤ = less than or equal to  
CFR = Code of Federal Regulations

≥ = greater than or equal to  
VOC = Volatile Organic Compounds  
HAP (total) = total Hazardous Air Pollutants.  
TPM = tons per month  
TPY = tons per consecutive 12-month period <sup>1</sup>  
RACT = Reasonably Available Control Technology  
MassDEP = Massachusetts Department of Environmental Protection  
CMR = Code of Massachusetts Regulations

**Table 3(iii) Foot Notes:**

- 1 - To calculate the amount of a consecutive 12 month rolling period take the current calendar month amount and add it to the previous 11 calendar months total amount.
- 2 - Does not include fugitive emissions of 1.24 TPY/0.25 TPM.

B. COMPLIANCE DEMONSTRATION: **South Butvar** – The Permittee is subject to the monitoring, testing, record-keeping, and reporting requirements as contained in Tables 4(iii), 5(iii), and 6(iii) below and 310 CMR 7.00 Appendix C (9) and (10): and applicable requirements as contained in Table 3(iii).

<b>Table 4(iii) – South Butvar</b>	
<b>EU #</b>	<b>Monitoring/Testing Requirements</b>
142S01 142S04 142S08 142S09 142S10 142S13 142S15	<p>Solutia shall</p> <ol style="list-style-type: none"> <li>1) In accordance with MassDEP Plan Approval #WE-16-018 Trans. #X272440 (2/21/17), install and maintain instrumentation to continuously monitor the circulating coolant temperature at the chiller supply/outlet. The temperature (°F), for purposes of demonstrating compliance with Table 1(iii) Operational Limits, shall be averaged on an hourly block basis.</li> <li>2) In accordance with MassDEP Plan Approval #WE-16-018 (X272440, 2/21/17), operate and maintain an alarm system that will give an audible and visual indication to the control room operator whenever the circulating coolant temperature measured at either chiller supply/outlet is &gt; 29°F. The alarm system shall operate at all times that the process equipment operates except for periods of calibration checks, zero and span adjustments, preventative maintenance, and malfunction(s). The control room operator will take immediate corrective action if the circulating coolant temperature taken at the chiller supply/outlet is &gt; 29°F.</li> <li>3) In accordance with MassDEP Plan Approval #WE-16-018 Trans. #X272440 (2/21/17), monitor and record the circulating coolant temperature at the chiller supply/outlet for at least 95% of the hours per calendar quarter that the process equipment operates, except for periods of calibration checks, zero and span adjustments, and preventative maintenance.</li> <li>4) In accordance with MassDEP Plan Approval #WE-16-018 (X272440, 2/21/17), operate and maintain a no-flow alarm system for the circulating coolant supply flow. The no flow alarm system shall operate at all times that the process equipment operates except for periods of calibration checks, zero and span adjustments, preventative maintenance, and malfunction(s). The alarm must give an audible and visual indication to the control room operator of a no-flow condition.</li> <li>5) In accordance with MassDEP Approval Trans. #46118 (1/15/1993), install flow monitoring devices on each condenser to allow for measurement of circulating coolant flow through each condenser.</li> <li>6) In accordance with MassDEP Approval Trans. #46118 (1/15/1993), MassDEP Plan Approval #WE-16-018 Trans. #X272440 (2/21/17) and 310 CMR 7.00 Appendix C (9)(b)(2), monitor the circulating coolant flow through each condenser at least once per calendar month, and adjust the flow as needed to achieve the flows documented in MassDEP Approvals #PV-86-IF-004 (4/29/1986), #PV-87-IF-023 (3/22/1988), 1-P-10-041 (10/19/2011), and WE-15-008 (8/19/2015) and WE-16-018</li> <li>7) In accordance with MassDEP Plan Approval #WE-16-018 Trans. #X272440 (2/21/17), test the chiller coolant temperature alarm and the coolant no flow alarm monthly.</li> </ol>
142S02	<p>Solutia shall</p> <ol style="list-style-type: none"> <li>8) In accordance with MassDEP Approval #1-P-07-024 (08/28/2007) and 40 CFR §63.2460, ensure that the scrubber water flows for Polymerization Reactors No. 1 &amp; No. 2 and the PK Collector Tanks (EU 142 S02; stacks 142 P662, 142 P663, &amp; 142 P644) are monitored continuously and the flows are set at a minimum of 5 gallons per minute (gpm) each (0.75 gpm for vent 142 P644).</li> <li>9) In accordance with MassDEP Approval #1-P-07-024 (08/28/2007), ensure that the low/no water flow alarm for the scrubbers, with the exception of the scrubber for vent #142 P644 which requires an absolute minimum water flow rate of 0.75 gpm, will trigger at no less than 80% of the minimum scrubber water flow rate.</li> <li>10) In accordance with MassDEP Approval #1-P-07-024 (08/28/2007), ensure that the scrubber water low/no flow alarms are operating at all times the scrubbers are operating, except for periods of calibration checks, zero and span adjustments, preventive maintenance, and malfunctions (s).</li> </ol>

<b>Table 4(iii) – South Butvar</b>	
<b>EU #</b>	<b>Monitoring/Testing Requirements</b>
142S02	<p><b>11)</b> In accordance with MassDEP Approval #1-P-07-024 (08/28/2007), obtain valid data from the low/no flow alarm monitors for at least 95% of the hours per calendar quarter that the process equipment operates, except for periods of calibration checks, zero and span adjustments, and preventive maintenance.</p> <p><b>12)</b> In accordance with MassDEP Approval #1-P-07-024 (08/28/2007), test scrubber water flow alarms for proper operation at least once per calendar month.</p> <p><b>13)</b> Follow the provisions of 40 CFR §63.2450(k), Continuous Parameter Monitoring, as applicable.</p>
142S02 (All Stacks)  142S03 (Stack# 142 P630)	<p>Solutia shall</p> <p><b>14)</b> In accordance with the 310 CMR 7.18(17) and the MassDEP RACT Approval (6/20/1989), continuously monitor and record the cooling water supply temperature.</p> <p><b>15)</b> Follow the operation and maintenance of continuous parameter monitoring systems provisions of 40 CFR 63.996(c).</p> <p><b>16)</b> In accordance with 40 CFR 63.990(a), the scrubber(s) shall operate at all times when emissions are vented to them to meet the weight-percent emission reduction requirements of Subpart FFFF.</p> <p><b>17)</b> In accordance with 310 CMR 7.00 Appendix C(9)(b)2, operate the cooling water supply temperature monitor at all times during process operation, except for periods of calibration checks, zero and span adjustments, preventive maintenance, and malfunction(s).</p> <p><b>18)</b> Solutia shall obtain valid data from this monitor for at least 95% of the hours per calendar quarter that the process equipment operates, except for periods of calibration checks, zero and span adjustments, and preventive maintenance.</p> <p><b>19)</b> Follow the operating requirements of 40 CFR 63.983(a)(1)-(3) and the monitoring/inspection requirements of 63.983(b)(1)-(4).</p>
142S03 (Stack # 142 P630)	<p>Solutia shall</p> <p><b>20)</b> In accordance with MassDEP Approval #1-P-07-024 (08/28/2007) and 40 CFR §63.2460, ensure that the scrubber water flow for the shared scrubber serving Butvar Gelva Storage Tank No. 1 &amp; No. 2 (EU 142 S03; existing stack 142 P630) is monitored continuously and the flow is set at a minimum of 2 gallons per minute.</p> <p><b>21)</b> In accordance with MassDEP Approval #1-P-07-024 (08/28/2007), ensure that the low/no water flow alarm for the scrubbers will trigger at no less than 80% of the minimum scrubber water flow rate (Minimum set point of alarm is 1.6 gpm).</p> <p><b>22)</b> In accordance with MassDEP Approval #1-P-07-024 (08/28/2007), ensure that the scrubber water low/no flow alarms are operating at all times the scrubbers are operating, except for periods of calibration checks, zero and span adjustments, preventive maintenance, and malfunctions (s).</p> <p><b>23)</b> In accordance with MassDEP Approval #1-P-07-024 (08/28/2007), obtain valid data from the low/no flow alarm monitors for at least 95% of the hours per calendar quarter that the process equipment operates, except for periods of calibration checks, zero and span adjustments, and preventive maintenance.</p> <p><b>24)</b> In accordance with MassDEP Approval #1-P-07-024 (08/28/2007), test scrubber water flow alarms for proper operation at least once per calendar month.</p> <p><b>25)</b> Follow the provisions of 40 CFR §63.2450(k), Continuous Parameter Monitoring, as applicable.</p>
142S04  (Stack # 142 P901)	<p><b>26)</b> In accordance with MassDEP Plan Approval #WE-16-018 Trans. #X272440 (2/21/17), monitor on a monthly basis the number of batches processed through the Hydrolysis Reactor #2 to document compliance with the emission limitations contained in Table 1(iii) above. The number of batches may be calculated based on the number of PK batches.</p>
142S04  (Stack # 142 P902)	<p><b>27)</b> In accordance with MassDEP Plan Approval #WE-16-018 Trans. #X272440 (2/21/17), monitor on a monthly basis the number of batches processed through the PVA Slurry Tank #3 to document compliance with the emission limitations contained in Table 1(iii) above. The number of batches may be calculated based on the number of PK batches.</p>

<b>Table 4(iii) – South Butvar</b>	
<b>EU #</b>	<b>Monitoring/Testing Requirements</b>
142S04  (Stack #s 142 P901 142 P902)	<p><b>28)</b> In accordance with MassDEP Plan Approval #WE-16-018 Trans. #X272440 (2/21/17), for compliance testing purposes, construct each condenser so as to accommodate the emissions testing requirements of 310 CMR 7.13.</p>
142 S05a 142 S05b 142 S05c 142 S05d	<p><b>29)</b> In accordance with MassDEP Plan Approval #18-AQ01P-0000032 (#WE-18-003) dated 4/17/18, the Permittee shall equip each stabilization tank with instrumentation that is capable of continuously monitoring the liquid level of the stabilization tank.</p> <p><b>30)</b> In accordance with MassDEP Plan Approval #18-AQ01P-0000032 (#WE-18-003) dated 4/17/18, the Permittee shall equip each stabilization tank with visible and audible alarms for high liquid levels.</p> <p><b>31)</b> In accordance with MassDEP Plan Approval #18-AQ01P-0000032 (#WE-18-003) dated 4/17/18, the visible and audible alarms for high liquid levels shall be activated when the liquid level of a stabilization tank reaches approximately 91.5% of the tank capacity or one minute prior to overflow if the rate of fill is constant.</p> <p><b>32)</b> In accordance with MassDEP Plan Approval #18-AQ01P-0000032 (#WE-18-003) dated 4/17/18, the Permittee shall perform daily audible, visual and olfactory (AVO) inspections for each stabilization tank to look for abnormal conditions and leaks. No inspections are necessary when the stabilization tanks are empty.</p>
142S06 142S11	<p>Solutia shall, <u>if operating under MassDEP RACT Approval (6/20/1989), MassDEP Approval # PV-85-IF-012 (10/29/1985; amended 8/25/1987), and 310 CMR 7.18(17),</u></p> <p><b>33)</b> Continuously monitor and record the scrubber water flow.</p> <p><b>34)</b> Test the scrubber water flow alarm for proper operation at least once per calendar month.</p> <p><b>35)</b> In accordance with 310 CMR 7.00 Appendix C(9)(b)2, operate the scrubber water flow monitor at all times the scrubber is operating, except for periods of calibration checks, zero and span adjustments, preventive maintenance, and malfunction(s).</p> <p><b>36)</b> In accordance with 40 CFR 64.3, the Compliance Assurance Monitoring, Monitor Design Criteria<sup>1</sup>, operate and maintain an alarm system that will give an audible and visual indication to the control room operator whenever the scrubber water flow <math>\leq</math> 215 gallons per minute.</p> <p>Solutia shall obtain valid data from this monitor for at least 95% of the hours per calendar quarter that the process equipment operates, except for periods of calibration checks, zero and span adjustments, and preventive maintenance.</p>
142S06 142S11	<p>Solutia shall, <u>if operating under MassDEP Approval #1-P-92-006 (5/26/1992),</u></p> <p><b>37)</b> Monitor the inlet flow to each cell of the biofilter at least once per calendar month to ensure the flow is <math>\leq</math> 8670 acfm.</p> <p><b>38)</b> Monitor at least once per calendar month the pressure drop across each biofilter cell.</p> <p><b>39)</b> Monitor, at least once per calendar year, the active depth of compost in any cell of the biofilter, as indicated by the permanent rulers on the biofilter walls to ensure depth does not decrease to less than 2 feet 11 inches, unless the MassDEP approves of a change in writing.</p> <p><b>40)</b> Conduct performance tests, as detailed below, whenever the biomedica in any cell is completely replaced.</p> <ol style="list-style-type: none"> <li>a. Smoke test the biofilter air distribution system prior to placement of compost material and provide advance notice of this test to the MassDEP.</li> <li>b. Perform two sets of tests to determine the flow distribution and VOC destruction efficiency; the first within 10 days after startup and the second within 10 days after the end of the debugging / acclimation period. Testing shall minimally entail sampling for flow and VOC concentration at no fewer than three points at the outlet of each cell, with concurrent sampling for flow and VOC concentration at the scrubber inlet and biofilter inlet.</li> <li>c. Submit the original field data sheets from the test no later than one business day following data generation, and submit summarized results for MassDEP review no later than 21 days thereafter.</li> </ol>

**Table 4(iii) – South Butvar**

EU #	Monitoring/Testing Requirements
142S06 142S11	<p><b>41)</b> In accordance with MassDEP Approval #1-P-03-008 (3/25/2003), ensure that annual testing (at least once per calendar year) of VOC destruction efficiency of the biofilter is conducted, unless another time period is granted by the MassDEP in writing.</p> <p>The testing shall utilize EPA Method 25A and be conducted as described in Appendix C of the SOP/SMP Manual. At least 15 sample points on the biofilter surface should be monitored during each testing event.</p> <p><b>42)</b> In accordance with 40 CFR 64.3, the Compliance Assurance Monitoring, Monitor Design Criteria<sup>1</sup>, perform abbreviated testing of the VOC destruction efficiency of the biofilter on a quarterly basis. The annual testing (Provision 41) will qualify as one quarter’s testing. Conduct the abbreviated testing as detailed below:</p> <ol style="list-style-type: none"> <li>a. The average exhaust VOC concentration will be compared to the tube dryer exhaust concentration during routine dryer operation.</li> <li>b. The three abbreviated tests will be performed using a portable flame ionization detector (FID).</li> <li>c. At least two points on each of the three biofilter cells will be monitored to demonstrate average removal of greater than 85% efficiency.</li> </ol>
142S06 142S11	<p>Solutia shall, <u>if operating under MassDEP Approval #1-P-92-006 (5/26/1992),</u></p> <p><b>43)</b> In accordance with MassDEP Approval #1-P-03-008 (3/25/2003), ensure that annual testing (at least once per calendar year) of the biofilter compost for moisture content is performed. Samples from at least three points on the biofilter should be analyzed utilizing Method 2540G from <u>Standard Methods for Examination of Water and Wastewater</u>, APHA-AWWA-WPCF, 17<sup>th</sup> Edition, 1989 (or equivalent).</p> <p><b>44)</b> In accordance with MassDEP Approval #1-P-03-008 (3/25/2003), ensure that annual testing (at least once per calendar year) of the biofilter compost for pH is performed. Samples from at least three points on the biofilter should be analyzed utilizing Method 9045 from <u>Test Methods for Evaluating Solid Waste: Physical / Chemical Methods</u>, EPA SW-846, 1986 (or equivalent).</p> <p><b>45)</b> In accordance with MassDEP Approval #1-P-03-008 (3/25/2003), ensure that annual testing (at least once per calendar year) of the biofilter compost for organic content is performed. Samples from at least three points on the biofilter should be analyzed utilizing Method 2540G from <u>Standard Methods for Examination of Water and Wastewater</u>, APHA-AWWA-WPCF, 17<sup>th</sup> Edition, 1989 (or equivalent).</p>
142S08 & 142S13 (both routed to stack #TP6 T600)	<p>Solutia shall:</p> <p><b>46)</b> Monitor on a monthly basis the throughput of ethyl acetate (pounds per consecutive 12-month period and pounds per calendar month).</p> <p><b>47)</b> Install and maintain instrumentation to periodically monitor the coolant flow rate to the chilled condenser.</p>

<b>Table 4(iii) – South Butvar</b>	
<b>EU #</b>	<b>Monitoring/Testing Requirements</b>
142 S15	<p>Solutia shall</p> <p><b>48)</b> In accordance with 40 CFR §63.2470, monitor and record the water flow to the scrubber to ensure it is <math>\geq</math> 5.0 gpm (or the optimized water flow rate yielding <math>\geq</math> 95% scrubbing efficiency) during loading operations.</p> <p><b>49)</b> In accordance with MassDEP Approval Trans. #50851 (10/30/1992), ensure that the water flow alarm for the scrubber is set to activate when water flow is less than one-half of the optimized scrubber water flow rate (the flow rate that results in <math>\geq</math> 90% removal efficiency)<sup>2</sup>.</p> <p><b>50)</b> In accordance with 310 CMR 7.00 Appendix C(9)(b)2, operate the water flow monitor at all times during loadings operation, except for periods of calibration checks, zero and span adjustments, preventive maintenance, and malfunction(s).</p> <p><b>51)</b> Solutia shall obtain valid data from the water flow monitor for at least 95% of the hours per calendar quarter that the process equipment operates, except for periods of calibration checks, zero and span adjustments, and preventive maintenance.</p> <p><b>52)</b> In accordance with 40 CFR §63.985(c)(2), monitor the parameters specified in the Notification of Compliance Status or in the operating permit application or amendment.</p>
all applicable components in VOC service	<p>Solutia shall</p> <p><b>53)</b> In accordance with MassDEP RACT Leak Detection and Repair Program Approval (4/14/1987), MassDEP RACT Approval (6/20/1989), and 310 CMR 7.00 Appendix C(9)(b)2., implement leak detection and repair procedures according to the 40 CFR 60 Subpart VV, "<i>Standards of Performance for New Stationary Sources; Synthetic Organic Chemical Manufacturing Industry; Equipment Leaks of VOC</i>" dated October 18, 1983 for all applicable components in VOC service. In cases where the specific equipment components with the potential to leak VOC from this process are not addressed in this document, the CTG document "<i>Control of Volatile Organic Compound Leaks from Synthetic Organic Chemical and Polymer Manufacturing Equipment</i>" dated March 1984 and past MassDEP policy will serve to determine what procedures will be implemented, except that the more frequent leak checking intervals and quicker repair turnarounds specified in the former document will apply.</p>
all applicable components in HAP service	<p>Solutia shall</p> <p><b>54)</b> In accordance with MassDEP Approval #1-P-07-024 (08/28/2007) and 40 CFR §63.2480 and Subpart UU, monitor for leaks for all applicable equipment that contains or contacts 5 weight percent HAP or greater and operates 300 hours per year or more.</p>
Site-Wide	<b>See Site-Wide Testing / Monitoring Requirements</b>

**Table 4(iii) Key:**

- |                                   |   |
|-----------------------------------|---|
| EU = Emission Unit                | gpm = gallon per minute   |
| °F = degrees Fahrenheit           | acfm = actual cubic feet per minute                                     |
| % = percent                       | SOP/SMP = Standard Operating Procedures/Standard Maintenance Procedures |
| VOC = Volatile Organic Compounds  | CMR = Code of Massachusetts Regulations                                 |
| $\geq$ = greater than or equal to | RACT = Reasonably Available Control Technology                          |
| $\leq$ = less than or equal to    | MassDEP = Massachusetts Department of Environmental Protection          |
| CFR = Code of Federal Regulations | CAM = Compliance Assurance Monitoring                                   |

**Table 4(iii) Foot Notes:**

1 - Revision No. 1 to the South Butvar Resin Dryer CAM Plan, dated October 16, 2009.

2 – MassDEP Approval Trans. #50851 pre-dates 40 CFR 63, Subpart FFFF. Compliance with the 90% removal efficiency requirement will be ensured through Table 3(iii) Emission Limits/Restrictions above and Provision 26 of Table 8(iii).

**Table 5(iii) – South Butvar**

EU #	Record-keeping Requirements
142S01 142S04 142S08 142S09 142S10 142S13 142S15	<p>Solutia shall:</p> <ol style="list-style-type: none"> <li>1) In accordance with MassDEP Plan Approval #WE-16-018 Trans. #X272440 (2/21/17), keep records of the coolant temperature (°F), averaged on an hourly block period, monitored at the chiller supply/outlet.</li> <li>2) In accordance with MassDEP Plan Approval #WE-16-018 Trans. #X272440 (2/21/17), keep a log of all temperature and no flow alarms for the chiller unit coolant supply (including alarm testing), the date, time and cause of the alarm, corrective actions taken, and when the chiller unit resumed normal operation.</li> <li>3) In accordance with MassDEP Plan Approval #WE-16-018 Trans. #X272440 (2/21/17), record the circulating coolant flow rate through each chilled condenser approximately every 30 days, except during periods of a process shut down.</li> </ol>
142S02	<p>Solutia shall:</p> <ol style="list-style-type: none"> <li>4) In accordance with MassDEP Approval #1-P-07-024 (08/28/2007) and 40 CFR 63 Subpart FFFF (Misc. Organic Chemical Mfg.), maintain records of scrubber water flow, scrubber water low/no flow alarms, and water flow monitoring downtime.</li> </ol>
142S02 (All Stacks)  142S03 (Stack # 142 P630)	<p>Solutia shall</p> <ol style="list-style-type: none"> <li>5) In accordance with MassDEP Approval #1-P-07-024 (08/28/2007; amended 11/20/2007) obtain valid data from the low/no flow alarm monitor for at least 95% of the hours per calendar quarter that the process equipment operates, except for periods of calibration checks, zero and span adjustments, and preventive maintenance.</li> <li>6) In accordance with the MassDEP RACT Approval (6/20/1989), continuously record the cooling tower water supply temperature.</li> <li>7) In accordance with the MassDEP RACT Approval (6/20/1989) and 310 CMR 7.00 Appendix C(10)(b), maintain records of cooling tower water supply temperature monitor downtime.</li> <li>8) In accordance with MassDEP Approval #1-P-07-024 (08/28/2007) and 40 CFR 63 Subpart FFFF (Misc. Organic Chemical Mfg.), maintain records of scrubber water flow, scrubber water low/no flow alarms, and water flow monitoring downtime.</li> <li>9) In accordance with MassDEP Approval #1-P-07-024 (08/28/2007) and 40 CFR 63, Subpart FFFF, maintain records as specified in 40 CFR §63.2525.</li> <li>10) In accordance with MassDEP Approval #1-P-07-024 (08/28/2007) and 40 CFR 63, Subpart FFFF, maintain a Start-up, Shut-down and Malfunction plan in accordance to 40 CFR 63.6(e)(3) and maintain associated records.</li> <li>11) In accordance with MassDEP Approval #1-P-07-024 (08/28/2007) and 40 CFR 63, Subpart FFFF, maintain records as specified in 40 CFR 63.10(b).</li> <li>12) Follow the applicable Recordkeeping requirements of 40 CFR 63.998 including 63.998(b), 63.998(c)(1), and 63.998(d).</li> </ol>
142S04  (Stack # 142 P901)	<ol style="list-style-type: none"> <li>13) 12) In accordance with MassDEP Plan Approval #WE-16-018 Trans. #X272440 (2/21/17), record on a monthly basis the number of batches processed through the Hydrolysis Reactor #2. The number of batches may be calculated based on the number of PK batches</li> </ol>
142S04  (Stack # 142 P902)	<ol style="list-style-type: none"> <li>14) 13) In accordance with MassDEP Plan Approval #WE-16-018 Trans. #X272440 (2/21/17), record on a monthly basis the number of batches processed through the PVA Slurry Tank #3. The number of batches may be calculated based on the number of PK batches.</li> </ol>
142 S05a 142 S05b 142 S05c 142 S05d	<ol style="list-style-type: none"> <li>15) In accordance with MassDEP Plan Approval #18-AQ01P-0000032 (#WE-18-003) dated 4/17/18, the Permittee shall record on a monthly basis the number of batches processed through each stabilization tank.</li> <li>16) In accordance with MassDEP Plan Approval #18-AQ01P-0000032 (#WE-18-003) dated 4/17/18, the Permittee shall maintain comprehensive and accurate weekly records of each stabilization tank inspection as required by Table 3, Condition #4 therein. The weekly record shall include the</li> </ol>



**Table 5(iii) – South Butvar**

EU #	Record-keeping Requirements
142 S05a 142 S05b 142 S05c 142 S05d	<p>following information:</p> <ul style="list-style-type: none"> <li>a. the date and time the inspection was performed on each stabilization tank;</li> <li>b. the results of the inspection;</li> <li>c. the corrective actions taken, if applicable;</li> <li>d. the date and time corrective actions were initiated and completed; and</li> <li>e. if a stabilization tank was empty for an entire calendar day, record the date(s) during which the stabilization tank was empty in lieu of recording the required inspection information specified in a. through d. above.</li> </ul> <p><b>17)</b> In accordance with MassDEP Plan Approval #18-AQ01P-0000032 (#WE-18-003) dated 4/17/18, the Permittee shall keep a log of all high liquid level alarms, including alarm testing, which shall include the following information:</p> <ul style="list-style-type: none"> <li>a. the date, time and cause of each alarm;</li> <li>b. corrective actions taken for each alarm;</li> <li>c. the date and time corrective actions were initiated and completed; and</li> <li>d. the date and time when the stabilization tank resumed normal operation after each alarm.</li> </ul> <p><b>18)</b> In accordance with MassDEP Plan Approval #18-AQ01P-0000032 (#WE-18-003) dated 4/17/18, the Permittee shall maintain adequate records on-site to demonstrate compliance with all operational, production, and emission limits contained in Table 2 of the referenced Plan Approval. Records shall also include the actual emissions of air contaminant(s) emitted for each calendar month and for each consecutive twelve-month period (current month plus prior eleven months). These records shall be compiled no later than the 15th day following each month.</p>
142S06 142S11	<p>Solutia shall, <u>if operating under MassDEP RACT Approval (6/20/1989), MassDEP Approval #PV-85-IF-012 (10/29/1985; amended 8/25/1987), and 310 CMR 7.18(17),</u></p> <p><b>19)</b> Maintain a log for each scrubber alarm, the date, time, and cause of the alarm, corrective measures taken, and when the scrubber was operating normally again. Additionally Solutia shall submit to the MassDEP documentation of the amounts of VOCs emitted while uncontrolled and preventive maintenance schedule to avoid similar failures thereafter.</p> <p><b>20)</b> maintain logs of scrubber water flows.</p> <p>Solutia shall, <u>if operating under MassDEP Approval #1-P-92-006 (5/26/1992),</u></p> <p><b>21)</b> In accordance with MassDEP Approval #1-P-03-008 (3/25/2003), maintain records of the following:</p> <ul style="list-style-type: none"> <li>a. all test data and all results of tests performed on the biofilter,</li> <li>b. all monitoring performed, including flows, pressure drops, and compost bed depth.</li> <li>c. all calibrations performed on flow and pressure drop instrumentation.</li> </ul> <p><b>22)</b> In accordance with 40 CFR 64.3, the Compliance Assurance Monitoring, Monitor Design Criteria<sup>1</sup>, In accordance with the Compliance Assurance Monitoring Plan Revision No. 1 dated October 16, 2009, maintain records of all calibrations and maintenance performed on the portable FID meter.</p>
142S08 142S13 (routed to stack #TP6 T600 only)	<p>Solutia shall:</p> <p><b>23)</b> record on a monthly basis the throughput of ethyl acetate (pounds per consecutive 12-month period and pounds per calendar month).</p>
142S15	<p>Solutia shall</p> <p><b>24)</b> In accordance with MassDEP Approval Trans. #50851 (10/30/1992) and 310 CMR 7.00 Appendix C(10)(b), maintain records of scrubber water flow, scrubber water low-flow alarms, circulating coolant temperature, and water flow monitor downtime.</p>

<b>Table 5(iii) – South Butvar</b>	
<b>EU #</b>	<b>Record-keeping Requirements</b>
all applicable components in VOC service	Solutia shall <b>25)</b> In accordance with MassDEP RACT Leak Detection and Repair Program Approval (4/14/1987), MassDEP RACT Approval (6/20/1989), and 310 CMR 7.00 Appendix C(9)(d), keep ongoing records for quarterly reporting per Table 6(iii), Provision 9.
all applicable components in HAP service	Solutia shall <b>26)</b> In accordance with the requirements of 40 CFR 63.1038 for applicable equipment, maintain leak detection records for applicable equipment.
Site-Wide	<b>See Site-Wide Record-Keeping Requirements</b>

**Table 5(iii) Key:**

EU = Emission Unit

% = percent

VOC = Volatile Organic Compounds

CFR = Code of Federal Regulations

CMR = Code of Massachusetts Regulations

RACT = Reasonably Available Control Technology

MassDEP = Massachusetts Department of Environmental Protection

FID – flame ionization detector

**Table 5(iii) Notes:** none.

**Table 6(iii) – South Butvar**

EU #	Reporting Requirements
142S01 142S04 142S08 142S09 142S10 142S13 142S15	Solutia shall <b>1)</b> In accordance with 310 CMR 7.00 Appendix C(10)(d)3., prepare and submit reports for each calendar quarter (Jan.-March; April-June; July-Sept.; Oct.-Dec.) within 15 days after the end of the quarter, documenting chiller operation and flows, any alarm event(s), reasons for the alarm(s), corrective action taken in response to the alarm(s), and an evaluation of whether any SOMP changes are required to prevent future occurrences. <b>2)</b> In accordance with MassDEP Plan Approval #WE-16-018 Trans. #X272440 (2/21/17), for each chilled condenser, a measured circulating coolant flow rate that is lower than 80% of the set-point flow rate shall be a deviation and reported within the timelines in Provision 25 of the General Conditions (below).
142 S05a 142 S05b 142 S05c 142 S05d	<b>3)</b> In accordance with MassDEP Plan Approval #18-AQ01P-0000032 (#WE-18-003) dated 4/17/18, the Permittee shall notify MassDEP, in writing, the date on which each EU commences operation at the facility. This notice shall be provided to MassDEP within (5) days of commencing operation.
142S08 142S13 (routed to stack #TP6 T600 only)	<b>4)</b> In accordance with MassDEP Plan Approval #WE-15-008, notify the MassDEP within 21 days of when the new chilled condenser and vent line is installed and operating.
142S01 142S02 142S03 142S04 142S05 142S05a 142S05b 142S05c 142S05d 142S06 142S07 142S08 142S09 142S10 142S11 142S12 142S13 142S14 142S15	Solutia shall <b>5)</b> In accordance with 40 CFR 63, Subpart FFFF, submit to MassDEP the Compliance Reports semi-annually for the reporting periods of Jan 1 – June 30 and July 1 – Dec 31 each year. Reports are due by February 28 and August 31 following each semi-annual period. Compliance Reports must contain the information specified in 40 CFR 63.2520(e). <b>6)</b> In accordance with 40 CFR 63, Subpart FFFF, submit to MassDEP the Notification of Process Changes when changes are made which are outside the scope of the existing operating scenario. Reports must be submitted on the timeframe provided in 40 CFR 63.2520(e)(10), and must contain the information specified in this section. <b>7)</b> In accordance with 40 CFR 63, Subpart FFFF, submit to MassDEP the Report of applicable deviations from the Start-up, Shut-down and Malfunction plan in accordance to 40 CFR 63.6(e)(3).
All applicable components in HAP service	<b>8)</b> In accordance with 40 CFR 63.1039 (Subpart UU) and 40 CFR 63.999(c) (Subpart SS) submit, at the same frequency as Subpart FFFF reporting from Provision 5 above, semi-annual reports containing the information specified in 40 CFR 63.1039 and 40 CFR 63.999(c), respectively.
all applicable components in VOC service	Solutia shall <b>9)</b> In accordance with MassDEP RACT Leak Detection and Repair Program Approval (4/14/1987), MassDEP RACT Approval (6/20/1989), and 310 CMR 7.00 Appendix C(9)(b)2., submit a report each calendar quarter (Jan.-March, April-June, July-Sept., and Oct.-Dec.) by the end of the month following the end of the calendar quarter summarizing the leak detection and repair results.

<b>Table 6(iii) – South Butvar</b>	
<b>EU #</b>	<b>Reporting Requirements</b>
Site-Wide	See Site-Wide Reporting Requirements

**Table 6(iii) Key:**

EU = Emission Unit	CMR = Code of Massachusetts Regulations
CFR = Code of Federal Regulations	RACT = Reasonably Available Control Technology
VOC = Volatile Organic Compounds	MassDEP = Massachusetts Department of Environmental Protection
HAP = Hazardous Air Pollutant	SOMP = Standard Operating and Maintenance Procedures

**Table 6(iii) Notes:** none.

C. GENERAL APPLICABLE REQUIREMENTS: **South Butvar** – The Permittee shall comply with all general applicable requirements contained in 310 CMR 7.00 et. seq. and 310 CMR 8.00 et. seq., when subject.

D. REQUIREMENTS NOT CURRENTLY APPLICABLE: **South Butvar** – The Permittee is currently not subject to the following requirements:

<b>Table 7(iii)</b>	
<b>Regulation</b>	<b>Reason</b>
40 CFR 60 Subpart VV & VVa for LDAR	Does not produce SOCOMI chemicals listed in 40 CFR 60.489
40 CFR 60 Subpart NNN, for Distillation	Not part of a process unit that produces chemicals listed in 40 CFR 60.667
40 CFR 60 Subpart III for Reactors	Not part of a facility that produces chemicals listed in 40 CFR 60.617
40 CFR 60 Subpart RRR for Reactors	Not part of a process unit that produces chemicals listed in 40 CFR 60.707
40 CFR 60 Subpart DDD for Polymer Manufacturing	Process does not manufacture polypropylene, polyethylene, polystyrene, or polyethylene terephthalate.
40 CFR 60 Subpart Kb for Volatile Organic Liquid (VOL) Storage Tanks	Tanks have not been constructed, reconstructed, or modified after July 23, 1984.
40 CFR 60 Subpart K & Ka for Petroleum Liquids Storage Tanks	Storage tanks do not store petroleum liquids.
40 CFR 63 Subparts F, G & H for Organic Hazardous Air Pollutants from the SOCOMI	Process does not manufacture as a primary product any of the chemicals listed in 40 CFR 63.100(b).

**Table 7(iii) Key:**

CFR = Code of Federal Regulations

**Table 7(iii) Notes:** none

**5(iii). SPECIAL TERMS AND CONDITIONS: South Butvar**

The Permittee is subject to the following special provisions that are not contained in South Butvar Table 3(iii), 4(iii), 5(iii), and 6(iii):

<b>Table 8(iii)– South Butvar</b>	
<b>EU #</b>	<b>Special Terms and Conditions</b>
142S01 142S04 142S08 142S09 142S10 142S13 142S15	Solutia shall <b>1)</b> In accordance with 310 CMR 7.00 Appendix C(9)(b)2., Solutia shall operate and maintain the condensers in accordance with the manufacturer's recommendations or in accordance with other written procedures in order to ensure that they are operate at their design heat transfer efficiency.
142S02 142S03 142S06 142S07 142S11 142S15	Solutia shall <b>2)</b> In accordance with MassDEP Approval #1-P-09-002 (05/26/2009 and 9/14/2011) for a Startup, Shutdown, and Malfunction Plan for particulate control equipment and scrubbers, follow the procedures described therein, including but not limited to monitoring, recordkeeping, notifications/reporting, control device alarms, emission observations, control device repair, process operations, and emission unit shutdown.
142 S02 (All Stacks)  142 S03 (Stack # 142 P630)	<b>3)</b> In accordance with 40 CFR 63 Subpart FFFF, 63.2460(a) and Table 2, reduce HAP emissions by 98 % or more by use of a control device.
142S04	<b>4)</b> In accordance with the MassDEP RACT Approval (June 20, 1989), Solutia shall ensure that the hydrolysis reactors are equipped with properly functioning mechanical seals. <b>5)</b> In accordance with 40 CFR Part 64, Compliance Assurance Monitoring (CAM), the Permittee shall maintain a monitoring plan to provide a reasonable assurance of compliance with the emission limitations and/or standards.
142S04  (Stack # 142 P901 142 P902)	<b>6)</b> In accordance with MassDEP Plan Approval #WE-16-018 Trans. #X272440 (2/21/17), the glycol chilled condenser for each unit shall operate at all times that the associated process equipment is operating. <b>7)</b> In accordance with MassDEP Plan Approval #WE-16-018 Trans. #X272440 (2/21/17), maintain the Hydrolysis Reactor #2 and the PVA Slurry Tank #3 in accordance with the manufacturer's recommendations and, to the extent practicable, maintain and operate each piece of equipment in a manner consistent with good air pollution control practice for minimizing emissions. <b>8)</b> In accordance with MassDEP Plan Approval #WE-16-018 Trans. #X272440 (2/21/17), inspect and maintain components on the Hydrolysis Reactor #2 and the PVA Slurry Tank #3 (including mechanical seals) per the Facility's Leak Detection and Repair (LDAR) Program. <b>9)</b> In accordance with MassDEP Plan Approval #WE-16-018 Trans. #X272440 (2/21/17), operate and maintain each chilled Condenser in accordance with the manufacturer's recommendations or in accordance with other written procedures in order to ensure that it is operated at its design heat transfer efficiency.
142S05 142S12 142S14	<b>10)</b> In accordance with the MassDEP RACT Approval (June 20, 1989), there are no controls or restrictions for these emission units under the MassDEP RACT Approval (6/20/1989).

**Table 8(iii)– South Butvar**

EU #	Special Terms and Conditions
142 S05a 142 S05b 142 S05c 142 S05d	<p><b>11)</b> In accordance with MassDEP Plan Approval #18-AQ01P-0000032 (#WE-18-003) dated 4/17/18, the Permittee shall EU 142 S05a, EU 142 S05b, EU 142 S05c and EU 142 S05d shall consist of the equipment specified in Table 1 therein.</p> <p><b>12)</b> In accordance with MassDEP Plan Approval #18-AQ01P-0000032 (#WE-18-003) dated 4/17/18, the Permittee shall equip each stabilization tank with submerged fill which shall be used when transferring materials during the wash fill/drain steps to each stabilization tank.</p> <p><b>13)</b> In accordance with MassDEP Plan Approval #18-AQ01P-0000032 (#WE-18-003) dated 4/17/18, the Permittee shall equip each stabilization tank with an interlock which prevents the filling of the tank if the liquid level reaches approximately 91.5% of the tank capacity.</p> <p><b>14)</b> In accordance with MassDEP Plan Approval #18-AQ01P-0000032 (#WE-18-003) dated 4/17/18, the Permittee shall maintain EU 142 S05a, EU 142 S05b, EU 142 S05c and EU 142 S05d in accordance with the manufacturer’s recommendations and must, to the extent practicable, maintain and operate each piece of equipment in a manner consistent with good air pollution control practice for minimizing emissions.</p>
142S06 142S11	<p>Solutia shall</p> <p><u>If operating under MassDEP RACT Approval (6/20/1989), MassDEP Approval #PV-85-IF-012 (10/29/1985; amended 8/25/1987), and 310 CMR 7.18(17).</u></p> <p><b>15)</b> Solutia shall ensure that the scrubber operates with liquor recirculation only if emission tests demonstrate that the design scrubbing efficiencies for each VOC will be maintained and the modified operation is approved by the MassDEP in writing.</p> <p><b>16)</b> Solutia shall ensure that the scrubber achieves the design efficiencies (specified in the October 29, 1985 Plan Approval) for every three-hour operating interval. In order to assure that the design efficiencies are being maintained, the water feed valve on the scrubber shall be locked (or interlocked with the process controller) such that a flow rate of <math>\geq 215</math> gpm is supplied to the scrubber, and the scrubber shall be alarmed at a flow of <math>\leq 215</math> gpm.</p> <p><b>17)</b> Solutia shall ensure that the scrubber maintains its rated VOC removal efficiency by following standard operating procedures (SOP) and standard maintenance procedures (SMP), that have been specifically developed for this scrubber. The SOP and SMP shall be permanently maintained in the control room.</p> <p><u>If operating under MassDEP Approval #1-P-92-006 (5/26/1992).</u></p> <p><b>18)</b> In accordance with MassDEP Approval #1-P-01-068 (12/19/2001), Solutia shall ensure that total flow to any one cell of the biofilter shall be <math>\leq 8670</math> acfm at all times.        If flow exceeds this value, Solutia shall correct the situation within 1 business day of discovery, or otherwise shutdown the biofilter (with the existing permit option to revert to VOC control via the scrubber alone) as expeditiously as possible in order to correct the problem.</p> <p><b>19)</b> Solutia shall ensure that the compost bed depth is <math>\geq 2</math> feet 11 inches at all times. (The design depth of the bed is 3 feet 3 inches.)        If the compost bed depth is outside this range, Solutia shall correct the situation within 5 business days of discovery, or otherwise shutdown the Biofilter (with the existing permit option to revert to VOC control via the scrubber alone) as expeditiously as possible in order to correct the problem.</p> <p><b>20)</b> In accordance with MassDEP Approval #1-P-03-008 (3/25/2003), Solutia shall ensure that annual calibration (at least once per calendar year) of the flow and pressure drop indicators is performed, in accordance with the manufacturer’s recommendations.</p> <p><b>21)</b> In accordance with the Compliance Assurance Monitoring Plan Revision No. 1 dated October 16, 2009, the portable FID instrument shall be calibrated and maintained per the manufacturer’s instructions.</p>

<b>Table 8(iii)– South Butvar</b>	
<b>EU #</b>	<b>Special Terms and Conditions</b>
142 S08 142S13 (both routed to stack #TP6 T600)	Solutia shall: <b>22)</b> Operate the Doyle & Roth Model #VS126106H Shell & Tube Condenser with a control efficiency $\geq$ 90% when controlling VOC emissions from the breathing and working losses of the bulk ethyl acetate tank (EU 142 S08) and $\geq$ 84.7% when controlling VOC emissions from Loading Docks 7 and 9 (EU 142 S13). <b>23)</b> Implement standard operating procedures to ensure that the loading of the ethyl acetate storage tank and loading of the railcars or tank trucks will not occur at the same time. <b>24)</b> Insulate the lines carrying the chilled fluid to the condenser (RACT Compliance Plan Conditional Approval; Final, June 20, 1989). <b>25)</b> Update the facilities Leak Detection and Repair (LDAR) Program document to include the new vent line components.
142S15	Solutia shall <b>26)</b> In accordance with 40 CFR 63 Subpart FFFF, 63.2470(a) and Table 4, reduce HAP emissions by 95 % or more by use of a control device. <b>27)</b> In accordance with MassDEP Approval Trans. #50851 (10/30/1992), Solutia shall ensure, as much as is practical, that all scheduled maintenance activities for the scrubber that necessitates reverting to the MassDEP RACT Approval (6/20/1989) permit conditions for that emission vent are only performed during the non-ozone months; that is between September 15 <sup>th</sup> and May 1 <sup>st</sup> . Any scheduled routine maintenance of this type that must occur during the "ozone season" must be authorized by the MassDEP in writing.
142 S02 142 S03 142 S15	<b>28)</b> In accordance with 40 CFR §63.2525(j), maintain a Start-up, Shut-down and Malfunction Plan per 40 CFR 63.6(e)(3). <b>29)</b> In accordance with 40 CFR Part 63, Subpart FFFF, maintain records as specified in 40 CFR §63.10(b).
Process-Wide	Solutia shall <b>30)</b> In accordance with 40 CFR 63 Subpart FFFF, including the General Conditions referenced in Table 12 of that Subpart, comply with all applicable Subpart FFFF provisions in accordance with the applicable timelines. <b>31)</b> In accordance with 40 CFR §63.2450(l), exclusion of monitoring data collected during periods of SSM from daily averages, do not apply for the purposes of 40 CFR 63.998(b)(2)(iii) and (b)(6)(i)(A).

**Table 8(iii) Key:**

- |                                   |   |
|-----------------------------------|---|
| EU = Emission Unit                | gpm = gallon per minute   |
| CFR = Code of Federal Regulations | acfm = actual cubic feet per minute                                     |
| % = percent                       | SOP/SMP = Standard Operating Procedures/Standard Maintenance Procedures |
| VOC = Volatile Organic Compounds  | CMR = Code of Massachusetts Regulations                                 |
| $\geq$ = greater than or equal to | RACT = Reasonably Available Control Technology                          |
|                                   | MassDEP = Massachusetts Department of Environmental Protection          |

**Table 8(iii) Notes:** none.

**4(iv). APPLICABLE REQUIREMENTS: Saflex**

EMISSION UNIT IDENTIFICATION: Saflex

The following emission units are subject to and regulated by this operating permit:

<b>Table 1(iv) – Saflex</b>				
<b>Emission Unit (EU)</b>	<b>Description of Emission Unit</b>	<b>Stack #</b>	<b>EU Design Capacity</b>	<b>Pollution Control Device</b>
<i>Saflex</i>	<i>Manufacturing of polyvinyl butyral sheets</i>			
099 S001	<u>Saflex Resin Handling</u> Resin Silo #1 & Box Transfer Blower Resin Silo #2 Resin Silo #3 Resin Silo #4 Resin Silo #5 Resin Silo #6 Resin Silo #7 Resin Collector (box tipper, collector & vacuum blower) E. Resin Surge Hopper & Transfer Blower W. Resin Surge Hopper & Transfer Blower N. Resin Surge Hopper & Transfer Blower S. Resin Surge Hopper & Transfer Blower	099 P054 099 P055 099 P056 099 P057 099 P058 099 P059 099 P060 099 P061 099 P062 099 P063 099 P064 099 P065		fabric filter fabric filter fabric filter fabric filter fabric filter fabric filter fabric filter fabric filter fabric filter fabric filter fabric filter fabric filter
099 S002	<u>Saflex E-line Scrap Handling</u> Edge/Center Trim Granulator & Blower for Premix Blender #1 Scrap & C.R. Granulators & BF05/BF06 Blowers for Scrap Blender #2 Scrap Granulator & BF07/BF08 Blowers for Scrap Blender	091 P006 091 P008 091 P066		cyclone
099 S003	<u>Saflex PEG Recycle Scrap Handling</u> E. & W. Mixed Scrap Granulators, Blower, & Cyclone #1 N. S. & S.E. Mixed Scrap Granulators, Blower, & Cyclone #2 Customer Return Granulator, Blower, & Cyclone #3 N. or S. or S.E. or E. or W. Granulators, Unit or Trim Blowers, & Box Cyclone	099 P017 099 P018 099 P019 099 P022		cyclone cyclone cyclone cyclone



Table 1(iv) – Saflex				
Emission Unit (EU)	Description of Emission Unit	Stack #	EU Design Capacity	Pollution Control Device
099 S005a	<u>Saflex Extrusion E-Line</u> Mixers #1 & #2, Coolers #1 & #2, Rework Blender, Premix Blender, Extruder with Vacuum Vent, Vent Condenser, Tank, Vacuum Pump, Die Hood, Normalizer, Brinks Mist Eliminator, & Ducon Wet Scrubber	099 P005 <sup>1</sup>		scrubber
099 S005b	Saflex On-Line SV unit	099 P105		none
099 S006	<u>Saflex Extrusion PEG Line</u> Resin Weigh Case, Rework Blender, Scrap Feeder, Mixers, Cooler, Granulator, Premix Blender, Nauta Feeder, Extruder with Vacuum Vent, Vent Condenser, Catch Tank, Vacuum Pump, & Ducon Wet Scrubber	099 P005 <sup>1</sup>		scrubber

**Table 1(iv) Key:**

EU = Emission Unit

**Table 1(iv) Footnote:**

(1) The scrubber stack tip stands 46 feet above ground level, 10 feet above the scrubber top, and 5 feet above roof level. It has an inside diameter of 30 inches

A. EMISSION LIMITS AND RESTRICTIONS: **Saflex** – The Permittee is subject to the emission limits/restrictions as contained in Table 3(iv) below:

Table 3(iv) – Saflex				
EU #	Fuel or Raw Material	Pollutant	Emission Limits / Restrictions	Applicable Regulation and/or Approval No.
099 S001	polyvinyl butyral resin	PM	≥ 99.5% control for all cyclones, baghouses, condensers	MassDEP Approval #1-P-89-114 (5/7/90) 310 CMR 7.03(12) and (22) MassDEP Approval 1-P-09-002 (5/26/2009 and 9/14/2011)
099 S002	polyvinyl butyral scrap plastic sheet	PM	≥ 99.8% control for particles ≥ 50 μm	MassDEP Approval #PV-83-IF-002 (3/7/83) MassDEP Approval 1-P-09-002 (5/26/2009 and 9/14/2011)
099 S003	polyvinyl butyral scrap plastic sheet	PM	≥ 99.8% control for particles ≥ 50 μm ≥ 99.5% control	MassDEP Approval #PV-83-IF-003 (3/17/83) MassDEP Approval #1-P-89-114 (5/7/90) MassDEP Approval 1-P-09-002 (5/26/2009 and 9/14/2011) 310 CMR 7.03(22)
099 S005a	polyvinyl butyral resin & plasticizers	VOC	≥ 85% VOC control ≥ 150 gallons/minute water flow	MassDEP Approval #PV-88-IF-004 (5/20/88) MassDEP RACT Approval (6/20/89) MassDEP Approval #1-P-93-007 (4/16/93) MassDEP Approval #1-P-09-002 (5/26/2009 and 9/14/2011) MassDEP Approval #1-P-10-013 (6/9/2010)
099 S005b	polyvinyl butyral plastic sheet	VOC	≤ 4.9 TPY VOC from “SV process” exhaust	MassDEP Approval #1-P-01-007 (4/24/01)
099 S006	polyvinyl butyral resin & plasticizers	VOC	≥ 85% VOC control ≥ 150 gallons/minute water flow	MassDEP Approval #PV-88-IF-004 (5/20/88) MassDEP Approval #1-P-92-016 (6/25/92) MassDEP Approval #1-P-93-007 (4/16/93) MassDEP Approval #1-P-09-002 (5/26/2009 and 9/14/2011) MassDEP Approval #1-P-10-013 (6/9/2010)

**Table 3(iv) Key:**

EU = Emission Unit

$\mu\text{m}$  = micrometer

PM = Total Particulate Matter

TPY = tons per consecutive 12-month period <sup>2</sup>

% = percent

$\leq$  = less than or equal to

MassDEP = Massachusetts Department of Environmental Protection

CMR = Code of Massachusetts Regulations

RACT = Reasonably Available Control Technology

VOC = Volatile Organic Compounds

$\geq$  = greater than or equal to

**Table 3(iv) Foot Notes:**

1. To calculate the amount of a consecutive 12 month rolling period take the current calendar month amount and add it to the previous 11 calendar months total amount.

B. COMPLIANCE DEMONSTRATION: **Saflex** – The Permittee is subject to the monitoring, testing, record-keeping, and reporting requirements as contained in Tables 4(iv), 5(iv), and 6(iv) below and 310 CMR 7.00 Appendix C (9) and (10); and applicable requirements as contained in Table 3(iv).

<b>Table 4(iv) – Saflex</b>	
<b>EU #</b>	<b>Monitoring/Testing Requirements</b>
099 S005a 099 S006	<p>Solutia shall</p> <ol style="list-style-type: none"> <li>1) In accordance with MassDEP Approval #PV-88-IF-004 (5/20/88), continuously monitor the scrubber water flow to ensure <math>\geq</math> 150 gallon per minute, or <math>\geq</math> the value at which the compliance test, verifying 85% VOC removal efficiency, was performed.</li> <li>2) In accordance with MassDEP Approval #PV-88-IF-004 (5/20/88), continuously monitor the scrubber water flow and alarm at 135 gpm or at 90% of the flow rate at which the compliance test, verifying 85% VOC removal efficiency, was performed.</li> <li>3) In accordance with MassDEP Approval #PV-88-IF-004 (5/20/88), test the scrubber low flow alarm for proper operation at least once per calendar month, and maintain a log of the test results.</li> <li>4) In accordance with 310 CMR 7.00 Appendix C(9)(b), obtain valid data from the water flow monitor and data logging system for at least 95% of the hours per calendar quarter that the process equipment operates, except for periods of calibration checks, zero and span adjustments, and preventive maintenance.</li> </ol>
099 S005b	<p>Solutia shall</p> <ol style="list-style-type: none"> <li>5) In accordance with MassDEP Approval #1-P-01-007 (4/24/01), monitor material throughput to ensure that VOC emissions do not exceed 4.9 tons per year (rolling 12-month total).</li> </ol>
Site-Wide	<b>See Site-Wide Testing/Monitoring Requirements</b>

**Table 4(iv) Key:**

EU = Emission Unit  
 $\geq$  = greater than or equal to  
 gpm = gallon per minute  
 % = percent

MassDEP = Massachusetts Department of Environmental Protection  
 VOC = Volatile Organic Compounds  
 CMR = Code of Massachusetts Regulations

**Table 4(iv) Foot Notes:** none

Table 5(iv) – Saflex	
EU #	Record-keeping Requirements
099 S005a 099 S006	Solutia shall 1) In accordance with MassDEP Approval #PV-88-IF-004 (5/20/88), except when the process is shut down, maintain a log of all scrubber low flow alarms documenting minimally the date, time, cause of the alarm, the corrective measures taken, and when the scrubber was operating normally again.  2) In accordance with 310 CMR 7.00 Appendix C(10)(b), maintain records of water flow monitor downtime in order to verify compliance with the data capture requirements required herein.
099 S005b	Solutia shall 3) In accordance with MassDEP Approval #1-P-01-007 (4/24/01), maintain records of material throughput on a monthly basis to ensure that VOC emissions do not exceed 4.9 tons per year (rolling 12-month total).
Site-Wide	See Site-Wide Record-Keeping Requirements

**Table 5(iv) Key:**

EU = Emission Unit

CMR = Code of Massachusetts Regulations

MassDEP = Massachusetts Department of Environmental Protection

VOC = volatile organic compound

**Table 5(iv) Notes:** none.

Table 6(iv) – Saflex	
EU #	Reporting Requirements
Site-Wide	See Site-Wide Reporting Requirements

**Table 6(iv) Key:**

EU = Emission Unit

**Table 6(iv) Notes:** none.

C. GENERAL APPLICABLE REQUIREMENTS: **Saflex** – The Permittee shall comply with all general applicable requirements contained in 310 CMR 7.00 et. seq. and 310 CMR 8.00 et. seq., when subject.

D. REQUIREMENTS NOT CURRENTLY APPLICABLE: **Saflex** – The Permittee is currently not subject to the following requirements:

<b>Table 7(iv)</b>	
<b>Regulation</b>	<b>Reason</b>
40 CFR 60 Subpart VV & VVa, for LDAR	Does not produce SOCOMI chemicals listed in 40 CFR §60.489
40 CFR 60 Subpart NNN, for Distillation	Not part of a process unit that produces chemicals listed in 40 CFR §60.667
40 CFR 60 Subpart III for Reactors	Not part of a facility that produces chemicals listed in 40 CFR §60.617
40 CFR 60 Subpart RRR for Reactors	Not part of a process unit that produces chemicals listed in 40 CFR §60.707
40 CFR 60 Subpart DDD for Polymer Manufacturing	Process does not manufacture polypropylene, polyethylene, polystyrene, or polyethylene terephthalate.
40 CFR 63 Subparts F, G & H for Organic Hazardous Air Pollutants from the SOCOMI	Process does not manufacture as a primary product any of the chemicals listed in 40 CFR §63.100(b)
40 CFR 63 Subpart FFFF for HAPs from Miscellaneous SOCOMI	Process is not a miscellaneous chemical processing unit (MCPU) as defined in 40 CFR §63.2550
40 CFR 60 Subparts , & Kb	Process does not have any liquid hydrocarbon storage tanks with a capacity of 75 cubic meters or greater.

**Table 7(iv) Key:**

CFR = Code of Federal Regulations

LDAR = Leak Detection and Repair

**Table 7(iv) Notes:** none.

**5(iv). SPECIAL TERMS AND CONDITIONS: Saflex**

The Permittee is subject to the following special provisions that are not contained in Saflex Table 3(iv), 4(iv), 5(iv), and 6(iv):

<b>Table 8(iv) – Saflex</b>	
<b>EU #</b>	<b>Special Terms and Conditions</b>
099 S002	1) In accordance with MassDEP Approval 1-P-03-007 (3/11/03), process in the polyvinyl butyral E-Line (extrusion line) up to 100% polyvinyl butyral resin originating from the South Butvar (solvent based) process.
099 S001 099 S002 099 S003 099 S005a 099 S006	2) In accordance with MassDEP Approval #1-P-09-002 (05/26/2009 and 9/14/2011) for a Startup, Shutdown, and Malfunction Plan for particulate control equipment and scrubbers, follow the procedures described therein, including but not limited to monitoring, recordkeeping, notifications/reporting, control device alarms, emission observations, control device repair, process operations, and emission unit shutdown.
099 S005a 099 S006	3) In accordance with MassDEP Approval #PV-88-IF-004 (5/20/88), have available at the scrubber control room an up-to-date copy of the "Standard Operating and Maintenance Procedure" (SOMP) for the scrubber which documents how the scrubber efficiency is to be maintained at design specifications.  4) In accordance with MassDEP Approval #PV-88-IF-004 (5/20/88), ensure that the SOMP for the scrubber is adhered to.

**Table 8(iv) Key:**

EU = Emission Unit

MassDEP = Massachusetts Department of Environmental Protection

**Table 8(iv) Notes:** none.

**4(v). APPLICABLE REQUIREMENTS: RB-9100**

EMISSION UNIT IDENTIFICATION: **RB-9100**

The following emission units are subject to and regulated by this operating permit:

Table 1(v) – RB-9100				
Emission Unit (EU)	Description of Emission Unit	Stack #	EU Design Capacity	Pollution Control Device
<b>RB-9100</b>	<b><i>Manufacturing of polyvinyl butyral resin</i></b>			
092 S01	<u>RB-9100 Process Vents</u> Pre-Mix Weigh tank, Butyraldehyde Weigh Tank, 2 Acetal Reactors, 2 Resin Wash Tanks, & SLG tank	092 P001		Heat Transfer Systems, Inc., scrubber
092 S02	<u>Butyraldehyde Storage Tanks</u> #1 Storage Tank #2 Storage Tank	092 T005 092 T006	30,000 gallons 30,000 gallons	conservation vents & vapor balance
092 S03	<u>Raw Material &amp; Product Transfer, Storage, &amp; Blending</u> Polyvinyl Alcohol Unloading Collector  Polyvinyl Alcohol Storage (4 silos) Polyvinyl Alcohol Weigh Hopper  Polyvinyl Butyral Storage Silo (5000 ft. <sup>3</sup> ) Polyvinyl Butyral Storage Silo (5000 ft. <sup>3</sup> ) Polyvinyl Butyral Storage Silo (5000 ft. <sup>3</sup> ) Polyvinyl Butyral Storage Silo (5000 ft. <sup>3</sup> ) Polyvinyl Butyral Storage Silo (5000 ft. <sup>3</sup> ) Polyvinyl Butyral Storage Silo (5000 ft. <sup>3</sup> )  Polyvinyl Alcohol Dissolvers (2)  Crushed Resin Collector	092 P003  092 P004 092 P013  092 P007 092 P008 092 P009 092 P010 092 P011 092 P012  092 P014  092 P015		Mikro-Pulsaire Model 42-8- 22 C; 1500 acfm Mikro-Pulsaire Model 42-8- 100 B; 2400 acfm  Six (6) Mikro-Pulsaire Model 31-8-100 C; 1320 acfm each  Emissions directed to Polyvinyl Alcohol storage (4 silos) baghouse (Stack 092 P004)  Mikro-Pulsaire, Model 19-8- 130 C; 600 acfm



Table 1(v) – RB-9100				
Emission Unit (EU)	Description of Emission Unit	Stack #	EU Design Capacity	Pollution Control Device
	Re-Circulation Collector	092 P035		Flex-Kleen Model 84CT-38; 1500 acfm
	Packout Hopper (2000 ft <sup>3</sup> )	092 P016		Mikro-Pulsaire Model 31-8-230 B; 1320 acfm
092 S04	Product Transfer, Storage, & Blending Polyvinyl Butyral Bulk Blender Product Storage Silo #7 Product Storage Silo #8	092 P026 092 P027 092 P028		Three (3) MAC Vent Filters Model 96AVR21
092 S05	Resin Drying Dryer	092 P033 092 P034		High Eff. Cyclone #1 High Eff. Cyclone #2

**Table 1(v) Key:**

EU = Emission Unit  
 ft<sup>3</sup> = cubic feet

acfm = actual cubic feet per minute

**Table 1(v) Footnote:** none.

A. EMISSION LIMITS AND RESTRICTIONS: **RB-9100** – The Permittee is subject to the emission limits/restrictions as contained in Table 3(v) below:

Table 3(v) – RB-9100				
EU #	Fuel or Raw Material	Pollutant	Emission Limits / Restrictions	Applicable Regulation and/or Approval No.
092 S01 <sup>1</sup>	VOCs & resins	VOC	≥ 95% VOC control	MassDEP Approval #1-P-08-005 (4/11/2008) MassDEP Approval #1-P-99-020 (8/2/1999) MassDEP Approval #PV-85-IF-010 (1/16/1985) MassDEP Approval 1-P-09-002 (5/26/2009 and 9/14/2011)
092 S02	butyraldehyde	VOC	≥ 90% VOC control over each unloading operation	MassDEP Approval #PV-85-IF-010 (1/16/1985)

Table 3(v) – RB-9100				
EU #	Fuel or Raw Material	Pollutant	Emission Limits / Restrictions	Applicable Regulation and/or Approval No.
092 S03	resins	PM	≥ 99.98% particulate control; ≤ 0.02 gr/ACF outlet loading	MassDEP Approval #PV-85-IF-010 (1/16/1985) MassDEP Approval 1-P-09-002 (5/26/2009 and 9/14/2011)
092 S04	resins	PM	≥ 99.98% particulate control ≤ 0.47 lb/hr	MassDEP Approval #1-P-90-045 (7/12/1990) MassDEP Approval 1-P-09-002 (5/26/2009 and 9/14/2011)
092 S05	resins	PM	≥ 99.98% particulate control ≤ 0.01 gr/ACF; ≤ 1.9 pounds/hour	MassDEP Approval #PV-85-IF-010 (1/16/1985) MassDEP Approval #1-P-99-020 (8/2/1999) MassDEP Approval 1-P-09-002 (5/26/2009 and 9/14/2011)
Process-Wide	resin	VOC, HAP	≤ 82.3 x 10 <sup>6</sup> lb resin production/year <sup>(2)</sup> ≤ 8.00 x 10 <sup>6</sup> lb resin production/month <sup>(3)</sup>	MassDEP Approval #1-P-08-005 (04/11/2008) 40 CFR 63 Subpart FFFF (Group 2 Batch Process Vent and Group 2 Wastewater)

- (1) Stack parameters:  
 height = 150 foot (95 feet above the tallest part of the building structure)  
 internal diameter = 24 inches
- (2) Rolling 12-month total. To calculate the amount of a consecutive 12 month rolling period take the current calendar month amount and add it to the previous 11 calendar months total amount
- (3) calendar month

**Table 3(v) Key:**

EU = Emission Unit  
 gr/ACF = grains per actual cubic foot  
 PM = Total Particulate Matter  
 lb = pound  
 % = percent  
 ≤ = less than or equal to

MassDEP = Massachusetts Department of Environmental Protection  
 CFR = Code of Federal Regulations  
 VOC = Volatile Organic Compounds  
 HAP (total) = total Hazardous Air Pollutants.  
 lbs/hr = pounds per hour  
 ≥ = greater than or equal to

**Table 3(v) Foot Notes:** none.

B. COMPLIANCE DEMONSTRATION: **RB-9100** – The Permittee is subject to the monitoring, testing, record-keeping, and reporting requirements as contained in Tables 4(v), 5(v), and 6(v) below and 310 CMR 7.00 Appendix C (9) and (10): and applicable requirements as contained in Table 3(v).

<b>Table 4(v)– RB-9100</b>	
<b>EU #</b>	<b>Monitoring/Testing Requirements</b>
092 S01	Solutia shall <b>1.</b> In accordance with MassDEP Approval #1-P-99-020 (8/2/1999), monitor the vent scrubber water flow rate to ensure it is maintained at $\geq 35$ gallons per minute during normal process operations.
092 S02	Solutia shall <b>2.</b> In accordance with 310 CMR 7.00 Appendix C(9)(b)2., check the integrity of the vapor recovery system (excluding the truck/rail car component) no less frequently than quarterly, by performing leak detection and repair on any system components with the potential to leak VOC, including gaskets, lines, and connections, to ensure that 90% VOC control is being attained from any loading operation of the butyraldehyde storage tanks.  <b>3.</b> In accordance with 310 CMR 7.00 Appendix C(9)(b)2., monitor tank trucks/rail cars that are unloading organic materials to ensure they have current leak testing markings/signage indicating they have been leak tested in accordance with applicable leak testing requirements.
092 S03 092 S04	Solutia shall <b>4.</b> In accordance with 310 CMR 7.00 Appendix C(9)(b)2, ensure that the baghouse alarm system is operational for at least 95% of the hours per calendar quarter that the process equipment operates, except for periods of calibration checks, zero and span adjustments, and preventive maintenance.
092 S05	Solutia shall <b>5.</b> In accordance with 310 CMR 7.00 Appendix C(9)(b)2, ensure that the high efficiency cyclone particle detectors and its alarm system is operational for at least 95% of the hours per calendar quarter that the process equipment operates, except for periods of calibration checks, zero and span adjustments, and preventive maintenance.
Process-Wide	Solutia shall <b>6.</b> In accordance with MassDEP Approval #1-P-07-051 (11/30/2007), monitor polyvinyl butyral resin production on a daily basis.
all applicable components in VOC service	Solutia shall <b>7.</b> In accordance with MassDEP Approval #PV-85-IF-010 (1/16/1985; amended 9/17/1987), implement leak detection and repair procedures according to the 40 CFR 60 Subpart VV " <i>Standards of Performance for New Stationary Sources; Synthetic Organic Chemical Manufacturing Industry; Equipment Leaks of VOC</i> " dated October 18, 1983. In cases where the specific equipment components with the potential to leak VOC from this process are not addressed in this document, the CTG document " <i>Control of Volatile Organic Compound Leaks from Synthetic Organic Chemical and Polymer Manufacturing Equipment</i> " dated March 1984 and past MassDEP policy will serve to determine what procedures will be implemented, except that the more frequent leak checking intervals and quicker repair turnarounds specified in the former document will apply, except as follows:  Solutia shall perform leak monitoring on a quarterly basis unless more than 1% of the equipment components leak. If the leak rate for any one quarter exceeds 1%, then monthly monitoring must be performed until three consecutive months achieve a 1% or less leak rate. Solutia can revert to quarterly monitoring once three consecutive months show a leak rate of 1% or less.
<b>Site-Wide</b>	<b>See Site-Wide Testing/Monitoring Requirements</b>

**Table 4(v) Key:**

EU = Emission Unit  
 ≥ = greater than or equal to  
 % = percent  
 CFR = Code of Federal Regulations

VOC = Volatile Organic Compounds  
 HAPs (total) = total Hazardous Air Pollutants.  
 MassDEP = Massachusetts Department of Environmental Protection

**Table 4(v) Foot Notes:** none.

<b>Table 5(v) – RB-9100</b>	
<b>EU #</b>	<b>Record-keeping Requirements</b>
092 S01	Solutia shall <b>1.</b> In accordance with 310 CMR 7.00 Appendix C(10)(b), maintain records of the vent scrubber water flow rate, measured at least once per block hour.
092 S02	Solutia shall <b>2.</b> In accordance with 310 CMR 7.00 Appendix C(9)(b)2., maintain records of the quarterly checks of the vapor recovery system integrity.  <b>3.</b> In accordance with 310 CMR 7.00 Appendix C(9)(d), maintain records (a checklist is acceptable) for each tank truck/rail car unloading operation indicating that the tank truck/rail car has current leak-test markings/signage indicating it has been leak tested in accordance with applicable leak testing requirements.
Process-Wide	Solutia shall <b>4.</b> In accordance with MassDEP Approval #1-P-07-051 (11/30/2007), maintain daily, monthly (calendar monthly, and yearly (12-month rolling total) records of polyvinyl butyral resin production.
Site-Wide	<b>See Site-Wide Record-Keeping Requirements</b>

**Table 5(v) Key**

EU = Emission Unit  
 CMR = Code of Massachusetts Regulations

MassDEP = Massachusetts Department of Environmental Protection

**Table 5(v) Notes:** none.

<b>Table 6(v) – RB-9100</b>	
<b>EU #</b>	<b>Reporting Requirements</b>
Site-Wide	<b>See Site-Wide Reporting Requirements</b>

**Table 6(v) Key:**

EU = Emission Unit

**Table 6(v) Notes:** none.

C. GENERAL APPLICABLE REQUIREMENTS: **RB-9100** – The Permittee shall comply with all general applicable requirements contained in 310 CMR 7.00 et. seq. and 310 CMR 8.00 et. seq., when subject.

D. REQUIREMENTS NOT CURRENTLY APPLICABLE: **RB-9100** – The Permittee is currently not subject to the following requirements:

<b>Table 7(v) – RB-9100</b>	
<b>Regulation</b>	<b>Reason</b>
40 CFR 60 Subpart VV & VVa for LDAR	Does not produce SOCOMI chemicals listed in 40 CFR §60.489
40 CFR 60 Subpart NNN, for Distillation	Not part of a process unit that produces chemicals listed in 40 CFR §60.667
40 CFR 60 Subpart III for Reactors	Not part of a facility that produces chemicals listed in 40 CFR §60.617
40 CFR 60 Subpart RRR for Reactors	Not part of a process unit that produces chemicals listed in 40 CFR §60.707
40 CFR 60 Subpart DDD for Polymer Manufacturing	Process does not manufacture polypropylene, polyethylene, polystyrene, or polyethylene terephthalate.
40 CFR 60 Subpart Kb for Volatile Organic Liquid (VOL) Storage Tanks	(1) Tanks have not been constructed, reconstructed, or modified after July 23, 1984
40 CFR 60 Subpart K & Ka for Petroleum Liquids Storage Tanks	(1) Tank does not store petroleum liquids
40 CFR 63 Subparts F, G & H for Organic Hazardous Air Pollutants from the SOCOMI	Process does not manufacture as a primary product any of the chemicals listed in 40 CFR §63.100(b)

**Table 7(v) Key:**

CMR = Code of Federal Regulations

LDAR = Leak Detection and Repair

**Table 7(v) Notes:** none.

**5(v). SPECIAL TERMS AND CONDITIONS: RB-9100**

The Permittee is subject to the following special provisions that are not contained in RB-9100 Table 3(v), 4(v), 5(v), and 6(v):

<b>Table 8(v) – RB-9100</b>	
<b>EU #</b>	<b>Special Terms and Conditions</b>
092 S01 092 S03 092 S04 092 S05	Solutia shall 1) In accordance with MassDEP Approval #1-P-09-002 (05/26/2009 and 9/14/2011) for a Startup, Shutdown, and Malfunction Plan for particulate control equipment and scrubbers, follow the procedures described therein, including but not limited to monitoring, recordkeeping, notifications/reporting, control device alarms, emission observations, control device repair, process operations, and emission unit shutdown.
Process-Wide	Solutia shall 2) In accordance with MassDEP Approval #1-P-89-020 (June 28, 1989), submit to the MassDEP by January 15 <sup>th</sup> of each year the results of a literature search regarding the feasibility of validating, either through field testing or through (future) EPA approved modeling, the sewer wastewater VOC emissions resulting from this process predicted by Solutia’s model.  3) In accordance with MassDEP Approval #PV-85-IF-010 (January 16, 1986), perform such field testing or modeling of the sewer VOC emissions from this process as soon as clear regulatory or scientific guidelines become available.  4) In accordance with MassDEP Approval #1-P-89-020 (June 28, 1989), retrofit this process, and any future addition to this process, with a level of control equivalent to LAER, and provide for offsets, should either field testing or an approved EPA model show in excess of 40 tons per year of VOC emissions from the combined process emission points (process and sewer losses), as required under non-attainment regulations.  5) In accordance with 40 CFR 63 Subpart FFFF, including the General Conditions referenced in Table 12 of that Subpart, comply with all applicable Subpart FFFF provisions in accordance with the applicable timelines, although no emission limits apply.
Site-Wide	<b>See Site-Wide Reporting Requirements</b>

**Table 8(v) Key:**

EU = Emission Unit	MassDEP = Massachusetts Department of Environmental Protection
EPA = Environmental Protection Agency	VOC = volatile organic compound
LAER = Lowest Achievable Emission Rate	CFR = Code of Federal Regulations

**Table 8(v) Notes:** none.

**4(vi). APPLICABLE REQUIREMENTS: Miscellaneous**

EMISSION UNIT IDENTIFICATION: **Miscellaneous**

The following emission units are subject to and regulated by this operating permit:

Table 1(vi) – Miscellaneous				
Emission Unit (EU)	Description of Emission Unit	Stack #	EU Design Capacity	Pollution Control Device
<i>Miscellaneous</i>				
131 F001	East Diversion Tank North Equalization Tank South Equalization Tank	Open tanks without stacks	300,000 gallons 1,000,000 gallons 1,000,000 gallons	none
IO F01	Cold Cleaning Degreaser-Resimene Cold Cleaning Degreaser-RB 9100 Cold Cleaning Degreaser-South Butvar Cold Cleaning Degreaser-Central Maintenance Cold Cleaning Degreaser-Powerhouse Cold Cleaning Degreaser-Saflex Cold Cleaning Degreaser-Saflex Cold Cleaning Degreaser-Saflex Cold Cleaning Degreaser-Maintenance	Bldg. 94 Bldg. 92 Bldg. 132 Bldg. 100 Bldg. 154 Bldg. 99 Bldg. 99 Bldg. 99 Bldg. 61	< 100 gallons < 100 gallons < 100 gallons < 100 gallons < 100 gallons < 100 gallons < 100 gallons < 100 gallons < 100 gallons	closed cover & minimum freeboard ratio
136 S001	Five (5) extruders used for product development and quality control Hot oil system Plasticizer system UnaDyn pellet dryer Misc. point sources  Resin separator/receiver Diosna premix/cooler  Black-Clawson encapsulating machine (ALS)  Blender/granulator Plasticizer surge tank Scrap separator Air knife Gradient handling equipment	036 P052       036 P037  exhaust fan  none	various	Mist Eliminator (Monsanto Enviro-Chem)          Fabric Filter (Hardy)

Table 1(vi) – Miscellaneous				
Emission Unit (EU)	Description of Emission Unit	Stack #	EU Design Capacity	Pollution Control Device
IO-BIAB	“Bag-In-A-Box” trailer-based PVB resin loading system	single stack	1,400 acfm at 95°F	Horizon Systems, Inc. Model XF525SFC253S Baghouse (equipped with cartridge filters)
Emergency Generators				
Emission Unit (EU)	Heat Input/Make/Model	Engine Type/Fuel	Installation Date	Description and location of Emission Unit
092 S34	0.77 MMBtu/hr Solar Model #65-350	CI kerosene	1974	RB-9100, Building 92
150 S33	0.051 MMBtu/hr Katolight Model #L15FRW4	SI propane	1986	Lube oil pump generator, Powerhouse
089 S038	0.74 MMBtu/hr Cummins Model #NT855F3	CI No. 2 fuel oil (ULSD)	1988	Emergency fire water pump, Building 89
150 S12	1.71 MMBtu/hr Kohler Model #60 ROZ74	CI No. 2 fuel oil (ULSD)	1989	Main emergency generator, Powerhouse
011 S001	0.20 MMBtu/hr Kohler Model #ROZ81	CI No. 2 fuel oil (ULSD)	1990	Phone system, Building 11
096 S001	0.16 MMBtu/hr Ford engine Model #LRG-4251-6005A Cummins generator set Model #GGDB-3379550	SI propane	1999	Building 96, Building 96
099 S046	0.92 MMBtu/hr Cummins Model #QSL9-G2 NR3	CI No. 2 fuel oil (ULSD)	12/16/2009	IT systems, Building 99

**Table 1(vi) Key**

EU = Emission Unit  
 acfm = actual cubic feet per minute  
 CI = Compression Ignition  
 MMBtu/hr = million British thermal units per hour

PCD = Pollution Control Device  
 °F = degrees Fahrenheit  
 SI = Spark Ignition

**Table 1(vi) Footnote:** none.



A. EMISSION LIMITS AND RESTRICTIONS: Miscellaneous – The Permittee is subject to the emission limits/restrictions as contained in Table 3(vi) below:

Table 3(vi) – Miscellaneous				
EU #	Fuel or Raw Material	Pollutant	Emission Limits / Restrictions	Applicable Regulation and/or Approval No.
IO F01	degreasing solvent	VOC	solvent consumption <sup>1</sup> rate < 100 gallons/month for each cold cleaning degreaser	Regulation 310 CMR 7.03(8) Regulation 310 CMR 7.18(8)
136 S001 Saflex Pilot Plant	resins	PM & condensable hydrocarbons	≥ 99.5% PM control (Resin separator / receiver)  No more than four (4), 4.5” pilot scale extruders operating at one time	Regulation 310 CMR 7.03(12) Dry Material Storage Silo MassDEP Approval #1-P-09-002 (5/26/2009 and 9/14/2011)
IO-BIAB	resins	PM, VOC	≥99.5% PM control  No visible emissions	Regulation 310 CMR 7.03(22) Regulation 310 CMR 7.10 Title V OP Renewal Amendment (X265785) MassDEP Approval #1-P-09-002 (5/26/2009 and 9/14/2011)
099 S046	No. 2 fuel oil	Sulfur in fuel	≤15 ppm (≈0.0015% sulfur by weight)	Regulation 310 CMR 7.26(42)
		NMHC and NOx	Operate engine no more than 300 hours per year (in any consecutive rolling 12 month total <sup>3</sup> )  This operating restriction includes normal maintenance and testing procedures as recommended by the manufacturer.	
		CO		
		PM <sup>2</sup>		
		various	≤ 100 hours per calendar year for maintenance and testing;  ≤ 50 hours per calendar year for non-emergency situations;  ≤ 100 hours per calendar year total for maintenance/testing and non-emergency situations.	Regulation 40 CFR 60.4211(f)(3)

Table 3(vi) – Miscellaneous				
EU #	Fuel or Raw Material	Pollutant	Emission Limits / Restrictions	Applicable Regulation and/or Approval No.
092 S34 150 S33 089 S038 011 S001 096 S001	Various (kerosene, propane, and No. 2 fuel oil)	various	$\leq$ 100 hours per calendar year for maintenance and testing; $\leq$ 50 hours per calendar year for non-emergency situations; $\leq$ 100 hours per calendar year total for maintenance/testing and non-emergency situations.	Regulation 40 CFR 63.6640(f)(3)
092 S34 150 S33 089 S038 150 S12 011 S001 096 S001 099 S046	Various (kerosene, propane, and No. 2 fuel oil)	smoke	No. 1 of "the Chart" no more than 6 minutes during any one hour, no time to exceed No. 2 of "the Chart"	Regulation 310 CMR 7.06(1)(a)
		opacity	$\leq$ 20%, except 20 to $\leq$ 40% for $\leq$ 2 minutes during any one hour	Regulation 310 CMR 7.06(1)(b)
089 S038 150 S12 011 S001	No. 2 fuel oil	Sulfur in Fuel	$\leq$ 500 ppm ( $\approx$ 0.05% sulfur by weight)	310 CMR 7.05(1)(a)1.: Table 1

**Table 3(vi) Key:**

EU = Emission Unit  
 PM = Total Particulate Matter  
 % = percent  
 $<$  = less than  
 $\geq$  = less than or equal to

CMR = Code of Massachusetts Regulations  
 MassDEP = Massachusetts Department of Environmental Protection  
 VOC = Volatile Organic Compounds  
 OP = operating permit

**Table 3(vi) Foot Notes:**

- 1) Consumption rate is the amount of solvent added into the unit less any documented solvent waste disposal or recycling amounts, each in gallons per month
- 2) Particulate matter measured according to the applicable procedures specified in 40 CFR Part 60 Appendix A, Method 5.
- 3) To calculate the amount of a consecutive 12 month rolling period take the current calendar month amount and add it to the previous 11 calendar months total amount

B. COMPLIANCE DEMONSTRATION: **Miscellaneous** – The Permittee is subject to the monitoring, testing, record-keeping, and reporting requirements as contained in Tables 4(vi), 5(vi), and 6(vi) below and 310 CMR 7.00 Appendix C (9) and (10): and applicable requirements as contained in Table 3(vi).

<b>Table 4(vi) – Miscellaneous</b>	
<b>EU #</b>	<b>Monitoring/Testing Requirements</b>
IO F01	<b>1)</b> In accordance with 310 CMR 7.18(8)(g), upon request of the MassDEP or EPA, perform or have performed tests to demonstrate compliance with 310 CMR 7.18(8).
092 S34 089 S038 011 S001	<b>2)</b> In accordance with 40 CFR 63, Subpart ZZZZ, Table 2.c.1.b., inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.
150 S33 096 S001	<b>3)</b> In accordance with 40 CFR 63, Subpart ZZZZ, Table 2.c.6.b., inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary
092 S34 089 S038 011 S001	<b>4)</b> In accordance with 40 CFR 63, Subpart ZZZZ, Table 2.c, change oil and filter every 500 hours of operation or annually, whichever comes first.
150 S33 096 S001	<b>5)</b> In accordance with 40 CFR 63, Subpart ZZZZ, Table 2.c, inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
099 S046	<b>6)</b> In accordance with 40 CFR 63.6625(f), the Permittee shall install a non-resettable hour meter if one is not already installed.
099 S046	<b>7)</b> In accordance with 310 CMR 7.26(42)(e)2., MassDEP may require emission or other monitoring to assure compliance with the requirements of 301 CMR 7.26(42).
099 S046	<b>8)</b> In accordance with 310 CMR 7.26(42)(d)1., a non-turnback hour counter shall be installed, operated and maintained in good working order on the engine.
099 S046	<b>9)</b> In accordance with 310 CMR 7.26(42)(e)3., any testing when required shall comply with the following: <ul style="list-style-type: none"> <li>a. Tests to certify compliance with emission limitations must be performed in accordance with EPA reference Methods, California Air Resources Board Methods approved by EPA, or equivalent methods as approved by MassDEP and EPA.</li> <li>b. Particulate matter from liquid fuel reciprocating engines shall be determined using Method 8178 D2 of the International Organization for Standardization.</li> <li>c. Testing shall be conducted at the full design load of the emergency engine.</li> <li>d. MassDEP may require emission or other testing to assure compliance with the emission limitations or fuel requirements.</li> </ul>
089 S038 150 S12 011 S001 099 S046	<b>10)</b> In accordance with 310 CMR 7.00 Appendix C(9)(b), the Permittee shall monitor sulfur content of each new shipment of fuel oil received. Compliance with the percent sulfur in fuel requirements can be demonstrated by maintaining a shipping receipt from the fuel supplier (shipping certification) or through testing (testing certification). The shipping receipt certification or testing certification of sulfur content of fuel oil shall document that the testing has been conducted in accordance with the applicable ASTM test methods: (for sulfur D129-64, D1072-56, D1266-67, D1552-83, D2622-87, D4294-90) or any other method approved by MassDEP and EPA.
092 S34 089 S038 011 S001 150 S33 096 S001 099 S046	<b>11)</b> In accordance with 40 CFR 60.4211(f) (EU 099 S046 only) and 40 CFR 63.6640(f) (excluding EU 099 S046), operate the engine according to the conditions described therein. If you do not operate the engine according to the following requirements, the engine will not be considered an emergency engine under the subparts and will need to meet all requirements for non-emergency engines. <ul style="list-style-type: none"> <li>a. There is no time limit on the use of emergency stationary RICE in emergency situations.</li> <li>b. You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company</li> </ul>

	associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year
Site-Wide	<b>See Site-Wide Testing/Monitoring Requirements</b>

Table 4(vi) Key:

EU = Emission Unit  
 EPA = Environmental Protection Agency  
 CMR = Code of Massachusetts Regulations  
 MassDEP = Massachusetts Department of Environmental Protection

Table 4(vi) Foot Notes: none.

<b>Table 5(vi) – Miscellaneous</b>	
<b>EU #</b>	<b>Record-keeping Requirements</b>
IO F01	<p>Solutia shall</p> <ol style="list-style-type: none"> <li>1) In accordance with 310 CMR 7.18(8)(f) and 310 CMR 7.00 Appendix C(10)(b), prepare and maintain records of each solvent replacement sufficient to demonstrate compliance consistent with an instantaneous averaging time as stated in 310 CMR 7.18(2)(a). Records kept demonstrating compliance shall be kept on-site for five years and shall be made available to representatives of the MassDEP and EPA upon request. Such records shall include, but are not limited to:               <ol style="list-style-type: none"> <li>a. identity, quantity, formulation and density of solvent(s) used, and</li> <li>b. quantity, formulation and density of all waste solvent(s) generated, and</li> <li>c. actual operational and performance characteristics of the degreaser.</li> </ol> </li> <li>2) In accordance with 310 CMR 7.03(8) and 7.18(8), prepare and maintain records of solvent replacement sufficient to demonstrate compliance with the solvent use rates stated in 310 CMR 7.03(8).</li> </ol>
136 S001 IO-BIAB	<ol style="list-style-type: none"> <li>3) In accordance with 310 CMR 7.03(6), a record-keeping system shall be established and continued in sufficient detail to document the date of construction, substantial reconstruction or alteration and that the respective emission rates, operational limitations, equipment specifications and other requirements pursuant to 310 CMR 7.03 are met. All records shall be maintained up-to-date such that year-to-date information is readily available for Department examination.</li> </ol>
092 S34 089 S038 011 S001 150 S33 096 S001	<ol style="list-style-type: none"> <li>4) In accordance with 40 CFR 63.6655(e), keep records of the maintenance conducted on each stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan.</li> <li>5) In accordance with 40 CFR 63.6655(f), keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.</li> </ol>
099 S046	<ol style="list-style-type: none"> <li>6) In accordance with 310 CMR 7.26(42)(f), the owner or operator shall maintain the records described in 310 CMR 7.26(42)(f)1. through 4. as specified below. Such records shall be maintained on site and shall be made available to MassDEP or its designee upon request. The owner or operator shall certify that records are accurate and true in accordance with 301 CMR 7.01(2)(a) through (c).               <ol style="list-style-type: none"> <li>a. Information on equipment type, make and model, and rated power output; and</li> <li>b. A monthly log of hours of operation, fuel type heating value and sulfur content for fuel oil. A monthly calculation of the total hours operated in the previous 12 months; and</li> <li>c. Purchase orders, invoices, and other documents to substantiate information in the monthly log; and</li> <li>d. Copies of certificates and documents from the manufacturer related to certificates.</li> </ol> </li> </ol>

Table 5(vi) – Miscellaneous	
EU #	Record-keeping Requirements
089 S038 011 S001 099 S046 150 S12	7) In accordance with 310 CMR 7.00 Appendix C(10)(b), record the certification from the fuel supplier for each shipment of #2 fuel oil to be used which shall include the following information: <ol style="list-style-type: none"> <li>a. The name of the oil supplier;</li> <li>b. Percent sulfur content (by weight); and</li> <li>c. The location where the sample was drawn for analysis to determine the sulfur content of the oil, specifically including whether the oil was sampled as delivered to the affected facility or whether the sample was drawn from oil in storage at the oil supplier’s or oil refiner’s facility or other location. As an alternative, MMWEC may elect to analyze the oil immediately after the fuel storage tank is filled and before any oil is combusted for each new shipment according to methods approved by the MassDEP. These records shall be maintained on-site.</li> </ol>
Site-Wide	See Site-Wide Recordkeeping Requirements

Table 5(vi) Key

EU = Emission Unit

EPA = Environmental Protection Agency

CMR = Code of Massachusetts Regulations

MassDEP = Massachusetts Department of Environmental Protection

Table 5(vi) Notes: none.

Table 6(vi) – Miscellaneous	
EU #	Reporting Requirements
IO F01	Solutia shall <ol style="list-style-type: none"> <li>1) In accordance with 310 CMR 7.18(8)(f), make available to the MassDEP and EPA upon request, records kept to demonstrate compliance.</li> <li>2) In accordance with 310 CMR 7.03(5), report to the MassDEP any construction, substantial reconstruction or alteration of a degreaser described in 310 CMR 7.03(8) on the next required Source Registration/Emission Statement, in accordance with 310 CMR 7.12.</li> </ol>
099 S046	3) In accordance with 310 CMR 7.26(42)(f), make available the monthly log(s) and records established under 310 CMR 7.26(42)(f) to MassDEP or its designee upon request. The owner or operator shall certify that the log is accurate and true in accordance with 310 CMR 7.01(2).
Site-Wide	See Site-Wide Reporting Requirements

Table 6(vi) Key

EU = Emission Unit

EPA = Environmental Protection Agency

CMR = Code of Massachusetts Regulations

MassDEP = Massachusetts Department of Environmental Protection

Table 6(vi) Notes: none.

- C. GENERAL APPLICABLE REQUIREMENTS: **Miscellaneous** – The Permittee shall comply with all general applicable requirements contained in 310 CMR 7.00 et. seq. and 310 CMR 8.00 et. seq., when subject.
- D. REQUIREMENTS NOT CURRENTLY APPLICABLE: **Miscellaneous** – The Permittee is currently not subject to the following requirements:

<b>Table 7(vi) - Miscellaneous</b>	
<b>Regulation</b>	<b>Reason</b>
40 CFR 63 Subpart T: National Emissions Standards for Halogenated Solvent Cleaning	The site does not use any solvent cleaning machines using halogenated solvents listed in 63.460(a).

Table 7(vi) Notes: none.

**5(vi). SPECIAL TERMS AND CONDITIONS: Miscellaneous**

The Permittee is subject to the following special provisions that are not contained in Non-Process Specific Table 3(vi), 4(vi), 5(vi), and 6(vi):

<b>Table 8(vi)– Miscellaneous</b>	
<b>EU #</b>	<b>Special Terms and Conditions</b>
IO F01	<ol style="list-style-type: none"> <li>1. In accordance with 310 CMR 7.18(8)(a), not cause, suffer, allow or permit emissions of VOC from a cold cleaning degreaser unless the solvent used in a cold cleaning degreaser has a vapor pressure that does not exceed 1.0 mm Hg measured at 20 °C. This requirement shall not apply to the following:               <ol style="list-style-type: none"> <li>a. cold cleaning degreasers used in special and extreme solvent metal cleaning;</li> <li>b. cold cleaning degreasers for which the owner or operator has received MassDEP approval of a demonstration that compliance with the requirement to use a solvent with a vapor pressure of 1.0 mm Hg or less at 20°C will result in unsafe operating conditions; and</li> <li>c. cold cleaning degreasers that are located in a permanent total enclosure having control equipment that is designed and operated with an overall VOC control efficiency of 90% or greater.</li> </ol> </li> <li>2. In accordance with 310 CMR 7.18(8)(a), not cause, suffer, allow or permit emissions of VOC from a cold cleaning degreaser unless any leaks are repaired immediately, or the degreaser shut down.</li> <li>3. The following requirements shall apply unless the cold cleaning degreaser is a sink-like work area with a remote solvent reservoir with an open drain area less than 100 square centimeters:               <ol style="list-style-type: none"> <li>a. Each cold cleaning degreaser is equipped with a cover that is designed to be easily operated with one hand;</li> <li>b. Each cold cleaning degreaser is equipped to drain clean parts so that, while draining, the cleaned parts are enclosed for 15 seconds or until dripping ceases, whichever is longer;</li> <li>c. Each cold cleaning degreaser is designed with:                   <ol style="list-style-type: none"> <li>i. freeboard ratio of 0.75 or greater; or</li> <li>ii. a water blanket (only if the solvent used is insoluble in and heavier than water); or</li> <li>iii. an equivalent system of air pollution control which has been approved by the MassDEP and EPA;</li> </ol> </li> <li>d. The covers of each cold cleaning degreaser are closed whenever parts are not being handled in the degreaser, or when the degreaser is not in use; and</li> <li>e. The drafts across the top of each cold cleaning degreaser are minimized such that when the cover is open the degreaser is not exposed to drafts greater than 40 meters per minute (1.5 miles per hour), as measured between one and two meters upwind at the same elevation as the tank lip.</li> </ol> </li> </ol>
136 S001 IO-BIAB	<p>Solutia shall</p> <ol style="list-style-type: none"> <li>4. In accordance with MassDEP Approval #1-P-09-002 (05/26/2009 and 9/14/2011) for a Startup, Shutdown, and Malfunction Plan for particulate control equipment and scrubbers, follow the procedures described therein, including but not limited to monitoring, recordkeeping, notifications/reporting, control device alarms, emission observations, control device repair, process operations, and emission unit shutdown.</li> </ol>
092 S34 089 S038 011 S001 150 S33 096 S001	<ol style="list-style-type: none"> <li>5. In accordance with 40 CFR 63.6625(i) and (j) for compression ignition and spark ignition engines, respectively, the Permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c. of 40 CFR 63, Subpart ZZZZ.</li> <li>6. In accordance with 40 CFR 63, Subpart ZZZZ, Table 2.c, minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.</li> </ol>

**Table 8(vi)– Miscellaneous**

EU #	Special Terms and Conditions
092 S34 089 S038 011 S001 150 S33 096 S001	<p><b>7.</b> In accordance with 40 CFR 63, Subpart ZZZZ, Table 6.9., the Permittee shall operate and maintain the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions or develop and follow the Permittee's own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.</p> <p><b>8.</b> In accordance with 40 CFR §63.6665, the emission units are subject to the General Provisions of 40 CFR Part 63.1-63.15 (Subpart A) as indicated in Table 8 to Subpart ZZZZ of 40 CFR Part 63. Compliance with all applicable provisions therein is required.</p>
099 S046	<p><b>9.</b> In accordance with 40 CFR §63.6590(c), the Permittee shall meet the requirements of 40 CFR Part 63, Subpart ZZZZ by meeting the requirements of 40 CFR Part 60, Subpart IIII for compression ignition engines.</p> <p><b>10.</b> In accordance with 40 CFR 60.4206, the Permittee shall operate and maintain EU 099 S046 to achieve the emission standards as required in §60.4205(b) over the entire life of the engine.</p> <p><b>11.</b> In accordance with 40 CFR 60.4207(b), the Permittee shall use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted.</p> <p><b>12.</b> In accordance with 40 CFR 60.4211(a), the Permittee shall:</p> <ul style="list-style-type: none"> <li>a. Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;</li> <li>b. Change only those emission-related settings that are permitted by the manufacturer; and</li> <li>c. Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as applicable.</li> </ul> <p><b>13.</b> In accordance with 40 CFR 60.4211(c), the Permittee shall comply by installing an engine certified to the emission standards of §60.4205(b). The engine must be installed and configured according to the manufacturer's emission-related specifications.</p> <p><b>14.</b> In accordance with 40 CFR 60.4211(g)(2), if the Permittee does not install, configure, operate, and maintain EU 099 S046 according to the manufacturer's emission-related written instructions, the emission-related settings are changed in a way that is not permitted by the manufacturer, the Permittee shall demonstrate compliance as follows:</p> <ul style="list-style-type: none"> <li>a. keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions.</li> <li>b. conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after emission-related settings are changed in a way that is not permitted by the manufacturer.</li> </ul> <p><b>15.</b> In accordance with 40 CFR 60.4214(b), if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.</p> <p><b>16.</b> In accordance with 310 CMR 7.26(42)(d)2., the engine shall be operated and maintained in accordance with the manufacturer's recommended operating and maintenance procedures.</p> <p><b>17.</b> In accordance with 310 CMR 7.26(42)(d)3., each engine and its associated equipment shall be constructed, located, operated and maintained in a manner to comply with the requirements of 310 CMR 7.10: <i>Noise</i>.</p>



<b>Table 8(vi)– Miscellaneous</b>	
<b>EU #</b>	<b>Special Terms and Conditions</b>
099 S046	<p><b>18.</b> In accordance with 310 CMR 7.26(42)(d)4.a., the engine shall utilize an exhaust stack that discharges so as to not cause a condition of air pollution (310 CMR 7.01(1)). Exhaust stacks shall be configured to discharge the combustion gases vertically and shall not be equipped with any part or device that restricts the vertical exhaust flow of the emitted combustion gases, including but not limited to rain protection devices “shanty caps” and “egg beaters.” Any emission impacts of exhaust stacks upon sensitive receptors including, but not limited to, people, windows and doors that open, and building fresh air intakes shall be minimized by employing good air pollution control engineering practices. Such practices include without limitation:</p> <ul style="list-style-type: none"> <li>a. Avoiding location that may be subject to downwash of the exhaust; and</li> <li>b. Installing stack(s) of sufficient height in locations that will prevent and minimize flue gas impacts upon sensitive receptors.</li> </ul> <p><b>19.</b> In accordance with 40 CFR §60.4218, EU 099 S046 is subject to the General Provisions of 40 CFR Part 63.1-63.15 (Subpart A) as indicated in Table 8 to Subpart IIII of 40 CFR Part 60. Compliance with all applicable provisions therein is required.</p>

**Table 8(vi) Key**

EU = Emission Unit  
 VOC = volatile organic compound  
 EPA = Environmental Protection Agency  
 °C = degree Celsius  
 VOC = volatile organic compound

CMR = Code of Massachusetts Regulations  
 mm Hg = millimeters of mercury  
 MassDEP = Massachusetts Department of Environmental Protection  
 % = percent

**Table 8(vi) Notes:** none.

## **6. ALTERNATIVE OPERATING SCENARIOS**

The permittee did not request alternative operating scenarios in its operating permit application.

## **7. EMISSIONS TRADING**

### **A. Intra-facility emission trading**

The facility did not request intra-facility emissions trading in its operating permit application.

Pursuant to 310 CMR 7.00: Appendix C(7)(b), emission trades, provided for in this permit, may be implemented provided the Permittee notifies the United States Environmental Protection Agency (EPA) and the MassDEP at least fifteen (15) days in advance of the proposed changes and the Permittee provides the information required in 310 CMR 7.00: Appendix C(7)(b)3.

Any intra-facility change that does not qualify pursuant to 310 CMR 7.00: Appendix C(7)(b)2. is required to be submitted to the MassDEP pursuant to 310 CMR 7.00: Appendix B.

### **B. Inter-facility emission trading**

The Permittee did not request inter-facility emissions trading in its operating permit application.

All increases in emissions due to emission trading must be authorized under the applicable requirements of 310 CMR 7.00: Appendix B (the "Emissions Trading Program") and the 42 U.S.C. §7401 et. seq. (the "Act"), and provided for in this permit.

## **8. COMPLIANCE SCHEDULE**

The Permittee has indicated that the facility is in compliance and shall remain in compliance with the applicable requirements contained in Sections 4 and 5.

In addition, the Permittee shall comply with any applicable requirements that become effective during the permit term.

## GENERAL CONDITIONS FOR OPERATING PERMIT

### **9. FEES**

The Permittee has paid the permit application processing fee and shall pay the annual compliance fee in accordance with the fee schedule pursuant to 310 CMR 4.00.

### **10. COMPLIANCE CERTIFICATION**

All documents submitted to the MassDEP shall contain certification by the responsible official of truth, accuracy, and completeness. Such certification shall be in compliance with 310 CMR 7.01(2) and contain the following language:

"I certify that I have personally examined the foregoing and am familiar with the information contained in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including possible fines and imprisonment."

The "Operating Permit Reporting Kit" contains instructions and the Annual Compliance Report and Certification and the Semi-Annual Monitoring Summary Report and Certification. The "Operating Permit Reporting Kit" is available to the Permittee via the MassDEP's web site, <http://www.mass.gov/dep/air/approvals/aqforms.htm#op>.

#### **A. Annual Compliance Report and Certification**

The Responsible Official shall certify, annually for the calendar year, that the facility is in compliance with the requirements of this Operating Permit. The report shall be postmarked or delivered by January 30 to the MassDEP and to the Air Compliance Clerk, U.S. Environmental Protection Agency - New England Region. The report shall be submitted in compliance with the submission requirements below.

The compliance certification and report shall describe:

- 1) the terms and conditions of the Permit that are the basis of the certification;
- 2) the current compliance status and whether compliance was continuous or intermittent during the reporting period;
- 3) the methods used for determining compliance, including a description of the monitoring, record keeping, and reporting requirements and test methods; and
- 4) any additional information required by the MassDEP to determine the compliance status of the source.

#### **B. Semi-Annual Monitoring Summary Report and Certification**

The Responsible Official shall certify, semi-annually on the calendar year, that the facility is in compliance with the requirements of this Permit. The report shall be postmarked or delivered by

January 30 and July 30 to the MassDEP. The report shall be submitted in compliance with the submission requirements below.

The compliance certification and report shall describe:

- 1) the terms and conditions of the Permit that are the basis of the certification;
- 2) the current compliance status during the reporting period;
- 3) the methods used for determining compliance, including a description of the monitoring, record keeping, and reporting requirements and test methods;
- 4) whether there were any deviations during the reporting period;
- 5) if there are any outstanding deviations at the time of reporting, and the Corrective Action Plan to remedy said deviation;
- 6) whether deviations in the reporting period were previously reported;
- 7) if there are any outstanding deviations at the time of reporting, the proposed date of return to compliance;
- 8) if the deviations in the reporting period have returned to compliance and date of such return to compliance; and
- 9) any additional information required by the MassDEP to determine the compliance status of the source.

## **11. NONCOMPLIANCE**

Any noncompliance with a permit condition constitutes a violation of 310 CMR 7.00: Appendix C and the Clean Air Act, and is grounds for enforcement action, for Permit termination or revocation, or for denial of an Operating Permit renewal application by the MassDEP and/or EPA. Noncompliance may also be grounds for assessment of administrative or civil penalties under M.G.L. c.21A, §16 and 310 CMR 5.00; and civil penalties under M.G.L. c.111, §142A and 142B. This Permit does not relieve the Permittee from the obligation to comply with any other provisions of 310 CMR 7.00 or the Act, or to obtain any other necessary authorizations from other governmental agencies, or to comply with all other applicable Federal, State, or Local rules and regulations, not addressed in this Permit.

## **12. PERMIT SHIELD**

- A. This facility has a permit shield provided that it operates in compliance with the terms and conditions of this Permit. Compliance with the terms and conditions of this Permit shall be deemed compliance with all applicable requirements specifically identified in Sections 4, 5, 6, and 7, for the emission units as described in the Permittee's application and as identified in this Permit.

Where there is a conflict between the terms and conditions of this Permit and any earlier approval or Permit, the terms and conditions of this Permit control.

- B. The MassDEP has determined that the Permittee is not currently subject to the requirements listed in Sections 4, Table 7.

C. Nothing in this Permit shall alter or affect the following:

- 1) the liability of the source for any violation of applicable requirements prior to or at the time of Permit issuance.
- 2) the applicable requirements of the Acid Rain Program, consistent with 42 U.S.C. §7401, §408(a); or
- 3) the ability of EPA to obtain information under 42 U.S.C. §7401, §114 or §303 of the Act.

### **13. ENFORCEMENT**

The following regulations found at 310 CMR 7.02(8)(h) Table 6 for wood fuel, 7.04(9), 7.05(8), 7.09 (odor), 7.10 (noise), 7.18(1)(b), 7.21, 7.22, 7.70 and any condition(s) designated as "state only" are not federally enforceable because they are not required under the Act or under any of its applicable requirements. These regulations and conditions are not enforceable by the EPA. Citizens may seek equitable or declaratory relief to enforce these regulations and conditions pursuant to Massachusetts General Law Chapter 214, Section 7A

All other terms and conditions contained in this Permit, including any provisions designed to limit a facility's potential to emit, are enforceable by the MassDEP, EPA and citizens as defined under the Act.

A Permittee shall not claim as a defense in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit.

### **14. PERMIT TERM**

This Permit shall expire on the date specified on the cover page of this Permit, which shall not be later than the date 5 years after issuance of this Permit.

Permit expiration terminates the Permittee's right to operate the facility's emission units, control equipment or associated equipment covered by this Permit, unless a timely and complete renewal application is submitted at least 6 months before the expiration date.

### **15. PERMIT RENEWAL**

Upon the MassDEP's receipt of a complete and timely application for renewal, this facility may continue to operate subject to final action by the MassDEP on the renewal application.

In the event the MassDEP has not taken final action on the Operating Permit renewal application prior to this Permit's expiration date, this Permit shall remain in effect until the MassDEP takes final action on the renewal application, provided that a timely and complete renewal application has been submitted in accordance with 310 CMR 7.00: Appendix C(13).

## **16. REOPENING FOR CAUSE**

This Permit may be modified, revoked, reopened, and reissued, or terminated for cause by the MassDEP and/or EPA. The responsible official of the facility may request that the MassDEP terminate the facility's Operating Permit for cause. The MassDEP will reopen and amend this Permit in accordance with the conditions and procedures under 310 CMR 7.00: Appendix C(14).

The filing of a request by the Permittee for an Operating Permit revision, revocation and reissuance, or termination, or a notification of a planned change or anticipated noncompliance does not stay any Operating Permit condition.

## **17. DUTY TO PROVIDE INFORMATION**

Upon the MassDEP's written request, the Permittee shall furnish, within a reasonable time, any information necessary for determining whether cause exists for modifying, revoking and reissuing, or terminating the Permit, or to determine compliance with the Permit. Upon request, the Permittee shall furnish to the MassDEP copies of records that the Permittee is required to retain by this Permit.

## **18. DUTY TO SUPPLEMENT**

The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information. The Permittee shall also provide additional information as necessary to address any requirements that become applicable to the facility after the date a complete renewal application was submitted but prior to release of a draft permit.

The Permittee shall promptly, on discovery, report to the MassDEP a material error or omission in any records, reports, plans, or other documents previously provided to the MassDEP.

## **19. TRANSFER OF OWNERSHIP OR OPERATION**

This Permit is not transferable by the Permittee unless done in accordance with 310 CMR 7.00: Appendix C(8)(a). A change in ownership or operation control is considered an administrative permit amendment if no other change in the Permit is necessary and provided that a written agreement containing a specific date for transfer of Permit responsibility, coverage and liability between current and new Permittee, has been submitted to the MassDEP.

## **20. PROPERTY RIGHTS**

This Permit does not convey any property rights of any sort, or any exclusive privilege.

## **21. INSPECTION AND ENTRY**

Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow authorized representatives of the MassDEP, and EPA to perform the following:

- A. enter upon the Permittee's premises where an operating permit source activity is located or emissions-related activity is conducted, or where records must be kept under the conditions of this Permit;
- B. have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;
- C. inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and
- D. Sample or monitor at reasonable times any substances or parameters for the purpose of assuring compliance with the Operating Permit or applicable requirements as per 310 CMR 7.00 Appendix C(3)(g)(12).

## **22. PERMIT AVAILABILITY**

The Permittee shall have available at the facility, at all times, a copy of the materials listed under 310 CMR 7.00: Appendix C(10)(e) and shall provide a copy of the Operating Permit, including any amendments or attachments thereto, upon request by the MassDEP or EPA.

## **23. SEVERABILITY CLAUSE**

The provisions of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this Permit, shall not be affected thereby.

## **24. EMERGENCY CONDITIONS**

The Permittee shall be shielded from enforcement action brought for noncompliance with technology based<sup>5</sup> emission limitations specified in this Permit as a result of an emergency<sup>6</sup>. In order to use emergency as an

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<sup>5</sup> Technology based emission limits are those established on the basis of emission reductions achievable with various control measures or process changes (e.g., a new source performance standard) rather than those established to attain health based air quality standards.

<sup>6</sup> An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation would require immediate corrective action to restore normal operation, and that causes the source to exceed a technology based limitation under the Permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operations, operator error or decision to keep operating despite knowledge of any of these things.

affirmative defense to an action brought for noncompliance, the Permittee shall demonstrate the affirmative defense through properly signed, contemporaneous operating logs, or other relevant evidence that:

- A. an emergency occurred and that the Permittee can identify the cause(s) of the emergency;
- B. the permitted facility was at the time being properly operated;
- C. during the period of the emergency, the Permittee took all reasonable steps as expeditiously as possible, to minimize levels of emissions that exceeded the emissions standards, or other requirements in this Permit; and
- D. the Permittee submitted notice of the emergency to the MassDEP within two (2) business days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emission, and corrective actions taken.

If an emergency episode requires immediate notification to the Bureau of Waste Site Cleanup/Emergency Response, immediate notification to the appropriate parties should be made as required by law.

## **25. PERMIT DEVIATION**

Deviations are instances where any permit condition is violated and not reported as an emergency pursuant to section 24 of this Permit. Reporting a permit deviation is not an affirmative defense for action brought for noncompliance. Any reporting requirements listed in Table 6 of this Operating Permit shall supersede the following deviation reporting requirements, if applicable.

The Permittee shall report to the MassDEP's Regional Bureau of Waste Prevention the following deviations from permit requirements, by telephone, by fax or by electronic mail (e-mail), within three (3) days of discovery of such deviation:

- A. Unpermitted pollutant releases, excess emissions or opacity exceedances measured directly by CEMS/COMS, by EPA reference methods or by other credible evidence, which are ten percent (10%) or more above the emission limit.
- B. Exceedances of parameter limits established by your Operating Permit or other approvals, where the parameter limit is identified by the Permit or approval as surrogate for an emission limit.
- C. Exceedances of Permit operational limitations directly correlated to excess emissions.
- D. Failure to capture valid emissions or opacity monitoring data or to maintain monitoring equipment as required by statutes, regulations, your Operating Permit, or other approvals.
- E. Failure to perform QA/QC measures as required by your Operating Permit or other approvals for instruments that directly monitor compliance.

For all other deviations, three (3) day notification is waived and is satisfied by the documentation required in the subsequent Semi-Annual Monitoring Summary and Certification. Instructions and forms for reporting deviations are found in the MassDEP Bureau of Waste Prevention Air Operating Permit Reporting Kit, which is available to the Permittee via the MassDEP's web site,

<http://www.mass.gov/dep/air/approvals/aqforms.htm#op>.



This report shall include the deviation, including those attributable to upset conditions as defined in the Permit, the probable cause of such deviations, and the corrective actions or preventative measures taken.

Deviations that were reported by telephone, fax or electronic mail (e-mail) within 3 days of discovery, said deviations shall also be submitted in writing via the Operating Permit Deviation Report to the regional Bureau of Waste Prevention within ten (10) days of discovery. For deviations, which do not require 3-day verbal notification, follow-up reporting requirements are satisfied by the documentation required in the aforementioned Semi-Annual Monitoring Summary and Certification.

## **26. OPERATIONAL FLEXIBILITY**

The Permittee is allowed to make changes at the facility consistent with 42 U.S.C. §7401, §502(b)(10) not specifically prohibited by the Permit and in compliance with all applicable requirements provided the Permittee gives the EPA and the MassDEP written notice fifteen days prior to said change; notification is not required for exempt activities listed at 310 CMR 7.00: Appendix C(5)(h) and (i). The notice shall comply with the requirements stated at 310 CMR 7.00: Appendix C(7)(a) and will be appended to the facility's Permit. The permit shield allowed for at 310 CMR 7.00: Appendix C(12) shall not apply to these changes.

## **27. MODIFICATIONS**

- A. Administrative Amendments - The Permittee may make changes at the facility which are considered administrative amendments pursuant to 310 CMR 7.00: Appendix C(8)(a)1., provided they comply with the requirements established at 310 CMR 7.00: Appendix C(8)(b).
- B. Minor Modifications - The Permittee may make changes at the facility which are considered minor modifications pursuant to 310 CMR 7.00: Appendix C(8)(a)2., provided they comply with the requirements established at 310 CMR 7.00: Appendix C(8)(d).
- C. Significant Modifications - The Permittee may make changes at the facility which are considered significant modifications pursuant to 310 CMR 7.00: Appendix C(8)(a)3., provided they comply with the requirements established at 310 CMR 7.00: Appendix C(8)(c).
- D. No permit revision shall be required, under any approved economic incentives program, marketable permits program, emission trading program and other similar programs or processes, for changes that are provided in this Operating Permit. A revision to the Permit is not required for increases in emissions that are authorized by allowances acquired pursuant to the Acid Rain Program under Title IV of the Act, provided that such increases do not require an Operating Permit revision under any other applicable requirement.

## **28. OZONE DEPLETING SUBSTANCES**

This section contains air pollution control requirements that are applicable to this facility, and the United States Environmental Protection Agency enforces these requirements.

- A. The Permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
- 1) All containers containing a class I or class II substance that is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to 40 CFR 82.106.
  - 2) The placement of the required warning statement must comply with the requirements of 40 CFR 82.108.
  - 3) The form of the label bearing the required warning statement must comply with the requirements of 40 CFR 82.110.
  - 4) No person may modify, remove or interfere with the required warning statement except as described in 40 CFR 82.112.
- B. The Permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVAC) in Subpart B:
- 1) Persons opening appliances for maintenance, service, repair or disposal must comply with the required practices of 40 CFR 82.156.
  - 2) Equipment used during the maintenance, service, repair or disposal of appliances must comply with the standards for recycling and recovery equipment of 40 CFR 82.158.
  - 3) Persons performing maintenance, service, repair or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.
  - 4) Persons disposing of small appliances, MVACs and MVAC-like appliances (as defined in 40 CFR 82.152) must comply with recordkeeping requirements of 40 CFR 82.166.
  - 5) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair equipment requirements of 40 CFR 82.156.
  - 6) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.
- C. If the Permittee manufactures, transforms, imports or exports a class I or class II substance, the Permittee is subject to all the requirements as specified in 40 CFR Part 82, Subpart A, "Production and Consumption Controls".
- D. If the Permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, "Servicing of Motor Vehicle Air Conditioners". The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo or system used on passenger buses using HCFC-22 refrigerant.

- E. The Permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR Part 82, Subpart G, "Significant New Alternatives Policy Program".

## **29. PREVENTION OF ACCIDENTAL RELEASES**

This section contains air pollution control requirements that are applicable to this facility, and the United States Environmental Protection Agency enforces these requirements.

Your facility is subject to the requirements of the General Duty Clause, under 112(r)(1) of the CAA Amendments of 1990. This clause specifies that owners or operators of stationary sources producing, processing, handling or storing a chemical in any quantity listed in 40 CFR Part 68 or any other extremely hazardous substance have a general duty to identify hazards associated with these substances and to design, operate and maintain a safe facility, in order to prevent releases and to minimize the consequences of accidental releases which may occur.

## APPEAL CONDITIONS FOR OPERATING PERMIT

This Permit is an action of the MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing within 21 days of issuance of this Permit. In addition, any person who participates in any public participation process required by the Federal Clean Air Act, 42 U.S.C. §7401, §502(b)(6) or under 310 CMR 7.00: Appendix C(6), with respect to the MassDEP's final action on operating permits governing air emissions, and who has standing to sue with respect to the matter pursuant to federal constitutional law, may initiate an adjudicatory hearing pursuant to Chapter 30A, and may obtain judicial review, pursuant to Chapter 30A, of a final decision therein.

If an adjudicatory hearing is requested, the facility must continue to comply with all existing federal and state applicable requirements to which the facility is currently subject, until a final decision is issued in the case or the appeal is withdrawn. During this period, the application shield shall remain in effect, and the facility shall not be in violation of the Act for operating without a Permit.

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 Permit 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:

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

The 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.

The 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.

**ATTACHMENT A**

CONSENT DECREE DATED MAY 2, 2013

UNITED STATES OF AMERICA

v.

SOLUTIA, INC. and INEOS MELAMINES, LLC

Until its termination, the Consent Decree: United States of America versus Solutia, Inc. and INEOS Melamines, LLC, dated May 2, 2013, will be appended as Attachment A of this Operating Permit. Upon termination of this Consent Decree, the terms contained therein will have no further force or effect on the Permittee or the Facility covered by this Permit. Prior to termination, Permittee shall continue to report deviations from the Consent Decree as required by the Section V.N. of the Consent Decree and those deviations need not be included in the semiannual and annual reports required by General Conditions 10 and 25 of this Permit.