

West Virginia Department of Environmental Protection  
Division of Air Quality

*Earl Ray Tomblin*  
Governor

*Randy C. Huffman*  
Cabinet Secretary

# Permit to Operate



Pursuant to  
**Title V**  
of the Clean Air Act

*Issued to:*  
**Union Carbide Corporation**  
**Institute Plant**  
**Water Soluble Polymers (Group 5 of 5)**  
**R30-03900005-2012**

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*John A. Benedict*  
Director

*Issued: Draft/Proposed • Effective: Draft/Proposed*  
*Expiration: Draft/Proposed • Renewal Application Due: Draft/Proposed*

Permit Number: **R30-03900005-2012**  
Permittee: **Union Carbide Corporation**  
Facility Name: **Institute Plant**  
Business Unit: **Water Soluble Polymers (Group 5 of 5)**  
Mailing Address: **P. O. Box 8361, South Charleston, WV 25303**

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*This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45CSR30 — Requirements for Operating Permits. The permittee identified at the above-referenced facility is authorized to operate the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.*

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Facility Location:	Institute, Kanawha County, West Virginia
Mailing Address:	P. O. Box 8361, South Charleston, WV 25303
Telephone Number:	(304) 747-7000
Type of Business Entity:	Corporation
Facility Description:	Production of CELLOSIZ <sup>TM</sup> HEC and POLYOX <sup>TM</sup> WSR.
SIC Codes:	2869
UTM Coordinates:	432.00 km Easting • 4,284.31 km Northing • Zone 17

Permit Writer: Mike Egnor

*Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [ §§ 22B-1-1 et seq. ], Chapter 22B of the Code of West Virginia. West Virginia Code §22-5-14.*

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*Issuance of this Title V Operating Permit does not supersede or invalidate any existing permits under 45CSR13, 14 or 19, although all applicable requirements from such permits governing the facility's operation and compliance have been incorporated into the Title V Operating Permit.*

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## 1.0 Emission Units and Active R13, R14, and R19 Permits

### 1.1 Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Control Device
<b>CELLOSIZETM HEC</b>				
V21101	211A or 211L	Tank 21101	1962	Scrubber A211 or Scrubber A211A or None
V21121	211A	Vessel 21121	1962	Scrubber A211 or Scrubber A211A
V21122	211A	Vessel 21122	1962	Scrubber A211 or Scrubber A211A
V21123	211A	Vessel 21123	1962	Scrubber A211 or Scrubber A211A
V21124	211A	Vessel 21124	1962	Scrubber A211 or Scrubber A211A
V21125	211A	Vessel 21125	1980	Scrubber A211 or Scrubber A211A
V21126	211A	Vessel 21126	1995	Scrubber A211 or Scrubber A211A
T21105	211A	Vessel 21105 (Tank 21105)	1962	Scrubber A211 or Scrubber A211A
T21106	211A	Vessel 21106 (Tank 21106)	1962	Scrubber A211 or Scrubber A211A

<b>Emission Unit ID</b>	<b>Emission Point ID</b>	<b>Emission Unit Description</b>	<b>Year Installed</b>	<b>Control Device</b>
T21107	211A	Vessel 21107 (Tank 21107)	1962	Scrubber A211 or Scrubber A211A
T21108	211A	Vessel 21108 (Tank 21108)	1962	Scrubber A211 or Scrubber A211A
T21109	211A	Vessel 21109 (Tank 21109)	1962	Scrubber A211 or Scrubber A211A
V501	211A	Vessel 501	1980	Scrubber A211 or Scrubber A211A
V561	211A	Vessel 561	1995	Scrubber A211 or Scrubber A211A
V21102	211A	Vessel 21102	1962	Scrubber A211 or Scrubber A211A
V21103	211A	Vessel 21103	1962	Scrubber A211 or Scrubber A211A
V21104	211A	Vessel 21104	1975	Scrubber A211 or Scrubber A211A
T1138	211A	Tank 1138	1962	Scrubber A211 or Scrubber A211A
T5203	211A	Tank 5203	1962	Scrubber A211 or Scrubber A211A

<b>Emission Unit ID</b>	<b>Emission Point ID</b>	<b>Emission Unit Description</b>	<b>Year Installed</b>	<b>Control Device</b>
V22101	211A	Vessel 22101 (idle)	1950	Scrubber A211 or Scrubber A211A
T5204	211A	Tank 5204	1961	Scrubber A211 or Scrubber A211A
T5206	211A	Tank 5206	1963	Scrubber A211 or Scrubber A211A
T5207	211A	Tank 5207	1963	Scrubber A211 or Scrubber A211A
T5208	211A	Tank 5208	1963	Scrubber A211 or Scrubber A211A
T5210	211A	Tank 5210	1996	Scrubber A211 or Scrubber A211A
T5211	211A	Tank 5211	1956	Scrubber A211 or Scrubber A211A
G216	216G	Tank 674	2006	None
H216	216H	Tank 675	2006	None
T5212	216I	Tank 5212	1962	None
T5202	216L	Tank 5202	1962	None
V203	221A	Vessel 203 (idle)	1950	Flare A221
V204	221A	Vessel 204	2003	Flare A221
V206	221A	Vessel 206	1957	Flare A221
V207	221A	Vessel 207 (idle)	1950	Flare A221
T1916	221A	Tank 1916 (idle)	1958	Flare A221
T1917	221A	Tank 1917 (idle)	1950	Flare A221
T1918	221A	Tank 1918 (idle)	1956	Flare A221

<b>Emission Unit ID</b>	<b>Emission Point ID</b>	<b>Emission Unit Description</b>	<b>Year Installed</b>	<b>Control Device</b>
T1919	221A	Tank 1919 (idle)	1950	Flare A221
T1920	221A	Tank 1920 (idle)	1950	Flare A221
T1922	221A	Tank 1922	1951	Flare A221
T1923	221A	Tank 1923	1950	Flare A221
T1924	221A	Tank 1924	1952	Flare A221
T1925	221A	Tank 1925	1950	Flare A221
T1926	221A	Tank 1926 (idle)	1950	Flare A221
T1927	221A	Tank 1927 (idle)	1950	Flare A221
T1946	221A	Tank 1946	1950	Flare A221
T1947	221A	Tank 1947	1956	Flare A221
T1948	221A	Tank 1948	1956	Flare A221
T1949	221A	Tank 1949	1956	Flare A221
T1950	221A	Tank 1950	1956	Flare A221
T1972	221A	Tank 1972 (idle)	1956	Flare A221
T1973	221A	Tank 1973 (idle)	1942	Flare A221
T1974	221A	Tank 1974 (idle)	1945	Flare A221
V201	221A	Vessel 201	1957	Flare A221
T1914	221B	Tank 1914	Replaced T1910 in 2009	Product Recovery
T1915	221B	Tank 1915	1951	Product Recovery
T1921	226A	Tank 1921	1950	None
T1913	226C	Tank 1913	1957	None
T1912	226D	Tank 1912	1958	None
L2B	L2B	Tank Truck (TT) Rack	1992	None
VC211	211C	Vessel 4/Baghouse C211	1975	None
VD211	211D	Vessel 2/Baghouse D211	1962	None
VE211	211E	Vessel 1/Baghouse E211	1962	None
V180	211J	Vessel 180/Baghouse J211	1975	None
V106	211K	Vessel 106/Baghouse K211	1962	None
V856	211N	Vessel 856/Baghouse N211	1972	None

<b>Emission Unit ID</b>	<b>Emission Point ID</b>	<b>Emission Unit Description</b>	<b>Year Installed</b>	<b>Control Device</b>
V801	211O	Vessel 801/Baghouse O211	1962	None
V802	211P	Vessel 802/Baghouse P211	1962	None
V899	211Q	Vessel 899/Baghouse Q211	1980	None
V804	211R	Vessel 804/Baghouse R211	1962	None
V805	211S	Vessel 805/Baghouse S211	1962	None
V805A	211S	Vessel 805A/Baghouse S211	2006/2007	None
V806	211T	Vessel 806/Baghouse T211	1962	None
V807	211U	Vessel 807/Baghouse U211	1962	None
V808	211V	Vessel 808/Baghouse V211	1962	None
V809	211W	Vessel 809/Baghouse W211	1962	None
V810	211X	Vessel 810/Baghouse X211	1962	None
V811	211Y	Vessel 811/Baghouse Y211	1962	None
V812	211Z	Vessel 812/Baghouse Z211	1962	None
V813	211AA	Vessel 813/Baghouse AA211	1962	None
V814	211BB	Vessel 814/Baghouse BB211	1975	None
V815	211CC	Vessel 815/Baghouse CC211	1975	None
V817	211DD	Vessel 817/Baghouse DD211	1975	None
V903	211EE	Vessel 903/Baghouse EE211	1962	None
V945	211FF	Vessel 945/Baghouse FF211	1975	None
V4-1703	211GG	Vessel 4-1703/Baghouse GG211	1983	None
T1244	216A	Tank 1244	1960	None
T5200	216B	Tank 5200	1962	None
T5201	216C	Tank 5201	1962	None
T5209	216D	Tank 5209	1962	None
T1222	216E	Tank 1222	1950	None
T1223	216F	Tank 1223	1950	None
None	None	Lab	NA	None
L2B	L2B	Tank Truck Rack	1992	None
LD1	LD1	Barge Unloading System	1940s	None
HVACC1	None	HVAC Unit #1	NA	None
HVACC2	None	HVAC Unit #2	NA	None

<b>Emission Unit ID</b>	<b>Emission Point ID</b>	<b>Emission Unit Description</b>	<b>Year Installed</b>	<b>Control Device</b>
IRFC1	None	Industrial Refrigeration Unit #1	NA	None
		Control Devices		
A211	211A	Water Scrubber	1981	None
A211A	211A	Water Scrubber	1995	None
A221	221A	Elevated, non-assisted flare	1994	None
<b>POLYOX™ WSR</b>				
T4904	230B	Tank 4904	2004	Scrubber B230
T4905	235K	Tank 4905	1967	None
T4906	235C	Tank 4906	1967	None
T4907	235D	Tank 4907	1967	None
T4920	235J	Tank 4920	1967	None
T4928 (V4928)	230Q/221A	Tank 4928	1967	None/Flare A221
T4929 (V4929)	235E	Tank 4929	1967	None
T4930 (V4930)	230AA	Tank 4930	1967	None
T4989 (V4989)	221A	Tank 4989	1967	Flare A221
T4990 (V4990)	221A	Tank 4990	1967	Flare A221
T4991	221A	Tank 4991	1967	Flare A221
T4992 (V4992)	235H	Tank 4992 (Idle)	1967	None
T4993	235N	Tank 4993	1967	None
T4994	235F	Tank 4994	1967	None
T4995	No Vent	Tank 4995	1995	None
T4998	235I	Tank 4998	1967	None
T23009	235A	Tank 23009	1987	None
T4901 (V4901)	230S	Tank 4901 (aka V4901 and T4901)	1967	None
TCR871	230E	Rack TCR871 (Unloading Rack operated by Bayer)	Prior to 1970	None
E306	221A	Vessel 306	1968	Flare A221

<b>Emission Unit ID</b>	<b>Emission Point ID</b>	<b>Emission Unit Description</b>	<b>Year Installed</b>	<b>Control Device</b>
V404	221A	Vessel 404	1967	Flare A221
V412E/W	230HH	Vessel 412E/W	1967	None
C461	No Vent	Vessel 461 PEPO Reactor (V461)	2002	None
V518 (V518R, T518R, or T518R Low EO)	230T/221A	Vessel 518R	1968	None/Flare A221
V4921	221A	Vessel 4921	1968	Flare A221
V4922	221A	Vessel 4922	1968	Flare A221
T4903 (V4903)	230B	Vessel T4903 (aka V4903)	1967	Scrubber B230
T4900	230G	Vessel T4900	1967	None
E530	230K	No. 1 Conveyor	1967	None
E531	230L	No. 2 Conveyor	1967	None
E532	230M	No. 3 Conveyor	1967	None
E504	230P	Blending	1967	Filter E504
STB	No Vents	Storage Bins	1967	None
L6DA	230R	Packaging Bin L6DA	1968	None
L6DB	230J	Packaging System	1968	J230
E535	230V	Vac System	1985	E535
D230A	No Vent	Hopper 1 (No vent to air)	1996	None
D230B	E221A	Hopper 2	1975	GG230
D230B	230U	Hopper 2	1975	None
E4902	230B	Equipment 4902 (T4902)	1967	None
155C	230H	Equipment 155C	NA	None
155B	230I	Equipment 155B	NA	None
E446R	221A	A/B – Vessel E446R A/B	1997	Flare A221
CC230	230CC	Flare Header Vent	1994	None
BB230	230BB	Process Header Vent	1976	None
E447R	221A	Equipment E447R	1997	Flare A221
D462	230JJ	Vessel D462	2002	None
T1220	235O	Tank 1220	1942	None

<b>Emission Unit ID</b>	<b>Emission Point ID</b>	<b>Emission Unit Description</b>	<b>Year Installed</b>	<b>Control Device</b>
V302 (POX2-302)	230O/221A	Vessel 302	1967	None/Flare A221
IRFP1	None	Industrial Refrigeration Unit #1	N/A	None
IRFP2	None	Industrial Refrigeration Unit #2	N/A	None
TTR_PX1	Vent Gas Returned to Process	Tank Truck Loading TTR_PX1	2012	None
<b>Control Devices</b>				
A221	221A	Flare (2,160 lbs/hr max)	1994	None
B230	230B	Packed Bed Scrubber	1967/Replaced 1999	None
GG230	230GG	E221A Baghouse	1975	None
J230	230J	E-707 Baghouse (Packaging vent collection system)	1968	None

## 1.2. Active R13, R14, and R19 Permits

The underlying authority for any conditions from R13, R14, and/or R19 permits contained in this operating permit is cited using the original permit number (e.g. R13-1234). The current applicable version of such permit(s) is listed below.

<b>Permit Number</b>	<b>Date of Issuance</b>
R13-0171E	01/30/2012

## 2.0 General Conditions

### 2.1. Definitions

- 2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.
- 2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.
- 2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.
- 2.1.4. Unless otherwise specified in a permit condition or underlying rule or regulation, all references to a "rolling yearly total" shall mean the sum of the monthly data, values or parameters being measured, monitored, or recorded, at any given time for the previous twelve (12) consecutive calendar months.

### 2.2. Acronyms

<b>CAAA</b>	Clean Air Act Amendments	<b>NSPS</b>	New Source Performance Standards
<b>CBI</b>	Confidential Business Information	<b>PM</b>	Particulate Matter
<b>CEM</b>	Continuous Emission Monitor	<b>PM<sub>10</sub></b>	Particulate Matter less than 10µm in diameter
<b>CES</b>	Certified Emission Statement	<b>pph</b>	Pounds per Hour
<b>C.F.R. or CFR</b>	Code of Federal Regulations	<b>ppm</b>	Parts per Million
<b>CO</b>	Carbon Monoxide	<b>PSD</b>	Prevention of Significant Deterioration
<b>C.S.R. or CSR</b>	Codes of State Rules	<b>psi</b>	Pounds per Square Inch
<b>DAQ</b>	Division of Air Quality	<b>SIC</b>	Standard Industrial Classification
<b>DEP</b>	Department of Environmental Protection	<b>SIP</b>	State Implementation Plan
<b>FOIA</b>	Freedom of Information Act	<b>SO<sub>2</sub></b>	Sulfur Dioxide
<b>HAP</b>	Hazardous Air Pollutant	<b>TAP</b>	Toxic Air Pollutant
<b>HON</b>	Hazardous Organic NESHAP	<b>TPY</b>	Tons per Year
<b>HP</b>	Horsepower	<b>TRS</b>	Total Reduced Sulfur
<b>lbs/hr or lb/hr</b>	Pounds per Hour	<b>TSP</b>	Total Suspended Particulate
<b>LDAR</b>	Leak Detection and Repair	<b>USEPA</b>	United States Environmental Protection Agency
<b>m</b>	Thousand	<b>UTM</b>	Universal Transverse Mercator
<b>MACT</b>	Maximum Achievable Control Technology	<b>VEE</b>	Visual Emissions Evaluation
<b>mm</b>	Million	<b>VOC</b>	Volatile Organic Compounds
<b>mmBtu/hr</b>	Million British Thermal Units per Hour		
<b>mmft<sup>3</sup>/hr or mmcf/hr</b>	Million Cubic Feet Burned per Hour		
<b>NA or N/A</b>	Not Applicable		
<b>NAAQS</b>	National Ambient Air Quality Standards		
<b>NESHAPS</b>	National Emissions Standards for Hazardous Air Pollutants		
<b>NO<sub>x</sub></b>	Nitrogen Oxides		

### **2.3. Permit Expiration and Renewal**

- 2.3.1. Permit duration. This permit is issued for a fixed term of five (5) years and shall expire on the date specified on the cover of this permit, except as provided in 45CSR§30-6.3.b. and 45CSR§30-6.3.c.  
**[45CSR§30-5.1.b.]**
- 2.3.2. A permit renewal application is timely if it is submitted at least six (6) months prior to the date of permit expiration.  
**[45CSR§30-4.1.a.3.]**
- 2.3.3. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with 45CSR§30-6.2. and 45CSR§30-4.1.a.3.  
**[45CSR§30-6.3.b.]**
- 2.3.4. If the Secretary fails to take final action to deny or approve a timely and complete permit application before the end of the term of the previous permit, the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time.  
**[45CSR§30-6.3.c.]**

### **2.4. Permit Actions**

- 2.4.1. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.  
**[45CSR§30-5.1.f.3.]**

### **2.5. Reopening for Cause**

- 2.5.1. This permit shall be reopened and revised under any of the following circumstances:
- a. Additional applicable requirements under the Clean Air Act or the Secretary's legislative rules become applicable to a major source with a remaining permit term of three (3) or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 45CSR§§30-6.6.a.1.A. or B.
  - b. Additional requirements (including excess emissions requirements) become applicable to an affected source under Title IV of the Clean Air Act (Acid Deposition Control) or other legislative rules of the Secretary. Upon approval by U.S. EPA, excess emissions offset plans shall be incorporated into the permit.
  - c. The Secretary or U.S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
  - d. The Secretary or U.S. EPA determines that the permit must be revised or revoked and reissued to assure compliance with the applicable requirements.  
**[45CSR§30-6.6.a.]**

## **2.6. Administrative Permit Amendments**

- 2.6.1. The permittee may request an administrative permit amendment as defined in and according to the procedures specified in 45CSR§30-6.4.  
[45CSR§30-6.4.]

## **2.7. Minor Permit Modifications**

- 2.7.1. The permittee may request a minor permit modification as defined in and according to the procedures specified in 45CSR§30-6.5.a.  
[45CSR§30-6.5.a.]

## **2.8. Significant Permit Modification**

- 2.8.1. The permittee may request a significant permit modification, in accordance with 45CSR§30-6.5.b., for permit modifications that do not qualify for minor permit modifications or as administrative amendments.  
[45CSR§30-6.5.b.]

## **2.9. Emissions Trading**

- 2.9.1. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit and that are in accordance with all applicable requirements.  
[45CSR§30-5.1.h.]

## **2.10. Off-Permit Changes**

- 2.10.1. Except as provided below, a facility may make any change in its operations or emissions that is not addressed nor prohibited in its permit and which is not considered to be construction nor modification under any rule promulgated by the Secretary without obtaining an amendment or modification of its permit. Such changes shall be subject to the following requirements and restrictions:
- a. The change must meet all applicable requirements and may not violate any existing permit term or condition.
  - b. The permittee must provide a written notice of the change to the Secretary and to U.S. EPA within two (2) business days following the date of the change. Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.
  - c. The change shall not qualify for the permit shield.
  - d. The permittee shall keep records describing all changes made at the source that result in emissions of regulated air pollutants, but not otherwise regulated under the permit, and the emissions resulting from those changes.
  - e. No permittee may make any change subject to any requirement under Title IV of the Clean Air Act (Acid Deposition Control) pursuant to the provisions of 45CSR§30-5.9.

- f. No permittee may make any changes which would require preconstruction review under any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) pursuant to the provisions of 45CSR§30-5.9.

**[45CSR§30-5.9.]**

## **2.11. Operational Flexibility**

- 2.11.1. The permittee may make changes within the facility as provided by § 502(b)(10) of the Clean Air Act. Such operational flexibility shall be provided in the permit in conformance with the permit application and applicable requirements. No such changes shall be a modification under any rule or any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) promulgated by the Secretary in accordance with Title I of the Clean Air Act and the change shall not result in a level of emissions exceeding the emissions allowable under the permit.

**[45CSR§30-5.8]**

- 2.11.2. Before making a change under 45CSR§30-5.8., the permittee shall provide advance written notice to the Secretary and to U.S. EPA, describing the change to be made, the date on which the change will occur, any changes in emissions, and any permit terms and conditions that are affected. The permittee shall thereafter maintain a copy of the notice with the permit, and the Secretary shall place a copy with the permit in the public file. The written notice shall be provided to the Secretary and U.S. EPA at least seven (7) days prior to the date that the change is to be made, except that this period may be shortened or eliminated as necessary for a change that must be implemented more quickly to address unanticipated conditions posing a significant health, safety, or environmental hazard. If less than seven (7) days notice is provided because of a need to respond more quickly to such unanticipated conditions, the permittee shall provide notice to the Secretary and U.S. EPA as soon as possible after learning of the need to make the change.

**[45CSR§30-5.8.a.]**

- 2.11.3. The permit shield shall not apply to changes made under 45CSR§30-5.8., except those provided for in 45CSR§30-5.8.d. However, the protection of the permit shield will continue to apply to operations and emissions that are not affected by the change, provided that the permittee complies with the terms and conditions of the permit applicable to such operations and emissions. The permit shield may be reinstated for emissions and operations affected by the change:

- a. If subsequent changes cause the facility's operations and emissions to revert to those authorized in the permit and the permittee resumes compliance with the terms and conditions of the permit, or
- b. If the permittee obtains final approval of a significant modification to the permit to incorporate the change in the permit.

**[45CSR§30-5.8.c.]**

- 2.11.4. "Section 502(b)(10) changes" are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.

**[45CSR§30-2.39]**

## **2.12. Reasonably Anticipated Operating Scenarios**

- 2.12.1. The following are terms and conditions for reasonably anticipated operating scenarios identified in this permit.
- a. Contemporaneously with making a change from one operating scenario to another, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating and to document the change in reports submitted pursuant to the terms of this permit and 45CSR30.
  - b. The permit shield shall extend to all terms and conditions under each such operating scenario; and
  - c. The terms and conditions of each such alternative scenario shall meet all applicable requirements and the requirements of 45CSR30.

[45CSR§30-5.1.i.]

## **2.13. Duty to Comply**

- 2.13.1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

[45CSR§30-5.1.f.1.]

## **2.14. Inspection and Entry**

- 2.14.1. The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:
- a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source 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 (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
  - d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

[45CSR§30-5.3.b.]

## **2.15. Schedule of Compliance**

- 2.15.1. For sources subject to a compliance schedule, certified progress reports shall be submitted consistent with the applicable schedule of compliance set forth in this permit and 45CSR§30-4.3.h., but at least every six (6) months, and no greater than once a month, and shall include the following:
- a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and
  - b. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measure adopted.

**[45CSR§30-5.3.d.]**

## **2.16. Need to Halt or Reduce Activity not a Defense**

- 2.16.1. It shall not be a defense for a permittee 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. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.

**[45CSR§30-5.1.f.2.]**

## **2.17. Emergency**

- 2.17.1. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission 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 operation, or operator error.

**[45CSR§30-5.7.a.]**

- 2.17.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of 45CSR§30-5.7.c. are met.

**[45CSR§30-5.7.b.]**

- 2.17.3. The affirmative defense of emergency shall be demonstrated 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 to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

- d. Subject to the requirements of 45CSR§30-5.1.c.3.C.1, the permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice, report, and variance request fulfills the requirement of 45CSR§30-5.1.c.3.B. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

[45CSR§30-5.7.c.]

- 2.17.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.

[45CSR§30-5.7.d.]

- 2.17.5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

[45CSR§30-5.7.e.]

## **2.18. Federally-Enforceable Requirements**

- 2.18.1. All terms and conditions in this permit, including any provisions designed to limit a source's potential to emit and excepting those provisions that are specifically designated in the permit as "State-enforceable only", are enforceable by the Secretary, USEPA, and citizens under the Clean Air Act.

[45CSR§30-5.2.a.]

- 2.18.2. Those provisions specifically designated in the permit as "State-enforceable only" shall become "Federally-enforceable" requirements upon SIP approval by the USEPA.

## **2.19. Duty to Provide Information**

- 2.19.1. The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records required to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.

[45CSR§30-5.1.f.5.]

## **2.20. Duty to Supplement and Correct Information**

- 2.20.1. Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.

[45CSR§30-4.2.]

## **2.21. Permit Shield**

- 2.21.1. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance provided that such applicable requirements are included and are specifically identified in this permit or the Secretary has determined that other requirements specifically

identified are not applicable to the source and this permit includes such a determination or a concise summary thereof.

**[45CSR§30-5.6.a.]**

2.21.2. Nothing in this permit shall alter or affect the following:

- a. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance; or
- b. The applicable requirements of the Code of West Virginia and Title IV of the Clean Air Act (Acid Deposition Control), consistent with § 408 (a) of the Clean Air Act.
- c. The authority of the Administrator of U.S. EPA to require information under § 114 of the Clean Air Act or to issue emergency orders under § 303 of the Clean Air Act.

**[45CSR§30-5.6.c.]**

## **2.22. Credible Evidence**

2.22.1. Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee including but not limited to any challenge to the credible evidence rule in the context of any future proceeding.

**[45CSR§30-5.3.e.3.B. and 45CSR38]**

## **2.23. Severability**

2.23.1. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid by a court of competent jurisdiction, the remaining permit terms and conditions or their application to other circumstances shall remain in full force and effect.

**[45CSR§30-5.1.e.]**

## **2.24. Property Rights**

2.24.1. This permit does not convey any property rights of any sort or any exclusive privilege.

**[45CSR§30-5.1.f.4]**

## **2.25. Acid Deposition Control**

2.25.1. Emissions shall not exceed any allowances that the source lawfully holds under Title IV of the Clean Air Act (Acid Deposition Control) or rules of the Secretary promulgated thereunder.

- a. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid deposition control program, provided that such increases do not require a permit revision under any other applicable requirement.
- b. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.

- c. Any such allowance shall be accounted for according to the procedures established in rules promulgated under Title IV of the Clean Air Act.

**[45CSR§30-5.1.d.]**

- 2.25.2. Where applicable requirements of the Clean Air Act are more stringent than any applicable requirement of regulations promulgated under Title IV of the Clean Air Act (Acid Deposition Control), both provisions shall be incorporated into the permit and shall be enforceable by the Secretary and U. S. EPA.

**[45CSR§30-5.1.a.2.]**

### 3.0 Facility-Wide Requirements

#### 3.1 Limitations and Standards

- 3.1.1. **Open burning.** The open burning of refuse by any person is prohibited except as noted in 45CSR§6-3.1. [45CSR§6-3.1.]
- 3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause or allow any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible. [45CSR§6-3.2.]
- 3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them. [40 C.F.R. §61.145(b) and 45CSR34]
- 3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public. [45CSR§4-3.1 State-Enforceable only.]
- 3.1.5. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11. [45CSR§11-5.2]
- 3.1.6. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality. [W.Va. Code § 22-5-4(a)(14)]
- 3.1.7. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.
  - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.
  - c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.
- [40 C.F.R. 82, Subpart F]

- 3.1.8. **Risk Management Plan.** This stationary source, as defined in 40 C.F.R. § 68.3, is subject to Part 68. This stationary source shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. Part 68.10. This stationary source shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.

[40 C.F.R. 68]

- 3.1.9. The owner or operator of a plant shall maintain particulate matter control of the plant premises, and plant owned, leased or controlled access roads, by paving, application of asphalt, chemical dust suppressants or other suitable dust control measures. Good operating practices shall be implemented and when necessary particulate matter suppressants shall be applied in relation to stockpiling and general material handling to minimize particulate matter generation and atmospheric entrainment.

[45CSR§7-5.2]

### 3.2. Monitoring Requirements

- 3.2.1. None

### 3.3. Testing Requirements

- 3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

- a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable.
- b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit.
- c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include

the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.

- d. The permittee shall submit a report of the results of the stack test within 60 days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:
  1. The permit or rule evaluated, with the citation number and language.
  2. The result of the test for each permit or rule condition.
  3. A statement of compliance or non-compliance with each permit or rule condition.

[WV Code §§ 22-5-4(a)(14-15) and 45CSR13]

### **3.4. Recordkeeping Requirements**

- 3.4.1. **Monitoring information.** The permittee shall keep records of monitoring information that include the following:
  - a. The date, place as defined in this permit and time of sampling or measurements;
  - b. The date(s) analyses were performed;
  - c. The company or entity that performed the analyses;
  - d. The analytical techniques or methods used;
  - e. The results of the analyses; and
  - f. The operating conditions existing at the time of sampling or measurement.

[45CSR§30-5.1.c.2.A. 45CSR13, R13-0171, Conditions 4.4.1, 5.4.1, 6.4.1, and 7.4.1.]

- 3.4.2. **Retention of records.** The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.

[45CSR§30-5.1.c.2.B.]

- 3.4.3. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.

[45CSR§30-5.1.c. State-Enforceable only.]

### 3.5. Reporting Requirements

- 3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.  
[45CSR§§30-4.4. and 5.1.c.3.D.]
- 3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.  
[45CSR§30-5.1.c.3.E.]
- 3.5.3. Except for the electronic submittal of the annual certification to the USEPA as required in 3.5.5 below, all notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, mailed first class or by private carrier with postage prepaid to the address(es) set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

**If to the DAQ:**

Director  
WVDEP  
Division of Air Quality  
601 57<sup>th</sup> Street SE  
Charleston, WV 25304  
  
Phone: 304/926-0475  
FAX: 304/926-0478

**If to the US EPA:**

Associate Director  
Office of Air Enforcement and Compliance  
Assistance  
(3AP20)  
U. S. Environmental Protection Agency  
Region III  
1650 Arch Street  
Philadelphia, PA 19103-2029

- 3.5.4. **Certified emissions statement.** The permittee shall submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality.  
[45CSR§30-8.]
- 3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify compliance for the period ending December 31. The annual certification to the USEPA shall be submitted in electronic format only. It shall be submitted by e-mail to the following address: [R3\\_APD\\_Permits@epa.gov](mailto:R3_APD_Permits@epa.gov). The permittee shall maintain a copy of the certification on site for five (5) years from submittal of the certification.  
[45CSR§30-5.3.e.]
- 3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and on or before March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be

clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30-4.4.

**[45CSR§30-5.1.c.3.A.]**

3.5.7. **Emergencies.** For reporting emergency situations, refer to Section 2.17 of this permit.

3.5.8. **Deviations.**

a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:

1. Any deviation resulting from an emergency or upset condition, as defined in 45CSR§30-5.7., shall be reported by telephone or telefax within one (1) working day of the date on which the permittee becomes aware of the deviation, if the permittee desires to assert the affirmative defense in accordance with 45CSR§30-5.7. A written report of such deviation, which shall include the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be submitted and certified by a responsible official within ten (10) days of the deviation.
2. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or telefax. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.
3. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.
4. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken.

**[45CSR§30-5.1.c.3.C.]**

b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary.

**[45CSR§30-5.1.c.3.B.]**

3.5.9. **New applicable requirements.** If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement.

**[45CSR§30-4.3.h.1.B.]**

3.5.10. **Reports of excess emissions.** Except as provided in 3.5.11, the owner or operator of any facility containing sources subject to 45CSR§21-5. shall, for each occurrence of excess emissions expected to last more than 7 days, within 1 business day of becoming aware of such occurrence, supply the Director by letter with the following information:

- a. The name and location of the facility;
- b. The subject sources that caused the excess emissions;

- c. The time and date of first observation of the excess emissions; and
- d. The cause and expected duration of the excess emissions.
- e. For sources subject to numerical emission limitations, the estimated rate of emissions (expressed in the units of the applicable emission limitation) and the operating data and calculations used in determining the magnitude of the excess emissions; and
- f. The proposed corrective actions and schedule to correct the conditions causing the excess emissions.  
**[45CSR§21-5.2; CO-R21-97-41, III.3 (State-Enforceable only)]**

- 3.5.11. **Variance.** If the provisions of 45CSR21 cannot be satisfied due to repairs made as the result of routine maintenance or in response to the unavoidable malfunction of equipment, the Director may permit the owner or operator of a source subject to 45CSR21 to continue to operate said source for periods not to exceed 10 days upon specific application to the Director. Such application shall be made prior to the making of repairs and, in the case of equipment malfunction, within 24 hours of the equipment malfunction. Where repairs will take in excess of 10 days to complete, additional time periods may be granted by the Director. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director. During such time periods, the owner or operator shall take all reasonable and practicable steps to minimize VOC emissions.  
**[45CSR§21-9.3; CO-R21-97-41, III.3 (State-Enforceable only)]**

### **3.6. Compliance Plan**

- 3.6.1. None

### **3.7. Permit Shield**

- 3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.
- 3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.
  - a. 40 C.F.R. 63, Subpart EEEE – “National Emission Standards for Hazardous Air Pollutants: Organic Liquid Distribution (Non-Gasoline).” For the CELLLOSIZE™ HEC Plant, tanks T1912, T1913, and T1921 are used to store an organic liquid containing HAPs and Tank Truck Rack L2B is used to load an organic liquid containing HAPs. These emission units are not subject to the requirements of 40 C.F.R. 63, Subpart EEEE for storage tanks and transfer racks because the liquid vapor pressure of the organic liquid stored and transferred is less than 0.1 psia. The POLYOX™ WSR Plant is also not subject to the requirements of 40 C.F.R. 63, Subpart EEEE because the liquid vapor pressure of materials processed in the plant are less than 0.1 psia.
  - b. 40 C.F.R. 60, Subpart Kb – “Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984. All tanks in this Group 5 Permit are not subject to Kb because they were built before July 23, 1994 and/or have a capacity less than 75 m<sup>3</sup>.

## 4.0 CELLOSIZE™ HEC

### 4.1. Limitations and Standards

- 4.1.1. The permittee shall route/vent the process equipment as prescribed in the permit application identified as R13-0171 and Table 1.0 - CELLOSIZE™ HEC to either one of the two scrubbers (Control Device ID A211 or A211A) at all times, except as provided by Condition 4.1.12, when the process is in operation and VOCs/HAPs are present in the vent stream from the equipment. The exception to this is when the piece(s) of equipment is isolated from the process for maintenance and repair, or stated in the start-up, shutdown, and malfunction (SSM) plan in an effort to “minimize emissions” due to the event.  
**[45CSR13, R13-0171, 4.1.1; 45CSR§27-3.1 (State-Enforceable only)]**
- 4.1.2. **Process Vents.** The permittee shall operate and maintain the header system identified as 211KK as a closed-vent system under 40 C.F.R. §63.5555(a).  
**[45CSR13, R13-0171, 4.1.2; 45CSR§27-3.1 (State-Enforceable only); 45CSR34; 40 C.F.R. §63.5555(a) and Table 5 to 40 C.F.R. 63, Subpart UUUU]**
- 4.1.3. **Process Vents.** The permittee shall conduct annual visual inspections and repair detected leaks of the header system (211KK), a closed-vent system, to the packed bed water scrubber in accordance with 40 C.F.R. §63.148. If applicable, the permittee shall prepare a written plan for inspecting unsafe-to-inspect and difficult-to-inspect equipment in accordance with 40 C.F.R. §§63.148(g)(2) and (h)(2).  
**[45CSR13, R13-0171, 7.1.3; 45CSR34; 40 C.F.R. §§63.5505(a), 63.5530(a), and Tables 1 and 3 to 40 C.F.R. 63, Subpart UUUU]**
- 4.1.4. **Process Vents.** The permittee shall operate and maintain the CELLOSIZE™ HEC Plant and the packed bed water scrubber(s) in such a manner that the total uncontrolled organic HAP emissions released from emission point 211A are reduced by at least 99%, except during periods of startup, shutdown, and malfunction as provided in 40 C.F.R. §63.5515(a). The permittee shall use work practices which includes but are not limited to the extended cookout and water scrubber to meet this reduction limit. The extended cookout practice shall be employed on each batch prior to the reactor being vented. The packed bed water scrubber shall be operated within the following operating ranges or different values that have been verified during performance testing that demonstrated compliance with the 99% HAP reduction limitation in 40 C.F.R. §63.5505(a) and conducted in accordance with condition 3.3.1, 40 C.F.R. §63.5530(b), and 40 C.F.R. §§63.5535(a), (b), and (h)(1).
- a. Daily average scrubber water flow rate of at least or greater than 5,000 pph (10 gpm) while VOCs/HAPs emissions are vented to the control device;
  - b. The scrubber(s) shall be maintained with a daily average pressure drop of no greater than 40 inches of water while VOC/HAPs are vented to the control device; and
  - c. Daily average maximum scrubber water temperature not to exceed 25 °C.  
**[45CSR13, R13-0171, 4.1.3; 45CSR§27-3 (State-Enforceable only); 45CSR34; 40 C.F.R. §§63.5505(a) and (b), Tables 1 and 2 to 40 C.F.R. 63, Subpart UUUU, 63.5515(a), and 63.5530(b)]**

- 4.1.5. **Process Vents.** The permittee shall install, maintain and operate devices to continuously measure the scrubbing liquid flow rate, scrubber water temperature, and the pressure drop across the packed bed water scrubber(s) while VOCs/HAPs are vented to the control device (Control Device ID A211 and A211A). [45CSR13, R13-0171, 4.1.4; 45CSR§27-3.4 (State-Enforceable only); 45CSR34; 40 C.F.R. §§63.5530(a) and 63.5545]
- 4.1.6. **Process Vents.** The permittee shall develop and make available to the Director or his/her duly authorized representative upon request, a site-specific monitoring plan for each continuous monitoring system (CMS) that addresses the applicable provisions in 40 C.F.R. §§63.5545(a) through (d) and (f) through (g). [45CSR13, R13-0171, 7.1.5; 45CSR34; 40 C.F.R. §§63.5545 (a) through (d) and (f) through (g)]
- 4.1.7. **Group 2 Wastewater.** The owner or operator of each 40 C.F.R. 63, Subpart UUUU affected source shall comply with the HON wastewater requirements of 40 C.F.R. §§63.132 through 63.147 for each process wastewater stream originating at an affected source. The applicable provisions for a Group 2 process wastewater stream are as follows: [45CSR34; 40 C.F.R. §63.5505(a) and Table 1 to 40 C.F.R. 63, Subpart UUUU]
- 4.1.7.1. For wastewater streams that are Group 2 for Table 9 of 40 C.F.R. 63, Subpart G compounds, the owner or operator shall comply with the recordkeeping requirements specified in 4.4.12. [45CSR34; 40 C.F.R. §63.132(a)(3)]  
(CELLO-80S and MOU-0001)
- 4.1.8. The permittee shall develop and implement a written startup, shutdown, and malfunction plan as prescribed in 40 C.F.R. §63.6(e)(3). The most current copy of such plan must be maintained on site at all times. [45CSR13, R13-0171, 7.1.4; 45CSR34; 40 C.F.R. §63.5515(c)]
- 4.1.9. **Heat Exchangers.** The heat exchanger systems used in the CELLOSIZE™ HEC Plant to cool process equipment or materials that are covered by 40 C.F.R. 63, Subpart UUUU shall be a once through heat exchanger system that is covered under a National Pollution Discharge Elimination System (NPDES) permit that meets the requirements set forth in 40 C.F.R. §63.104(a)(4). [45CSR13, R13-0171, 4.1.5; 45CSR34; 40 C.F.R. §63.5505(a) and Table 1 to 40 C.F.R. 63, Subpart UUUU]
- 4.1.10. **Maintenance Wastewater.** The owner or operator of each 40 C.F.R. 63, Subpart UUUU affected source, shall comply with the HON maintenance wastewater requirements of 40 C.F.R. §63.105. The applicable provisions for maintenance wastewater are as follows: [45CSR34; 40 C.F.R. §63.5505(a) and Table 1 to 40 C.F.R. 63, Subpart UUUU]
- 4.1.10.1. Each owner or operator of a source subject to 40 C.F.R. §63.105, Subpart F shall comply with the requirements of 4.1.10.1.a through 4.1.10.1.c for maintenance wastewaters containing those organic HAP's listed in table 9 of 40 C.F.R. 63, Subpart G and meet the definition of organic HAP in 40 C.F.R. §63.1423. [45CSR34; 40 C.F.R. §63.105(a)]
- a. The owner or operator shall prepare a description of maintenance procedures for management of wastewaters generated from the emptying and purging of equipment in the process during temporary shutdowns for inspections, maintenance, and repair (i.e., a maintenance-turn-around) and during periods which are not shutdowns (i.e., routine maintenance). The descriptions shall: [45CSR34; 40 C.F.R. §63.105(b)]

- i. Specify the process equipment or maintenance tasks that are anticipated to create wastewater during maintenance activities.  
**[45CSR34; 40 C.F.R. §63.105(b)(1)]**
    - ii. Specify the procedures that will be followed to properly manage the wastewater and control organic HAP emissions to the atmosphere; and  
**[45CSR34; 40 C.F.R. §63.105(b)(2)]**
    - iii. Specify the procedures to be followed when clearing materials from process equipment.  
**[45CSR34; 40 C.F.R. §63.105(b)(3)]**
  - b. The owner or operator shall modify and update the information required by 4.1.10.1.a as needed following each maintenance procedure based on the actions taken and the wastewaters generated in the preceding maintenance procedure.  
**[45CSR34; 40 C.F.R. §63.105(c)]**
  - c. The owner or operator shall implement the procedures described in 4.1.10.1.a and 4.1.10.1.b as part of the start-up, shutdown, and malfunction plan required under 40 C.F.R. §63.6(e)(3).  
**[45CSR34; 40 C.F.R. §63.105(d)]**
- 4.1.11. **Equipment Leaks.** The permittee shall implement and maintain a Leak Detection and Repair Program (LDAR) for each piece of equipment of the CELLOSIZE™ HEC Plant that is in “Toxic Air Pollutant Service,” as defined in 45CSR§27-2.11 and/or defined as part of a “Cellulose ether process unit” under 40 C.F.R. §63.5610. The LDAR program shall meet the applicable requirements of 40 C.F.R. 63, Subpart H – “National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks.” Compliance with Subpart H shall be deemed to demonstrate compliance with the provisions of 45CSR§27-4 – “Fugitive Emissions of Toxic Air Pollutants.” All notices and reports to be submitted to the Administrator under Subpart H shall be submitted to the Director and if appropriate to the U.S. EPA Administrator in accordance with the requirements in 40 C.F.R. 63, Subpart H and in Section 3.5 of this permit. Records of such submissions shall be maintained in accordance with 3.4.2 of this permit.

The pertinent equipment leak standards of 40 C.F.R. 63, Subpart H include: 40 C.F.R. §§63.162 (Standards: General), 63.167 (Standards: Open-ended valves or lines), 63.168 (Standards: Valves in gas/vapor service and in light liquid service), 63.171 (Standards: Delay of repair), 63.172 (Standards: Closed-vent systems and control devices), and 63.174 (Standards: Connectors in gas/vapor service and in light liquid service).

**[45CSR13, R13-0171, 7.1.1; 45CSR§27-4.1 (State-Enforceable only); 45CSR34; 40 C.F.R. §63.5505(a) and Table 1 to 40 C.F.R. 63, Subpart UUUU; 40 C.F.R. 63, Subpart H; 40 C.F.R. §§63.162, 63.167, 63.168, 63.171, 63.172, and 63.174]**

- 4.1.12. Emissions to the atmosphere shall not exceed the hourly and annual emission limits as set forth in Table 4.1.12.

<b>Emission Point ID</b>	<b>Emission Source (Equipment ID)</b>	<b>Pollutant</b>	<b>Hourly (lbs/hr)</b>	<b>Annual (TPY)</b>
211A	Header System (211KK)	VOC	0.29	0.25
		Ethylene Oxide	0.28	0.23
211L	Vessel 21101 (SR4-112)	VOC	0.22	0.36
		Ethylene Oxide	0.01	0.01
216G	Tank 674	VOCs	0.12	0.002
216H	Tank 675	VOCs	0.12	
216I	Vessel 5212	VOC	2.74	0.05

[45CSR13, R13-0171, 4.1.6]

- 4.1.13. Reserved

- 4.1.14. The emissions from the MO flare, designated as A221, venting through emission point 221A shall not exceed the limits shown in the following table:

<b>Pollutant</b>	<b>Hourly (lbs/hr)</b>	<b>Annual<sup>1</sup> (TPY)</b>
PM <sub>10</sub>	0.03	0.05
PM	0.03	0.05
SO <sub>2</sub>	0.63	1.05
NO <sub>x</sub>	1.36	1.64
CO	7.41	8.94
VOCs	6.76	6.25
Ethylene Oxide	0.80	0.16
Ethylene Glycol	0.01	0.01
Glycol Ethers	0.01	0.01
Isophorone	0.01	0.01

Note: Emissions from the MO Flare are from the sources noted in Section 1.0 – CELLOSIZE™ HEC of this permit and the POLYOX™ Process covered under Consent Order CO-R21-97-41.

<sup>1</sup>Based on annual VOC flow rate of 625,294 pounds per year.

Compliance with this streamlined limit assures compliance with the less stringent hourly particulate matter emission limit from 45CSR§6-4.1.

[45CSR13, R13-0171, 5.1.1; 45CSR§6-4.1; 45CSR§10-5.1; 45CSR§27-5.1]

- 4.1.15. The MO flare, designated as A221, shall be operated continuously when VOCs and/or HAPs are present in the process header vent gas that is routed to the flare.

[45CSR13, R13-0171, 5.1.2]

- 4.1.16. The permittee shall maintain a minimum net heating value of 200 Btu/scf (7.45 MJ/scm) or greater for the gas stream in the flare gas header routed to the MO flare, designated as A221 when VOCs/HAPs are present.

[45CSR13, R13-0171, 5.1.3]

- 4.1.17. The permittee shall operate the MO flare, designated as A221, with a flare gas exit velocity of less than 60 feet per second (18.3 m/sec).  
**[45CSR13, R13-0171, 5.1.4]**
- 4.1.18. The permittee shall install, operate, and maintain a monitoring device (including, but not limited to, a thermocouple, ultra-violet beam sensor, or infrared sensor) capable of continuously detecting that at least one pilot flame or the flare flame is present for the MO flare A221.  
**[45CSR13, R13-0171, 5.1.5]**
- 4.1.19. The MO flare A221 shall not emit visible particulate matter from emission point 221A greater than or equal to 20% opacity except for visible particulate matter emissions less than 40% for a period or periods aggregating no more than 8 minutes per start-up.  
**[45CSR13, R13-0171, 5.1.6; 45CSR§§6-4.3 and 4.4]**
- 4.1.20. Emissions to the atmosphere shall not exceed the hourly and annual emission limits as set forth in the following table:

<b>Table 4.1.20 – Emissions from the Tanks – Process Area ID 221</b>			
<b>Emission Point</b>	<b>Source (ID No.)</b>	<b>Pollutant</b>	<b>Annual (TPY)</b>
221B	Tank 1914 (SR4-1914)	VOCs	2.09
		Ethylene Glycol	0.01
		Glycol Ethers	0.02
221B	Tank 1915 (SR4-1915)	VOCs	2.07
		Ethylene Glycol	0.01
		Glycol Ethers	0.02
226A	Tank 1921 (SR4-1921)	VOCs	0.01
		Ethylene Glycol	0.01
226C	Tank 1913 (SR4-1913)	VOCs	0.28
		Ethylene Glycol	0.26
		Glycol Ethers	0.02
226D	Tank 1912 (SR4-1912)	VOCs	Included with Tank 1913 (Emission Point 226C)
		Ethylene Glycol	
		Glycol Ethers	

**[45CSR13, R13-0171, 5.1.7]**

- 4.1.21. Emissions of VOCs from Tanks 1914 and 1915 shall not exceed a maximum hourly rate of 18.63 pounds per hour from each tank through emission point 221B. Emissions from these two vessels shall be routed to a product recovery device (condenser) at all times while the vessels are in service. This product recovery device shall be operated in such a manner that the device has a recovery efficiency of no less than 50%.  
**[45CSR13, R13-0171, 5.1.8]**
- 4.1.22. Emissions of VOCs/HAPs from the tanker truck (TT) rack, identified as L2B, shall not exceed 0.13 tons per year. Compliance with this limitation shall be based on total throughput during any 12 month period.  
**[45CSR13, R13-0171, 5.1.9]**

4.1.23. Emissions to the atmosphere shall not exceed the hourly and annual emission limits as set forth in the following table:

<b>Table 4.1.23 – Emissions from Material Handling</b>				
<b>Emission Point</b>	<b>Source (ID No.)</b>	<b>Pollutant</b>	<b>Emission Limits</b>	
			<b>Hourly (lbs/hr)</b>	<b>Annual (TPY)</b>
211C	Vessel 4 (SR4-417)	PM	0.37	1.9 (Sum of Vessels 4, 2, 1)
		PM <sub>10</sub>	0.37	
211D	Vessel 2 (SR4-412)	PM	0.16	
		PM <sub>10</sub>	0.16	
211E	Vessel 1 (SR4-410)	PM	0.16	
		PM <sub>10</sub>	0.16	
211N	Vessel 856 (SR4-856)	PM	0.76	1.57 (Sum of Vessels 856, 801, and 802)
		PM <sub>10</sub>	0.76	
211O	Vessel 801 (SR4-801)	PM	0.57	
		PM <sub>10</sub>	0.57	
211P	Vessel 802 (SR4-802)	PM	0.57	
		PM <sub>10</sub>	0.57	
211R	Vessel 804 (SR4-804)	PM	2.10	1.42 (Sum of Vessels 804-815, and 817)
		PM <sub>10</sub>	2.10	
211S	Vessel 805 (SR4-805)	PM	2.10	
		PM <sub>10</sub>	2.10	
211S	Vessel 805A (SR4-805)	PM	2.10	
		PM <sub>10</sub>	2.10	
211T	Vessel 806 (SR4-806)	PM	2.10	
		PM <sub>10</sub>	2.10	
211U	Vessel 807 (SR4-807)	PM	2.10	
		PM <sub>10</sub>	2.10	
211V	Vessel 808 (SR4-808)	PM	2.10	
		PM <sub>10</sub>	2.10	
211W	Vessel 809 (SR4-809)	PM	2.10	
		PM <sub>10</sub>	2.10	
211X	Vessel 810 (SR4-810)	PM	2.10	
		PM <sub>10</sub>	2.10	
211Y	Vessel 811 (SR4-811)	PM	2.10	
		PM <sub>10</sub>	2.10	
211Z	Vessel 812 (SR4-812)	PM	2.10	
		PM <sub>10</sub>	2.10	
211AA	Vessel 813 (SR4-813)	PM	2.10	
		PM <sub>10</sub>	2.10	
211BB	Vessel 814 (SR4-814)	PM	2.10	
		PM <sub>10</sub>	2.10	
211CC	Vessel 815 (SR4-815)	PM	2.10	
		PM <sub>10</sub>	2.10	
211DD	Vessel 817 (SR4-817)	PM	2.10	
		PM <sub>10</sub>	2.10	

<b>Table 4.1.23 – Emissions from Material Handling</b>				
<b>Emission Point</b>	<b>Source (ID No.)</b>	<b>Pollutant</b>	<b>Emission Limits</b>	
			<b>Hourly (lbs/hr)</b>	<b>Annual (TPY)</b>
211EE	Vessel 903 (SR4-903)	PM	0.71	1.00 (Sum of Vessels 903 and 945)
		PM <sub>10</sub>	0.71	
211FF	Vessel 945 (SR4-945)	PM	0.71	
		PM <sub>10</sub>	0.71	
211J	Vessel 180 (SR4-180)	PM	0.22	0.26 (Sum of Vessels 180 and 106)
		PM <sub>10</sub>	0.22	
211K	Vessel 106 (SR4-106)	PM	0.22	
		PM <sub>10</sub>	0.22	
211Q	Vessel 899	PM	0.22	0.03 (Sum of Vessels 899 and 4-1703)
		PM <sub>10</sub>	0.22	
211GG	Vessel 4-1703	PM	0.12	
		PM <sub>10</sub>	0.12	
211C, D, E, N, O, P, R through Z and 211AA through FF	Vessels 1, 2, 4, 801, 802, 856, 804 through 815, 817, and 903 through 945	VOCs	32.0	12.65
		Ethylene Oxide	1.20	0.46
216A	Tank 1244 (CELL-1244)	VOCs	17.91	1.05
216E	Tank 1222 (CELL-1222)	VOCs	14.99	1.74
216F	Tank 1223 (CELL-1223)	VOCs	14.99	
216D	Tank 5209 (CELL-5209)	VOCs	9.70	0.30

Compliance with the above hourly particulate matter emission limits for 211C, 211D, 211E, 211N, 211O, 211P, 211R, 211S, 211T, 211U, 211V, 211W, 211X, 211Y, 211Z, 211AA, 211BB, 211CC, 211DD, 211EE, 211FF, 211J, 211K, 211Q, and 211GG shall demonstrate compliance with the less stringent hourly particulate matter emission limits of 45CSR§7-4.1.

**[45CSR13, R13-0171, 6.1.1; 45CSR§7-4.1]**

- 4.1.24. The baghouses, designated as C211, D211, E211, J211, K211, N211, O211, P211, Q211, EE211, FF211, and GG211, shall not emit visible particulate matter from the respective emission points 211C, 211D, 211E, 211J, 211K, 211N, 211O, 211P, 211Q, 211EE, 211FF, and 211GG greater than 20% opacity except for visible particulate matter emissions less than 40% for a period or periods aggregating no more than 5 minutes in any 60 minute period.

**[45CSR13, R13-0171, 6.1.2; 45CSR§§7-3.1 and 3.2]**

- 4.1.25. The visible particulate matter emissions shall not be emitted from the following storage structures and corresponding emission points pursuant to 45CSR§7-3.7:

<b>Emission Point</b>	<b>Source (ID No.)</b>
211R	Vessel 804 (SR4-804)
211S	Vessel 805 (SR4-805)
211T	Vessel 806 (SR4-806)
211U	Vessel 807 (SR4-807)
211V	Vessel 808 (SR4-808)
211W	Vessel 809 (SR4-809)
211X	Vessel 810 (SR4-810)
211Y	Vessel 811 (SR4-811)
211Z	Vessel 812 (SR4-812)
211AA	Vessel 813 (SR4-813)
211BB	Vessel 814 (SR4-814)
211CC	Vessel 815 (SR4-815)
211DD	Vessel 817 (SR4-817)

**[45CSR13, R13-0171, 6.1.3; 45CSR§7-3.7]**

- 4.1.26. Tank 5200 (CELL-602), Tank 5201 (CELL-603), and Tank 5202 (CELL-605) shall not be used to store any material that contains components that are defined or classified as a VOC or HAP.

**[45CSR13, R13-0171, 6.1.4]**

- 4.1.27. **45CSR§21-37 Requirements for Equipment Leaks.** The permittee shall implement and maintain a Leak Detection and Repair Program (LDAR) for each piece of equipment of the CELLOSIZETM HEC Plant that is in “VOC service” as defined in 45CSR§21-37.1. The LDAR program shall meet the requirements of 45CSR§21-37.4 or alternate procedures approved by the Director. Procedures approved by the Director include 40 C.F.R. 60, Subpart VV, 40 C.F.R. 61, Subpart V, 40 C.F.R. 63, Subpart H, 40 C.F.R. 63, Subpart TT, 40 C.F.R. 63, Subpart UU, 40 C.F.R. 65, Subpart F, and 40 C.F.R. 265, Subpart CC. **[45CSR13, R13-0171, 7.1.2; 45CSR§21-40.3.a.2 (State-Enforceable only); 45CSR§§21-37.3 through 37.8 and 37.1.c (State-Enforceable only); CO-R21-97-41, III.2 (State-Enforceable only)]**

- 4.1.28. The following sources have been declared as part of the permittee’s Alternative Emission Reduction Plan (AERP) in an effort for the facility to comply with the VOC emission limits set forth in 45CSR§21-40.1.c, but are not limited to those identified in the following table:

<b>Equipment Unit Description</b>	<b>Emission Unit ID</b>	<b>Emission Point ID</b>
Tank 5209	CELL-5209(T5209)	216D
Tank 1244	CELL-1244 (T1244)	216A
Tank 1222	CELL-1222 (T1222)	216E
Tank 1223	CELL-1223 (T1223)	216F
A211 Scrubber Header	A211	211A
A211A Scrubber Header	A211A	211A
Tank 1914	T1914	221B
Tank 1915	T1915	221B
Flare Header	---	221A

[45CSR13, R13-0171, 7.1.6]

- 4.1.29. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 – CELLOSIZETM HEC and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.

[45CSR13, R13-0171, 4.1.7, 5.1.10, 6.1.5, and 7.1.7; 45CSR§13-5.11; 45CSR34; 40 C.F.R. §§63.6(e)(1) and (2)]

## 4.2. Monitoring Requirements

- 4.2.1. **Process Vents.** For the purpose of demonstrating continuous compliance with the emission limits and work practice standards for the cellulose ether process vents of the CELLOSIZETM HEC Plant under 40 C.F.R. §63.5505(a), 45CSR§27-3.1, and emission limits stated in condition 4.1.1 for emission point 211A, the permittee shall continuously measure the following parameter(s) for the packed bed water scrubbers (A211 and A211A) when HAPs are present in the scrubber header vent gas. Condition 4.4.3 lists the requirements for the extended cookout cycle.

- a. Scrubber water flow rate in units of either pounds per hour (pph) or gallons per minute (gpm) at least once every fifteen (15) minutes;
- b. Pressure drop across the scrubber in units of inches of water at least once every fifteen (15) minutes; and
- c. Scrubber water temperature in units of degrees Celsius (°C) or degrees Fahrenheit (°F) at least once every fifteen (15) minutes.

[45CSR13, R13-0171, 4.2.1; 45CSR34; 40 C.F.R. §63.5555(a) and Tables 5 and 6 to 40 C.F.R. 63, Subpart UUUU]

- 4.2.2. The permittee shall install and maintain a system or procedure that notifies/alerts the onsite unit operator or appropriate personnel at least on a daily basis any deviation of monitored scrubber parameters from the

values in accordance with 4.1.4 or values determined during the most recent performance demonstration. Record of deviation shall be maintained in accordance with 3.4.2.

**[45CSR13, R13-0171, 4.2.2]**

- 4.2.3. For the purposes of demonstrating compliance with 4.1.14, 4.1.15, and 4.1.18 of this permit, the permittee shall continuously monitor the presence of either a pilot light or flare flame while VOCs and HAPs are present in the process header that is routed to the flare. Records of such monitoring shall be maintained in accordance with 3.4.2.

**[45CSR13, R13-0171, 5.2.1.]**

- 4.2.4. For the purpose of demonstrating compliance with 4.1.14 and 4.1.16 of this permit, the permittee shall monitor and record, at least once per day when VOCs are present in the flare header vent gas, the natural gas flow rate to the flare. The natural gas flow rate shall be a minimum of 0.5 scfm (1.3 lbs/hr) when VOCs are present in the flare header vent gas. Records of such monitoring shall be maintained in accordance with 3.4.2.

**[45CSR13, R13-0171, 5.2.2]**

- 4.2.5. For the purpose of determining compliance with the opacity limits of 45CSR§6-4.3 and condition 4.1.19 of this permit, the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping.

At a minimum, the observer must be knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. Training materials resources include but not limited to the following: References 1 and 2 from 40CFR Part 60, Appendix A, Method 22 or from the lecture portion of the 40CFR Part 60, Appendix A, Method 9 certification course.

Visible emission checks shall be conducted at least once per calendar month. If no visible emissions are detected for three consecutive months, observations/checks may be conducted quarterly. If visible emissions are detected during quarterly observations, monthly readings must be implemented until three consecutive month readings of no visible emissions are recorded. These checks of the flare stack shall be performed for a sufficient time interval, but no less than one (1) minute, to determine if any visible emissions are present. Visible emission checks shall be performed during periods of facility/unit operation and appropriate weather conditions.

If visible emissions from the flare cannot be eliminated within 48 hours of observation noting the visible emission, the permittee shall conduct additional observations within 72 hours to quantify the degree of visible emission using Method 9 or other method/procedure approved by the Director.

**[45CSR13, R13-0171, 5.2.3]**

- 4.2.6. For the purpose of determining compliance with the opacity limits of 45CSR§§7-3.1, 3.2, and 3.7, and conditions 4.1.24 and 4.1.25 of this permit, the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping.

The visible emission check shall determine the presence or absence of visible particulate matter emissions. If visible emissions are observed, corrective action must be taken to return the emission point to no visible emissions within 48 hours. Alternatively, observations using U.S. EPA Method 9, Method 22, or the procedure outlined in 45CSR§7A-2.1.a may be conducted or other method approved by the Director.

At a minimum, the observer must be knowledgeable regarding the effects of background contrast, ambient lighting, observer position relative to lighting, wind, and the presence of uncombined water (condensing water vapor) on the visibility of emissions. Training materials resources include but are not limited to the following: References 1 and 2 from 40 C.F.R. 60, Appendix A, Method 22 or from the lecture portion of the 40 C.F.R. 60, Appendix A, Method 9 certification course.

Visible emission checks shall be conducted at least once per calendar month. If no visible emissions are detected for three consecutive months, observations/checks may be conducted quarterly. If visible emissions are detected during quarterly observations, monthly readings must be implemented until three consecutive monthly readings of no visible emissions are recorded. These checks of the emission points shall be performed for a sufficient time interval, but no less than one (1) minute, to determine if any visible emissions are present. Visible emission checks shall be performed during periods of facility/unit operation and appropriate weather conditions.

If visible emissions from the emission point cannot be eliminated within 48 hours of observation noting the visible emission, the permittee shall conduct additional observations within 72 hours to quantify the degree of visible emission using procedure outlined in 45CSR§7A-2.1.a or other method/procedure approved by the Director.

**[45CSR13, R13-0171, 6.2.1]**

### **4.3. Testing Requirements**

4.3.1. At such reasonable times as the Director may designate, the operator of any incinerator shall be required to conduct or have conducted stack tests to determine the particulate matter loading, by using 40 C.F.R. 60, Appendix A, Method 5 or other equivalent EPA approved method approved by the Director, in exhaust gases. Such tests shall be conducted in such manner as the Director may specify and be filed on forms and in a manner acceptable to the Director. The Director, or the Director's authorized representative, may at the Director's option witness or conduct such stack tests. Should the Director exercise his option to conduct such tests, the operator will provide all the necessary sampling ports to be located in such manner as the Director may require, power for test equipment and the required safety equipment such as scaffolding, railings and ladders to comply with generally accepted good safety practices. (A221)  
**[45CSR§6-7.1]**

4.3.2. At such reasonable times as the Director may designate, the operator of any manufacturing process source operation may be required to conduct or have conducted stack tests to determine the particulate matter loading in exhaust gases. Such tests shall be conducted in such manner as the Director may specify and be filed on forms and in a manner acceptable to the Director. The Director, or his duly authorized representative, may at his option witness or conduct such stack tests. Should the Director exercise his option to conduct such tests, the operator will provide all the necessary sampling connections and sampling ports to be located in such manner as the Director may require, power for test equipment and the required safety equipment such as scaffolding, railings and ladders to comply with generally accepted good safety practices.  
**[45CSR§7-8.1]**

4.3.3. The Director, or his duly authorized representative, may conduct such other tests as he or she may deem necessary to evaluate air pollution emissions.  
**[45CSR§7-8.2]**

- 4.3.4. **Equipment Leaks.** The permittee shall comply with all applicable test methods and procedures of 40 C.F.R. 63, Subpart H – “National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks” as specified in 40 C.F.R. §63.180.

[45CSR34; 40 C.F.R. 63, Subpart H; 40 C.F.R. §63.180]

- 4.3.5. **45CSR§21-37 Testing Requirements for Equipment Leaks.** The permittee shall comply with all applicable test methods and procedures of 45CSR§21-37 – “Leaks from Synthetic Organic Chemical, Polymer, and Resin Manufacturing Equipment” as specified in 45CSR§21-37.9. To the extent that implementation of the requirements of 40 C.F.R. 60, 40 C.F.R. 61, or 40 C.F.R. 63 results in monitoring and repair, consistent with 45CSR§21-37, of all components in VOC service in any synthetic organic chemical, polymer, or resin manufacturing process unit, compliance with these federally enforceable standards will satisfy the requirements of 45CSR§21-37.

[45CSR§§21-37.1.c and 37.9 (State-Enforceable only); CO-R21-97-41, III.2 (State-Enforceable only)]

#### 4.4. Recordkeeping Requirements

- 4.4.1. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0 – CELLOSIZETM HEC, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

[45CSR13, R13-0171, 4.4.2, 5.4.2, 6.4.2, and 7.4.2]

- 4.4.2. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0 – CELLOSIZETM HEC, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

- a. The equipment involved.
- b. Steps taken to minimize emissions during the event.
- c. The duration of the event.
- d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

- e. The cause of the malfunction.
- f. Steps taken to correct the malfunction.
- g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

[45CSR13, R13-0171, 4.4.3, 5.4.3, 6.4.3, and 7.4.3]

- 4.4.3. **Process Vents.** For the purposes of demonstrating compliance with the operating and emission limits in Section 4.1 and 40 C.F.R. §63.5585, the permittee shall maintain the following records on a monthly basis.

- a. Extended Cookout Records;
  - i. The amount of HAP charged to each reactor per batch;
  - ii. The grade of product produced;
  - iii. The calculated amount of HAP (EPS) remaining before extended cookout per reactor per batch. Calculation of the EPS for each product grade. EPS- means the epoxide mass at residual concentration in product liquid at which product could be sold (uncontrolled epoxide emissions or onset of extended cookout), in units of pounds/batch/product grade; and
  - iv. Information or documentation showing that the extended cookout was employed.
- b. Daily average pressure drop, scrubbing water temperature, and scrubbing liquid flow rate of the scrubber(s). Daily averages shall be determined by averaging the fifteen minute readings over the respective hour to create a one hour block and averaging these one hour blocks each calendar day to create the daily average. Data must be monitored and recorded for at least 75% of the operating hours for each calendar day;
- c. Calculate the HAP removal efficiency of the extended cookout using EPS data per reactor per batch and the average HAP removal efficiency determined from the most recent performance demonstration; and
- d. Calculate the overall efficiency of the HAP removal efficiency using a material balance on a six (6) month rolling average basis (e.g. 6 data points – one monthly average for each of the preceding 6 months).

**[45CSR13, R13-0171, 4.4.4; 45CSR34; 40 C.F.R. §63.5585 and Table 9 to 40 C.F.R. 63, Subpart UUUU]**

- 4.4.4. The permittee shall keep any and all records of monitoring as required in 4.2 of this permit in accordance with Condition 3.4.2 of this permit.

**[45CSR13, R13-0171, 5.4.4.]**

- 4.4.5. The permittee shall maintain records of all monitoring data required by condition 4.2.5 documenting the date and time of each visible emission check, the emission point or equipment/source identification number, the name or means of identification of the observer, the results of the check(s), whether the visible emissions are normal for the process, and, if applicable, all corrective measures taken or planned. An example form is supplied as Appendix B. Should a visible emission observation be required to be performed per the requirements specified in U.S. EPA Method 9, the data records of each observation shall be maintained per the requirements of U.S. EPA Method 9. For an emission unit out of service during the normal monthly evaluation, the record of observation may note “out of service” (OOS) or equivalent.

**[45CSR13, R13-0171, 5.4.5]**

- 4.4.6. For the purposes of demonstrating compliance with the emission limit in 4.1.20 of this permit, the permittee shall keep monthly records of throughput by tank. The permittee shall review these records and determine if the number of turnovers made within the previous 12 months by tank would result in emissions within the stated limits as defined in 4.1.20 of this permit. The permittee shall conduct these determinations on a semiannual basis. The periods for these determinations shall run from January 1 to June 30 for the first half and July 1 to December 31 for the second half. The permittee shall certify these determinations upon

request by the Director or his/her duly authorized representative within five (5) days of such request. These determinations shall be made no later than 60 days after the end of the respective semiannual period. All records and calculations shall be maintained in accordance with Condition 3.4.2 of this permit.

**[45CSR13, R13-0171, 5.4.6]**

- 4.4.7. For the purposes of demonstrating compliance with the emission limit of the liquid storage vessels listed in 4.1.23 of this permit, the permittee shall keep monthly records of throughput by tank. The permittee shall review these records and determine if the number of turnovers made within the previous 12 months by tank would result in emissions within the stated limits as defined in 4.1.23 of this permit. The permittee shall conduct these determinations on a semiannual basis. The periods for these determinations shall run from January 1 to June 30 for the first half and July 1 to December 31 for the second half. The permittee shall certify these determinations upon request by the Director or his/her duly authorized representative within five (5) days of such request. These determinations shall be made no later than 60 days after the end of the respective semiannual period. All records and calculations shall be maintained in accordance with Condition 3.4.2 of this permit.

**[45CSR13, R13-0171, 6.4.4]**

- 4.4.8. The permittee shall maintain a copy of each notification and report that the permittee submitted to comply with 40 C.F.R. 63, Subpart UUUU. These copies shall include all documentation supporting any Initial Notification or Notification of Compliance Status Report that the permittee submitted, according to the requirements in 40 C.F.R. §63.10(b)(2)(xiv), and any compliance report required under 40 C.F.R. 63, Subpart UUUU. Such notifications and reports including any supporting documentation shall be maintained in accordance with Condition 3.4.2 of this permit.

**[45CSR13, R13-0171, 7.4.4; 45CSR34; 40 C.F.R. §63.5585 and Table 9 to 40 C.F.R. 63, Subpart UUUU]**

- 4.4.9. When actions taken by the permittee during a startup or shutdown (and the startup or shutdown causes the source to exceed any applicable emission limitation under 40 C.F.R. §63.5505 in the relevant emission standards), or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the startup, shutdown, and malfunction plan, the permittee must keep records for that event which demonstrate that the procedures specified in the plan were followed. These records may take the form of a “checklist,” or other effective form of recordkeeping that confirms conformance with the startup, shutdown, and malfunction plan and describes the actions taken for that event. In addition, the permittee must keep records of these events as specified in 40 C.F.R. §63.10(b), including records of the occurrence and duration of each startup or shutdown (if the startup or shutdown causes the source to exceed any applicable emission limitation in the relevant emission standards), or malfunction of operation and each malfunction of the air pollution control and monitoring equipment. Furthermore, the permittee shall confirm that actions taken during the relevant reporting period during periods of startup, shutdown, and malfunction were consistent with the affected source’s startup, shutdown and malfunction plan in the semiannual (or more frequent) startup, shutdown, and malfunction report required in 40 C.F.R. §63.10(d)(5).

**[45CSR13, R13-0171, 7.4.5; 45CSR34; 40 C.F.R. §63.5585 and Table 9 to 40 C.F.R. 63, Subpart UUUU]**

- 4.4.10. **Process Vents.** The permittee shall maintain records of the results of each continuous parameter monitoring system (CPMS), as required in 40 C.F.R. §63.5545 and condition 4.1.4, calibration, validation check, and inspection. Such records shall be maintained in accordance with Condition 3.4.2.

**[45CSR13, F13-0171B, 7.4.6; 45CSR34; 40 C.F.R. §63.5585 and Table 9 to 40 C.F.R. 63, Subpart UUUU]**

- 4.4.11. **Process Vents.** The permittee shall record the date, time, duration of event, and identification when a safety device, as defined in 40 C.F.R. §63.5610 is opened to avoid an unsafe condition(s) according to 40 C.F.R. §63.5505(d). Such records shall be maintained in accordance with Condition 3.4.2 of this permit. **[45CSR13, R13-0171, 7.4.7; 45CSR34; 40 C.F.R. §63.5585 and Table 9 to 40 C.F.R. 63, Subpart UUUU]**
- 4.4.12. **Group 2 Process Wastewater Streams.** The recordkeeping requirements for a Group 2 process wastewater stream are as follows:  
**[45CSR34; 40 C.F.R. §63.1433(a)]**
- 4.4.12.1. The owner or operator shall keep in a readily accessible location the records specified in 4.4.12.1.a through 4.4.12.1.d.  
**[45CSR34; 40 C.F.R. §63.147(b)(8)]**
- a. Process unit identification and description of the process unit.  
**[45CSR34; 40 C.F.R. §63.147(b)(8)(i)]**
  - b. Stream identification code.  
**[45CSR34; 40 C.F.R. §63.147(b)(8)(ii)]**
  - c. For existing sources, concentration of Table 9 of 40 C.F.R. 63, Subpart G compound(s) in parts per million, by weight. Include documentation of the methodology used to determine the concentration.  
**[45CSR34; 40 C.F.R. §63.147(b)(8)(iii)]**
  - d. Flow rate in liter per minute.  
**[45CSR34; 40 C.F.R. §63.147(b)(8)(iv)]**
- (CELLO-80S and MOU-0001)*
- 4.4.13. **Maintenance Wastewater.** The owner or operator of each 40 C.F.R. 63, Subpart UUUU affected source, shall comply with the HON maintenance wastewater requirements of 40 C.F.R. §63.105 as follows:  
**[45CSR34; 40 C.F.R. §63.1433(b)]**
- 4.4.13.1. **Maintenance Wastewater.** The owner or operator shall maintain a record of the information required by 4.1.10.1.a and 4.1.10.1.b as part of the start-up, shutdown, and malfunction plan required under 40 C.F.R. §63.6(e)(3).  
**[45CSR34; 40 C.F.R. §63.105(e)]**
- 4.4.14. **Equipment Leaks.** The permittee shall comply with all applicable recordkeeping requirements of 40 C.F.R. 63, Subpart H – “National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks” as specified in 40 C.F.R. §63.181.  
**[45CSR34; 40 C.F.R. 63, Subpart H; 40 C.F.R. §63.181]**
- 4.4.15. **45CSR§21-37 Recordkeeping Requirements for Equipment Leaks.** The permittee shall comply with all applicable recordkeeping requirements of 45CSR§21-37 – “Leaks from Synthetic Organic Chemical, Polymer, and Resin Manufacturing Equipment” as specified in 45CSR§21-37.10, with the exception that all records shall be maintained for a period of five (5) years instead of three (3) years. To the extent that implementation of the requirements of 40 C.F.R. 60, 40 C.F.R. 61, or 40 C.F.R. 63 results in monitoring and repair, consistent with 45CSR§21-37, of all components in VOC service in any synthetic organic

chemical, polymer, or resin manufacturing process unit, compliance with these federally enforceable standards will satisfy the requirements of 45CSR§21-37.

**[45CSR§§21-37.1.c and 37.10 (State-Enforceable only); 45CSR§30-5.1.c; CO-R21-97-41, III.2 (State-Enforceable only)]**

4.4.16. For purpose of demonstrating compliance with the emission limits for the tanker truck (TT) rack listed in 4.1.22 of this permit, the permittee shall keep monthly throughput records for the tanker truck (TT) rack, identified as L2B. The permittee shall review these records and determine if the tanker truck (TT) rack for the previous 12 months by would result in emissions within the stated limits as defined in 4.1.22 of this permit. The permittee shall conduct these determinations on a semiannual basis. The periods for these determinations shall run from January 1 to June 30 for the first half and July 1 to December 31 for the second half. The permittee shall certify these determinations upon request by the Director or his/her duly authorized representative within five (5) days of such request. These determinations shall be made no later than 60 days after the end of the respective semiannual period. All records and calculations shall be maintained in accordance with Section 3.4.2 of this permit.

**[45CSR§30-5.1.c]**

4.4.17. For the purposes of demonstrating compliance with the emission limits in 4.1.12 of this permit for emission points 216G, 216H, and 216I, the permittee shall keep monthly records of throughput by tank. The permittee shall review these records and determine if the number of turnovers made within the previous 12 months by tank would result in emissions within the stated limits as defined in 4.1.12 of this permit. The permittee shall conduct these determinations on a semiannual basis. The periods for these determinations shall run from January 1 to June 30 for the first half and July 1 to December 31 for the second half. The permittee shall certify these determinations upon request by the Director or his/her duly authorized representative within five (5) days of such request. These determinations shall be made no later than 60 days after the end of the respective semiannual period. All records and calculations shall be maintained in accordance with Condition 3.4.2 of this permit.

**[45CSR§30-5.1.c]**

4.4.18. The permittee shall maintain records of all monitoring data required by condition 4.2.6 documenting the date and time of each visible emission check, the emission point or equipment/source identification number, the name or means of identification of the observer, the results of the check(s), whether the visible emissions are normal for the process, and, if applicable, all corrective measures taken or planned. An example form is supplied as Appendix B. Should a visible emission observation be required to be performed per the requirements specified in 45CSR7A or U.S. EPA Method 9, the data records of each observation shall be maintained per the requirements of 45CSR7A or U.S.EPA Method 9. For an emission unit out of service during the normal monthly evaluation, the record of observation may note “out of service” (OOS) or equivalent.

**[45CSR§30-5.1.c]**

## **4.5. Reporting Requirements**

4.5.1. The permittee shall provide notice to the Director and U.S. EPA Administrator in accordance with the applicable provisions of Section 3.3 of this permit when conducting performance testing to establish new operating limits for the extended cookout and/or packed bed water scrubber.

**[45CSR13, R13-0171, 4.5.1; 45CSR34; 40 C.F.R. §63.5580(a) and Table 8 to 40 C.F.R. 63, Subpart UUUU]**

- 4.5.2. Any exceedance(s) of the allowable visible emission requirement for any emission source discovered during observations using 45CSR7A must be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten (10) calendar days, of the occurrence and shall include, at a minimum, the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the exceedance(s), and any corrective measures taken or planned.  
**[45CSR13, R13-0171, 6.5.1]**
- 4.5.3. For the purpose of demonstrating compliance with the reporting requirements set forth by 40 C.F.R. 63, Subpart UUUU, the permittee shall prepare and submit a semi-annual compliance report addressing any deviations from applicable emissions limitations and the work practice standards as defined in 40 C.F.R. §63.5505(a) during each reporting period. Such reports shall be postmarked or delivered to the U.S. EPA Administrator and Director no later than August 31 or February 28, whichever date is the first date following the end of the semiannual reporting period. Such compliance report(s) shall contain the information in 40 C.F.R. §§63.5580(c)(1) through (6) and the applicable information required in 40 C.F.R. §§63.5580(d) through (e)(13).  
**[45CSR13, R13-0171, 7.5.1; 45CSR34; 40 C.F.R. §63.5580 and Table 8 to 40 C.F.R. 63, Subpart UUUU]**
- 4.5.4. The emission to the air of any toxic air pollutant resulting from an abnormal release or spill in excess of the following amounts shall be reported to the Director or his authorized representative not later than 24-hours after the permittee has knowledge of such emission:
- a. For ethylene oxide and vinyl chloride, one (1) pound: and
  - b. For all other toxic air pollutants, fifty (50) pounds.

The permittee shall file a written report with the Director stating the detail of all such incidents resulting in the emissions of more than fifty (50) pounds of any toxic air pollutant within seven (7) days of the occurrence. The permittee shall submit to the Director, at his request, records of all abnormal toxic air pollutant discharges to the air.

**[45CSR13, R13-0171, 7.5.2; 45CSR§27-10.4 (State-Enforceable only)]**

- 4.5.5. **Immediate start-up, shutdown, and malfunction reports.** If an action taken by the owner or operator during a start-up, shutdown, or malfunction (including an action taken to correct a malfunction) is not consistent with the procedures specified in the affected source's start-up, shutdown, and malfunction plan, and the source or affected unit exceeds any applicable emission limitation in the relevant emission standard, the permittee shall submit an "Immediate start-up, shutdown, and malfunction report" to the Director and U.S. EPA Administrator as part of the next semiannual or annual, whichever one is sooner, compliance report as specified in Table 8 of 40 C.F.R. 63, Subpart UUUU. This immediate report required under 40 C.F.R. §63.10(d)(5)(ii) shall contain the name, title, and signature of the responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the start-up, shutdown, and malfunction plan, describing all excess emission and/or parameter monitoring exceedances which are believed to have occurred and actions taken to minimize emissions in conformance with 40 C.F.R. §63.6(e)(1)(i). Records of such notifications and reports including any supporting documentation shall be maintained in accordance with Condition 3.4.2 of this permit.  
**[45CSR13, R13-0171, 7.5.3; 45CSR34; 40 C.F.R. §§63.5515(h), 63.5585, 63.5600, and Table 10 to 40 C.F.R. 63, Subpart UUUU]**

- 4.5.6. **Equipment Leaks.** The permittee shall comply with all applicable reporting requirements of 40 C.F.R. 63, Subpart H – “National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks” as specified in 40 C.F.R. §63.182.

**[45CSR34; 40 C.F.R. 63, Subpart H; 40 C.F.R. §63.182]**

- 4.5.7. **45CSR§21-37 Reporting Requirements for Equipment Leaks.** The permittee shall comply with all applicable reporting requirements of 45CSR§21-37 – “Leaks from Synthetic Organic Chemical, Polymer, and Resin Manufacturing Equipment” as specified in 45CSR§§21-37.11 and 5.2. To the extent that implementation of the requirements of 40 C.F.R. 60, 40 C.F.R. 61, or 40 C.F.R. 63 results in monitoring and repair, consistent with 45CSR§21-37, of all components in VOC service in any synthetic organic chemical, polymer, or resin manufacturing process unit, compliance with these federally enforceable standards will satisfy the requirements of 45CSR§21-37.

**[45CSR§§21-37.1.c, 37.11, and 5.2 (State-Enforceable only); CO-R21-97-41, III.2 (State-Enforceable only)]**

#### **4.6. Compliance Plan**

- 4.6.1. None.

## 5.0 POLYOX™ WSR

### 5.1. Limitations and Standards

5.1.1. **Group 1 Process Vents.** For existing affected sources, the owner or operator shall reduce the total epoxide emissions from each Group 1 process vent using a flare. (V302, V404, V518, V4921, and V4922)  
[45CSR34; 40 C.F.R. §§63.1425(b)(2) and (b)(2)(i)]

5.1.2. **Group 1 Process Wastewater.** The owner or operator of each affected source shall comply with the HON wastewater requirements of 40 C.F.R. §§63.132 through 63.147 for each process wastewater stream originating at an affected source, with the HON leak inspection requirements in 40 C.F.R. §63.148, and with the HON requirements in 40 C.F.R. §63.149 for equipment that is subject to 40 C.F.R. §63.149, with the differences noted in 40 C.F.R. §§63.1433(a)(1) through (20). The applicable provisions for a Group 1 process wastewater stream are as follows:  
[45CSR34; 40 C.F.R. §63.1433(a)]

5.1.2.1. For wastewater streams that are Group 1 for Table 9 of 40 C.F.R. 63, Subpart G compounds, the owner or operator shall reduce, by removal or destruction, the mass flow rate by at least the fraction removal (Fr) values specified in Table 9 of 40 C.F.R. 63, Subpart G. The removal/destruction efficiency shall be determined by the procedures specified in 40 C.F.R. §63.145(c) for noncombustion treatment processes.

**Table 9 – Organic HAP’s Subject to the Wastewater Provisions for Process Units at New and Existing Sources and Corresponding Fraction Removed (Fr) Values**

Chemical Name	CAS No. <sup>a</sup>	Fr
Ethylene Oxide	75218	0.98

<sup>a</sup>CAS numbers refer to the Chemical Abstracts Service registry number assigned to specific compounds, isomers, or mixtures of compounds.

[45CSR34; 40 C.F.R. §63.138(e)(2) and Table 9 of 40 C.F.R. 63, Subpart G]

*(Vessel 401 Tails)*

5.1.3. **Group 2 Process Wastewater.** The owner or operator of each affected source shall comply with the HON wastewater requirements of 40 C.F.R. §§63.132 through 63.147 for each process wastewater stream originating at an affected source, with the HON leak inspection requirements in 40 C.F.R. §63.148, and with the HON requirements in 40 C.F.R. §63.149 for equipment that is subject to 40 C.F.R. §63.149, with the differences noted in 40 C.F.R. §§63.1433(a)(1) through (20). The applicable provisions for a Group 2 process wastewater stream are as follows:  
[45CSR34; 40 C.F.R. §63.1433(a)]

5.1.3.1. **Group 2 Process Wastewater Streams.** For wastewater streams that are Group 2 for Table 9 of 40 C.F.R. 63, Subpart G compounds, the owner or operator shall comply with the recordkeeping requirements specified in 5.4.4.  
[45CSR34; 40 C.F.R. §63.132(a)(3)]

*(Tank 4929 Discharge to Sewer and Scrubber 230 Tails {B230})*

- 5.1.4. **Maintenance Wastewater.** The owner or operator of each 40 C.F.R. 63, Subpart PPP affected source, shall comply with the HON maintenance wastewater requirements of 40 C.F.R. §63.105, with the exceptions noted in 40 C.F.R. §§63.1433 (b)(1) through (3). The applicable provisions for maintenance wastewater are as follows:

**[45CSR34; 40 C.F.R. §63.1433(b)]**

- 5.1.4.1. Each owner or operator of a source subject to 40 C.F.R. §63.105, Subpart F shall comply with the requirements of 5.1.4.1.a through 5.1.4.1.c for maintenance wastewaters containing those organic HAP's listed in table 9 of 40 C.F.R. 63, Subpart G and meet the definition of organic HAP in 40 C.F.R. §63.1423.

**[45CSR34; 40 C.F.R. §63.105(a); 40 C.F.R. §63.1433(b)(1)]**

- a. The owner or operator shall prepare a description of maintenance procedures for management of wastewaters generated from the emptying and purging of equipment in the process during temporary shutdowns for inspections, maintenance, and repair (i.e., a maintenance-turn-around) and during periods which are not shutdowns (i.e., routine maintenance). The descriptions shall:

**[45CSR34; 40 C.F.R. §63.105(b)]**

- i. Specify the process equipment or maintenance tasks that are anticipated to create wastewater during maintenance activities.

**[45CSR34; 40 C.F.R. §63.105(b)(1)]**

- ii. Specify the procedures that will be followed to properly manage the wastewater and control organic HAP emissions to the atmosphere; and

**[45CSR34; 40 C.F.R. §63.105(b)(2)]**

- iii. Specify the procedures to be followed when clearing materials from process equipment.

**[45CSR34; 40 C.F.R. §63.105(b)(3)]**

- b. The owner or operator shall modify and update the information required by 5.1.4.1.a as needed following each maintenance procedure based on the actions taken and the wastewaters generated in the preceding maintenance procedure.

**[45CSR34; 40 C.F.R. §63.105(c)]**

- c. The owner or operator shall implement the procedures described in 5.1.4.1.a and 5.1.4.1.b as part of the start-up, shutdown, and malfunction plan required under 40 C.F.R. §63.6(e)(3).

**[45CSR34; 40 C.F.R. §63.105(d)]**

- 5.1.5. **Equipment Leaks.** The permittee shall comply with all applicable standards of 40 C.F.R. 63, Subpart H – “National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks”, except as specified in 40 C.F.R. §§63.1434(b) through (g). The pertinent equipment leak standards include: 40 C.F.R. §§63.162 (Standards: General), 63.168 (Standards: Valves in gas/vapor service and in light liquid service), 63.171 (Standards: Delay of repair), 63.172 (Standards: Closed-vent systems and control devices), 63.173 (Standards: Agitators in gas/vapor service and in light liquid service), and 63.174 (Standards: Connectors in gas/vapor service and in light liquid service). **[45CSR34; 40 C.F.R. §§63.1434(a); 40 C.F.R. 63, Subpart H; 40 C.F.R. §§63.162, 63.168, 63.171, 63.172, 63.173, and 63.174; 45CSR§27-4.1 (State-Enforceable only); CO-R27-99-14-A(92), III.3 (State-Enforceable only)].**
- 5.1.6. Flare A221 is shared with the CELLOSIZE™ HEC Plant. Limitations and Standards for Flare A221 are provided in 4.1.14, 4.1.15, 4.1.16, 4.1.17, 4.1.18, and 4.1.19.
- 5.1.7. No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any process source operation which is greater than twenty (20) percent opacity, except as noted in 5.1.8. (230GG, 230J, and 230P). **[45CSR§7-3.1]**
- 5.1.8. The provisions of 5.1.7 shall not apply to smoke and/or particulate matter emitted from any process source operation which is less than forty (40) percent opacity for any period or periods aggregating no more than five (5) minutes in any sixty (60) minute period. (230GG, 230J, and 230P) **[45CSR§7-3.2]**
- 5.1.9. No person shall cause, suffer, allow or permit particulate matter to be vented into the open air from any type source operation or duplicate source operation, or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantity specified under the appropriate source operation type in Table 45-7A of 45CSR7.

Emission Point	Emission Source	45CSR§7-4.1 Limit lb/hr
230GG	230B	0.7
230J	E-707	10
230P	E504	25

(230GG, 230J, and 230P)  
**[45CSR§7-4.1.]**

- 5.1.10. The permittee shall not cause, suffer, allow or permit any manufacturing process or storage structure generating fugitive particulate matter to operate that is not equipped with a system, which may include, but not be limited to, process equipment design, control equipment design or operations and maintenance procedures, to minimize the emission of fugitive particulate matter. To minimize means such system shall be installed, maintained and operated to ensure the lowest fugitive particulate emissions reasonably achievable. (230V) **[45CSR§7-5.1]**
- 5.1.11. Due to unavoidable malfunction of equipment, emissions exceeding those set forth in 45CSR7 may be permitted by the Director for periods not to exceed ten (10) days upon specific application to the Director.

Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director.

**[45CSR§7-9.1]**

5.1.12. The permittee shall comply with the following applicable requirements from CO-R21-97-41 for the POLYOX™ WSR Plant:

5.1.12.1. On or after the effective date of Consent Order CO-R21-97-41 (October 20, 1997), the COMPANY shall, reduce VOC emissions in accordance with the alternate emissions reduction plan (AERP). The permittee shall reduce emissions as set forth in Attachment A of CO-R21-97-41; and shall continue to comply with such emissions reduction requirements and the emission limits set forth in Attachment A as Consent Order CO-R21-97-41 expressly provides. Compliance with the emission limits set forth in Attachment A of Consent Order CO-R21-97-41 shall be demonstrated by test or monitoring data, approved emission factors, material balances, and/or representative calculations in accordance with 45CSR21. The Attachment A limits from Consent Order CO-R21-97-41 for the POLYOX™ WSR Plant are provided in APPENDIX A of this permit. **[45CSR§21-40 (State-Enforceable only); CO-R21-97-41, III.1 and Attachment A (State-Enforceable only); June 14, 2006 letter from J. L. Blatt, November 14, 2011 letter from T. J. London]**

5.1.12.2. At all times, including periods of start-up, shutdown, and malfunction, the COMPANY shall maintain and operate the VOC emitting sources and associated air pollution control devices subject to the provisions of Consent Order CO-R21-97-41 in a manner consistent with good air pollution control practices for minimizing emissions. Compliance with the emission limits set forth in Attachment A of Consent Order CO-R21-97-41 shall be demonstrated at all times unless exception periods are provided for in accordance with this paragraph. The COMPANY shall comply with 3.5.10 and 3.5.11 (45CSR§§21-5.2 and 9.3) with respect to all periods of non-compliance with the emission limitations and emission reduction requests set forth in Attachment A of Consent Order CO-R21-97-41 resulting from unavoidable malfunctions of equipment. In the event that the emission limitation and/or emission reduction requirements for a source listed in Attachment A of CO-R21-97-41 cannot be met during routine start-ups, shutdowns, or routine maintenance activities, the COMPANY shall, within 180 days of the effective date of Consent Order CO-R21-97-41 (October 20, 1997), submit an operation and VOC emissions mitigation plan for such periods. If such plan is submitted, it shall contain the information outlined in Attachment B of CO-R21-97-41 and provided in APPENDIX A of this permit, and shall become an Appendix to Consent Order CO-R21-97-41. The Director may require reasonable revisions to the COMPANY's plan if he or she finds the routine start-up, shutdown, or maintenance resulting in excess VOC emissions not addressed by the plan occur or that the plan fails to provide for operation in a manner consistent with good air pollution control practices for minimizing emissions. VOC emissions and associated control procedures conforming to the COMPANY's plan submitted under this provision shall not be subject to the variance approval process of 3.5.11 (45CSR§21-9.3) provided that the COMPANY maintains test, monitoring, operating, and maintenance records containing sufficient information and detail to enable the COMPANY and the Director to verify compliance with the plan and associated VOC emissions control requirements. These records shall be maintained on-site for not less than three (3) years and be made available to the Director or his or her authorized representative upon request. The Director also may request submission of copies of such records.

**[45CSR§21-40 (State-Enforceable only); CO-R21-97-41, III.3 and Attachment B (State-Enforceable only)]**

5.1.12.3. Unless granted a variance pursuant to 3.5.11, the COMPANY shall operate all emission control equipment for those emission sources listed in Attachment A of Consent Order CO-R21-97-41, at all times when the production unit is in operation or when any VOC emitting activity is occurring. In the event that the control equipment is inoperable, the production unit shall be shut down or the activity shall be discontinued as expeditiously as possible.

**[45CSR§21-40 (State-Enforceable only); CO-R21-97-41, IV.7 (State-Enforceable only)]**

5.1.13. **45CSR§21-37 Requirements for Equipment Leaks.** The permittee shall comply with all applicable requirements of 45CSR§21-37 – “Leaks from Synthetic Organic Chemical, Polymer, and Resin Manufacturing Equipment.” The pertinent equipment leak standards include Sections 45CSR§§21-37.3 through 37.8. To the extent that implementation of the requirements of 40 C.F.R. 60, 40 C.F.R. 61, or 40 C.F.R. 63 results in monitoring and repair, consistent with 45CSR§21-37, of all components in VOC service in any synthetic organic chemical, polymer, or resin manufacturing process unit, compliance with these federally enforceable standards will satisfy the requirements of 45CSR§21-37.

**[45CSR§§21-37.3 through 37.8 and 37.1.c (State-Enforceable only); CO-R21-97-41, III.2 (State-Enforceable only)]**

5.1.14. Emissions to the air of ethylene oxide and propylene oxide from the POLYOX™ WSR Plant shall not exceed the following:

Emission Source	Emission Point	Ethylene Oxide Emission Limit after BAT	
		lb/hr	lb/yr
<b>POLYOX™ Flare</b> V4921 V4922 V518 (aka Vessel 518R) T4928 (aka Vessel 4928) T4989 (aka Vessel 4989) T4990 (aka Vessel 4990) V302 (aka Vessel POX2-302) V404	221A	Vents to CELLOSIZETM HEC Flare (R13-0171) <sup>1</sup>	Vents to CELLOSIZETM HEC Flare (R13-0171) <sup>1</sup>
V302 (aka POX2-302)	230O	6.3 <sup>2</sup>	129 <sup>2</sup>
T4928 (aka Vessel 4928)	230Q	0.2	2
T4929 (aka Vessel 4929)	235E	0 <sup>2</sup>	0 <sup>2</sup>
T4930 (aka Vessel 4930)	230AA	0 <sup>2</sup>	0 <sup>2</sup>
V518 (aka Vessel V518R)	230T	0 <sup>2</sup>	0 <sup>2</sup>
T4992 (aka Vessel 4992)	235H	0 <sup>2</sup>	0 <sup>2</sup>
T4992 Secondary (aka Vessel 4992 Secondary)	----	0 <sup>2</sup>	0 <sup>2</sup>
Flare Header Vent	230CC	8 <sup>2</sup>	22 <sup>2</sup>
V412E/W	230HH	0.7 <sup>2</sup>	45
<b>POLYOX™ Solids Handling Systems</b> E530 - #1 Conveyor E531 - #2 Conveyor E532 - #3 Conveyor E504 - Blender L6DA - Packaging System Package System (no longer exists rerouted to process) Baghouse J230 E535 - Vac System	230K 230L 230M 230P 230R 230II 230J 230V	0.6	722 <sup>2</sup>

\* Tank 4992 is out of service. This tank was used to hold wastewater. Wastewater is treated in accordance with the Polyether Polyol Manufacturing MACT prior to discharge to process sewer.

<sup>1</sup> Emission limits for CELLOSIZETM HEC Flare are specified by Permit R13-0171

<sup>2</sup> Emissions updated November 2011

Propylene Oxide

Emission Source	Emission Point	Propylene Oxide Emission Limit after BAT	
		lb/hr	lb/yr
T4903 (aka Vessel 4903)	230B	1	7
T4901 (aka Vessel 4901)	230S	4.4	200 <sup>1</sup>

<sup>1</sup> Emissions updated November 2011

**[45CSR§27-3.1 (State-Enforceable only); CO-R27-99-14-A(92), III.2 and Attachment B (State-Enforceable only); November 14, 2011 letter from T. J. London]**

## 5.2. Monitoring Requirements

- 5.2.1. **Group 1 Process Vents.** The permittee shall install a device (including but not limited to a thermocouple, ultra-violet beam sensor, or infrared sensor) capable of continuously detecting the presence of a pilot flame. All monitoring equipment shall be installed, calibrated, maintained, and operated according to manufacturers' specifications or other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately. (*V302, V404, V518, V4921, and V4922*) **[45CSR34; 40 C.F.R. §§63.1429(a) and 63.1429(a)(2)]**
- 5.2.2. **Group 1 Process Wastewater Streams.** The owner or operator of each affected source shall comply with the HON wastewater requirements of 40 C.F.R. §§63.132 through 63.147 for each process wastewater stream originating at an affected source, with the HON leak inspection requirements in 40 C.F.R. §63.148, and with the HON requirements in 40 C.F.R. §63.149 for equipment that is subject to 40 C.F.R. §63.149, with the differences noted in 40 C.F.R. §§63.1433(a)(1) through (20). The monitoring requirements for a Group 1 process wastewater stream are as follows:  
**[45CSR34; 40 C.F.R. §63.1433(a)]**
- 5.2.2.1. To demonstrate compliance with requirement 5.1.2, the permittee shall continuously monitor the reactor temperature, caustic feed flow, and extractor tails water feed flow for the C-461 Reactor. Temperature will be monitored by a thermocouple, and flowmeters will be used to monitor caustic flow and extractor tails feed flow. A flow ratio controller will use a prescribed set point to adjust the caustic flow based on changes in the feed flow in order to maintain the proper ratio to ensure the required 98% destruction. A computer control system will store the monitoring data with readings taken at the proper frequency to ensure continuous monitoring. The parameter monitoring levels were established via a performance curve of temperature versus caustic flow/feed flow ratio to maintain the required destruction percentage and an engineering assessment was conducted based on reactor geometry, high flow conditions, and first order reaction kinetics to generate the performance curve. The parameter monitoring levels and performance curve were submitted by letter dated August 16, 2002. All monitoring equipment shall be installed, calibrated, and maintained according to the manufacturer's specifications or other written procedures that provide adequate assurance that the equipment would reasonably be expected to monitor accurately.  
**[45CSR34; 40 C.F.R. §§63.143(d), 63.143(g), 63.146(b)(8)(ii), and 63.1438(d); Letter from Judith M. Katz (EPA Region III) to J.L. Blatt (Union Carbide Corporation) dated November 13, 2001; Letter from Jeff L. Blatt (Union Carbide Corporation) to Judith M. Katz (EPA Region III) dated August 16, 2002]**
- (Vessel 401 Tails)*
- 5.2.3. Flare A221 is shared with the CELLOSIZE™ HEC Plant. Monitoring Requirements for Flare A221 are provided in 4.2.3, 4.2.4, and 4.2.5.

## 5.3. Testing Requirements

- 5.3.1. **Equipment Leaks.** The permittee shall comply with all applicable test methods and procedures of 40 C.F.R. 63, Subpart H – “National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks” as specified in 40 C.F.R. §63.180, except as specified in 40 C.F.R. §§63.1434(b) through (g). **[45CSR34; 40 C.F.R. §63.1434(a); 40 C.F.R. 63, Subpart H; 40 C.F.R. §63.180]**

- 5.3.2. Flare A221 is shared with the CELLOSIZETM HEC Plant. Testing Requirements for Flare A221 are provided in 4.3.1.
- 5.3.3. At such reasonable times as the Director may designate, the operator of any manufacturing process source operation may be required to conduct or have conducted stack tests to determine the particulate matter loading in exhaust gases. Such tests shall be conducted in such manner as the Director may specify and be filed on forms and in a manner acceptable to the Director. The Director, or his duly authorized representative, may at his option witness or conduct such stack tests. Should the Director exercise his option to conduct such tests, the operator will provide all the necessary sampling connections and sampling ports to be located in such manner as the Director may require, power for test equipment and the required safety equipment such as scaffolding, railings and ladders to comply with generally accepted good safety practices.  
**[45CSR§7-8.1]**
- 5.3.4. The Director, or his duly authorized representative, may conduct such other tests as he or she may deem necessary to evaluate air pollution emissions.  
**[45CSR§7-8.2]**
- 5.3.5. The permittee shall comply with all applicable provisions of 45CSR§21-41 regarding test methods and compliance procedures to demonstrate compliance with 5.1.12, except as otherwise approved by the Director.  
**[45CSR§21-41; CO-R21-97-41, III.5 (State-Enforceable only)]**
- 5.3.6. **45CSR§21-37 Testing Requirements for Equipment Leaks.** The permittee shall comply with all applicable test methods and procedures of 45CSR§21-37 – “Leaks from Synthetic Organic Chemical, Polymer, and Resin Manufacturing Equipment” as specified in 45CSR§21-37.9. To the extent that implementation of the requirements of 40 C.F.R. 60, 40 C.F.R. 61, or 40 C.F.R. 63 results in monitoring and repair, consistent with 45CSR§21-37, of all components in VOC service in any synthetic organic chemical, polymer, or resin manufacturing process unit, compliance with these federally enforceable standards will satisfy the requirements of 45CSR§21-37.  
**[45CSR§§21-37.1.c and 37.9 (State-Enforceable only); CO-R21-97-41, III.2 (State-Enforceable only)]**

#### **5.4. Recordkeeping Requirements**

- 5.4.1. **Group 1 Process Vents.** The owner or operator complying with the process vent control requirements of 5.1.1 using a flare shall keep the following records, as applicable, readily accessible:  
**[45CSR34; 40 C.F.R. §§63.1430(b) and (b)(1)]**
- 5.4.1.1. The flare design (i.e., steam-assisted, air-assisted, or non-assisted);  
**[45CSR34; 40 C.F.R. §63.1430(b)(1)(i)]**
- 5.4.1.2. All visible emission readings, heat content determinations, flow rate determinations, and exit velocity determination made during the flare specification determination required by 40 C.F.R. §63.1437(c); and  
**[45CSR34; 40 C.F.R. §63.1430(b)(1)(ii)]**

5.4.1.3. All periods during the flare specification determination required by 40 C.F.R. §63.1437(c) when all pilot flames are absent.  
**[45CSR34; 40 C.F.R. §63.1430(b)(1)(iii)]**

*(V302, V404, V518, V4921, and V4922)*

5.4.2. **Group 1 Process Vents.** The owner or operator shall maintain the following records specified in Table 5 of 40 C.F.R. 63, Subpart PPP:  
**[45CSR34; 40 C.F.R. §63.1430(d)(1)(i)]**

5.4.2.1. Hourly records of whether the monitor was continuously operating during batch emission episodes selected for control and whether a flame was continuously present at the pilot light during the hour.  
**[45CSR34; Table 5 of 40 C.F.R. 63, Subpart PPP]**

5.4.2.2. Record the times and durations of all periods during batch emission episodes when all flames at the pilot light of a flare are absent or the monitor is not operating.  
**[45CSR34; Table 5 of 40 C.F.R. 63, Subpart PPP]**

*(V302, V404, V518, V4921, and V4922)*

5.4.3. **Group 1 Process Wastewater Streams.** The owner or operator of each affected source shall comply with the HON wastewater requirements of 40 C.F.R. §§63.132 through 63.147 for each process wastewater stream originating at an affected source, with the HON leak inspection requirements in 40 C.F.R. §63.148, and with the HON requirements in 40 C.F.R. §63.149 for equipment that is subject to 40 C.F.R. §63.149, with the differences noted in 40 C.F.R. §§63.1433(a)(1) through (20). The recordkeeping requirements for a Group 1 process wastewater stream are as follows:  
**[45CSR34; 40 C.F.R. §63.1433(a)]**

5.4.3.1. Records of the reactor temperature, caustic feed flow, and extractor tails water feed flow shall be stored on a computer control system. *(Vessel 40 Tails)*  
**[45CSR34; 40 C.F.R. §63.147(a)(4); Letter from Judith M. Katz (EPA Region III) to J.L. Blatt (Union Carbide Corporation) dated November 13, 2001; Letter from Jeff L. Blatt (Union Carbide Corporation) to Judith M. Katz (EPA Region III) dated August 16, 2002]**

*(Vessel 401 Tails)*

5.4.4. **Group 2 Process Wastewater Streams.** The owner or operator of each affected source shall comply with the HON wastewater requirements of 40 C.F.R. §§63.132 through 63.147 for each process wastewater stream originating at an affected source, with the HON leak inspection requirements in 40 C.F.R. §63.148, and with the HON requirements in 40 C.F.R. §63.149 for equipment that is subject to 40 C.F.R. §63.149, with the differences noted in 40 C.F.R. §§63.1433(a)(1) through (20). The recordkeeping requirements for a Group 2 process wastewater stream are as follows:  
**[45CSR34; 40 C.F.R. §63.1433(a)]**

5.4.4.1. The owner or operator shall keep in a readily accessible location the records specified in 5.4.4.1.a through 5.4.4.1.d.  
**[45CSR34; 40 C.F.R. §63.147(b)(8)]**

a. Process unit identification and description of the process unit.  
**[45CSR34; 40 C.F.R. §63.147(b)(8)(i)]**

- b. Stream identification code.  
[45CSR34; 40 C.F.R. §63.147(b)(8)(ii)]
- c. For existing sources, concentration of table 9 of 40 C.F.R. 63, Subpart G compound(s) in parts per million, by weight. Include documentation of the methodology used to determine the concentration.  
[45CSR34; 40 C.F.R. §63.147(b)(8)(iii)]
- d. Flow rate in liters per minute.  
[45CSR34; 40 C.F.R. §63.147(b)(8)(iv)]

*(Tank 4929 Discharge to Sewer and Scrubber 230 Tails {B230})*

- 5.4.5. **Maintenance Wastewater.** The owner or operator of each 40 C.F.R. 63, Subpart PPP affected source, shall comply with the HON maintenance wastewater requirements of 40 C.F.R. §63.105, with the exceptions noted in 40 C.F.R. §§63.1433 (b)(1) through (3). The HON provisions for recordkeeping requirements for maintenance wastewater are as follows:  
[45CSR34; 40 C.F.R. §63.1433(b)]

5.4.5.1. **Maintenance Wastewater.** The owner or operator shall maintain a record of the information required by 5.1.4.1.a and 5.1.4.1.b as part of the start-up, shutdown, and malfunction plan required under 40 C.F.R. §63.6(e)(3).  
[45CSR34; 40 C.F.R. §63.105(e)]

- 5.4.6. **Equipment Leaks.** The permittee shall comply with all applicable recordkeeping requirements of 40 C.F.R. 63, Subpart H – “National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks” as specified in 40 C.F.R. §63.181, except as specified in 40 C.F.R. §§63.1434(b) through (g).  
[45CSR34; 40 C.F.R. §63.1434(a); 40 C.F.R. 63, Subpart H; 40 C.F.R. §63.181]

- 5.4.7. **Record of Maintenance of Air Pollution Control Equipment GG230, J230, E504, and E535.** For air pollution control equipment GG230, J230, E504, and E535, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.  
[45CSR§30-5.1.c]

- 5.4.8. **Record of Malfunctions of Air Pollution Control Equipment GG230, J230, E504, and E535.** For air pollution control GG230, J230, E504, and E535, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

- a. The equipment involved.
- b. Steps taken to minimize emissions during the event.
- c. The duration of the event.
- d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

- e. The cause of the malfunction.
- f. Steps taken to correct the malfunction.

- g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

**[45CSR§30-5.1.c]**

- 5.4.9. **45CSR§21-37 Recordkeeping Requirements for Equipment Leaks.** The permittee shall comply with all applicable recordkeeping requirements of 45CSR§21-37 – “Leaks from Synthetic Organic Chemical, Polymer, and Resin Manufacturing Equipment” as specified in 45CSR§21-37.10, with the exception that all records shall be maintained for a period of five (5) years instead of three (3) years. To the extent that implementation of the requirements of 40 C.F.R. 60, 40 C.F.R. 61, or 40 C.F.R. 63 results in monitoring and repair, consistent with 45CSR§21-37, of all components in VOC service in any synthetic organic chemical, polymer, or resin manufacturing process unit, compliance with these federally enforceable standards will satisfy the requirements of 45CSR§21-37.

**[45CSR§§21-37.1.c and 37.10 (State-Enforceable only); 45CSR§30-5.1.c; CO-R21-97-41, III.2 (State-Enforceable only)]**

- 5.4.10. Flare A221 is shared with the CELLOSIZE™ HEC Plant. Recordkeeping Requirements for Flare A221 are provided in 4.4.4 and 4.4.5.

- 5.4.11. To demonstrate compliance with the 5.1.14 hourly ethylene oxide emission limits for the POLYOX™ Solids Handling Systems (emission points 230K, 230L, 230M, 230P, 230R, 230II, 230J, and 230V), the rotary valve speed on the solids handling system shall not exceed 3 revolutions per minute. Each year, the permittee shall check the rotary valve speed and shall adjust the speed, if necessary, in order to maintain the speed at no greater than 3 revolutions per minute. A record of the rotary valve speed checks shall be maintained in accordance with Condition 3.4.2 and shall specify the date and type of corrective action(s) taken, if any. To demonstrate compliance with the 5.1.14 annual ethylene oxide emission limit, the permittee shall, upon the request of the Director, calculate the twelve month rolling total ethylene oxide emissions based on production for the previous twelve month operating period. Emissions are calculated from the production rate and the amount of material vented per amount of product produced. Records of production and the emission factor used to calculate emissions shall be maintained in accordance with Condition 3.4.2.

**[45CSR§30-5.1.c]**

- 5.4.12. To demonstrate compliance with the 5.1.14 annual ethylene oxide emission limits for emission points 230O, 230Q, 230T, 230CC, and 230HH, the permittee shall maintain records for each emission point showing the total number of emitting events occurring during the month. For emission points 230O and 230T, the permittee shall also maintain records of the duration of each emitting event. Upon the request of the Director, records of the number of emitting events shall be used to calculate a twelve month rolling total annual emission rate for each emission point to demonstrate compliance with the annual ethylene oxide emission limits. Emissions will be calculated from the number of events and the amount of material vented per event. To demonstrate compliance with the hourly emission limits for emission points 230O and 230T, the permittee shall, upon the request of the Director, calculate the hourly emission rate for each emission point based upon the amount of material vented per event and the duration of each event.

**[45CSR§30-5.1.c]**

- 5.4.13. To demonstrate compliance with the 5.1.14 hourly and annual propylene oxide emission limits for emission point 230B, the permittee shall maintain records of scrubber water flow meter calibrations and records of the functionality checks conducted on the scrubber interlock system. These records shall be maintained in accordance with Condition 3.4.2.

**[45CSR§30-5.1.c]**

- 5.4.14. To demonstrate compliance with the 5.1.14 annual propylene oxide emission limit for emission point 230S, the permittee shall maintain records of the date and material throughput. Upon the request of the Director, these throughput records shall be used to calculate the twelve month rolling total annual emissions to demonstrate compliance with the annual propylene oxide emission limit.

[45CSR§30-5.1.c]

## 5.5. Reporting Requirements

- 5.5.1. The permittee shall submit Periodic Reports as specified in 40 C.F.R. §§63.1439(e)(6), except that semi-annual periodic monitoring reports are due within 60 calendar days following June 30 and December 31, for each calendar year. The reports cover the periods January 1 through June 30 and July 1 through December 31.

[45CSR34; C.F.R. §63.1432(l); 40 C.F.R. §63.1439(e)(6)]

- 5.5.2. The permittee shall submit reports of start-up, shutdown, and malfunction required by 40 C.F.R. §63.1439(b)(1). The start-up, shutdown and malfunction reports may be submitted on the same schedule as the Periodic Reports required under 5.5.1.

[45CSR34; 40 C.F.R. §63.1439(b)(1)]

- 5.5.3. **Group 1 Process Vents.** The permittee shall submit reports of the times and durations of all periods recorded under 5.4.2 in which all pilot flames of a flare were absent. (*V302, V404, V518, V4921, and 4922*)

[45CSR34; 40 C.F.R. §63.1430(h)(5)]

- 5.5.4. **Group 1 Process Wastewater Streams.** The owner or operator of each affected source shall comply with the HON wastewater requirements of 40 C.F.R. §§63.132 through 63.147 for each process wastewater stream originating at an affected source, with the HON leak inspection requirements in 40 C.F.R. §63.148, and with the HON requirements in 40 C.F.R. §63.149 for equipment that is subject to 40 C.F.R. §63.149, with the differences noted in 40 C.F.R. §§63.1433(a)(1) through (20). The reporting requirements for a Group 1 process wastewater stream are as follows:

[45CSR34; 40 C.F.R. §63.1433(a)]

- 5.5.4.1. The owner or operator shall submit as part of the next Periodic Report required by 40 C.F.R. §63.1439(e)(6), the monitoring results for each operating day during which the monitored parameters were outside the range established in 5.2.2.

[45CSR34; 40 C.F.R. §§63.146(d)(3) and 63.1433(a)(14)]

(*Vessel 401 Tails*)

- 5.5.5. **Equipment Leaks.** The permittee shall comply with all applicable reporting requirements of 40 C.F.R. 63, Subpart H – “National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks” as specified in 40 C.F.R. §63.182, except as specified in 40 C.F.R. §§63.1434(b) through (g).

[45CSR34; 40 C.F.R. §63.1434(a); 40 C.F.R. 63, Subpart H; 40 C.F.R. §63.182]

- 5.5.6. **45CSR§21-37 Reporting Requirements for Equipment Leaks.** The permittee shall comply with all applicable reporting requirements of 45CSR§21-37 – “Leaks from Synthetic Organic Chemical, Polymer, and Resin Manufacturing Equipment” as specified in 45CSR§21-37.11 and 5.2. To the extent that implementation of the requirements of 40 C.F.R. 60, 40 C.F.R. 61, or 40 C.F.R. 63 results in monitoring and repair, consistent with 45CSR§21-37, of all components in VOC service in any synthetic organic

chemical, polymer, or resin manufacturing process unit, compliance with these federally enforceable standards will satisfy the requirements of 45CSR§21-37.

**[45CSR§§21-37.1.c, 37.11, and 5.2 (State-Enforceable only); CO-R21-97-41, III.2 (State-Enforceable only)]**

## **5.6. Compliance Plan**

5.6.1. None.

## **Appendix A: Consent Order CO-R21-97-41 ATTACHMENTS A AND B**

## ATTACHMENT A

Process Area Description and Identification Number	Name of Process Equipment Vented to Control Device and Equipment Identification Number	Maximum Theoretical Emissions (MTE) of the Source (lbs/hr)	Emission Point Identification Number	Control Device Identification Number	Control Device Description	Efficiency of Control Device	Maximum Allowable Hours of Operation (hrs/yr)	Maximum Allowable VOC Emissions	
								lbs/hr	tons/yr
POLYOX™ 230	Vessel 302 (V302) <sup>1</sup>	1,100 <sup>3</sup>	230O	None	No Device	0	8760 <sup>1</sup>	1,100 <sup>3</sup>	28.5 <sup>3</sup>
POLYOX™ 230	Tank 4928	150 <sup>3</sup>	230Q <sup>1</sup>	None	No Device	0	8760 <sup>1</sup>	150 <sup>3</sup>	0.11 <sup>3</sup>
POLYOX™ 230	Vent Header to Flare <sup>1</sup>	300 <sup>3</sup>	221A	A221 <sup>1</sup>	FL	98 <sup>1</sup>	8760 <sup>1</sup>	Vents to CELLOSIZETM HEC Flare (R13-0171) <sup>4</sup>	Vents to CELLOSIZETM HEC Flare (R13-0171) <sup>4</sup>
POLYOX™ 230	Tank 4906	48 <sup>3</sup>	235C	None	No Device	0	8760 <sup>1</sup>	48 <sup>3</sup>	0.6 <sup>3</sup>
POLYOX™ 230	Tank 4907	48 <sup>3</sup>	235D	None	No Device	0	8760 <sup>1</sup>	48 <sup>3</sup>	0.6 <sup>3</sup>
POLYOX™ 230	Tank 4905	48 <sup>3</sup>	235K	None	No Device	0	8760 <sup>1</sup>	48 <sup>3</sup>	0.6 <sup>3</sup>
POLYOX™ 230 <sup>1</sup>	Scrubber Header <sup>1</sup>	18.7 <sup>3</sup>	230B <sup>1</sup>	B230 <sup>1</sup>	PBS <sup>1</sup>	75 <sup>1</sup>	8760 <sup>1</sup>	5.00 <sup>1</sup>	1.25 <sup>3</sup>
POLYOX™ 230 <sup>1</sup>	Tank 4920 (T4920) <sup>1</sup>	6.1 <sup>3</sup>	235J <sup>1</sup>	None <sup>1</sup>	No Device <sup>1</sup>	0 <sup>1</sup>	8760 <sup>1</sup>	6.1 <sup>3</sup>	1.2 <sup>3</sup>
POLYOX™ 230 <sup>1</sup>	Tank 4994 (T4994) <sup>1</sup>	12 <sup>3</sup>	235F <sup>1</sup>	None <sup>1</sup>	No Device <sup>1</sup>	0 <sup>1</sup>	8760 <sup>1</sup>	12 <sup>3</sup>	0.04 <sup>3</sup>
POLYOX™ 230 <sup>1</sup>	Tank 4998 (T4998) <sup>1</sup>	9.16 <sup>1</sup>	N/A <sup>5</sup>	N/A <sup>5</sup>	N/A <sup>5</sup>	N/A <sup>5</sup>	N/A <sup>5</sup>	0 <sup>5</sup>	0 <sup>5</sup>
POLYOX™ 230 <sup>1</sup>	Tank 23009 (T23009) <sup>1</sup>	13 <sup>3</sup>	253A <sup>1</sup>	None <sup>1</sup>	No Device <sup>1</sup>	0 <sup>1</sup>	8760 <sup>1</sup>	13 <sup>3</sup>	0.04 <sup>3</sup>
POLYOX™ 230 <sup>1</sup>	Vent Header to Air <sup>1</sup>	300 <sup>3</sup>	230CC <sup>1</sup>	None <sup>1</sup>	No Device <sup>1</sup>	0 <sup>1</sup>	8760 <sup>1</sup>	300 <sup>3</sup>	0.70 <sup>1</sup>
POLYOX™ 230 <sup>6</sup>	Tank Truck Loading (TTR-PX1) <sup>6</sup>	77.4 <sup>6</sup>	N/A <sup>6</sup>	N/A <sup>6</sup>	N/A <sup>6</sup>	N/A <sup>6</sup>	N/A <sup>6</sup>	0 <sup>6</sup>	0 <sup>6</sup>

FL – Flare

PBS – Packed Bed Scrubber

VB – Vapor Balancing, vent gas returned to T4998

<sup>1</sup> Revised based on June 14, 2006 letter from J. L. Blatt.

<sup>2</sup> Emission Point ID Numbers revised based on Section 1.0 – Emission Units Table.

<sup>3</sup> Revised based on November 14, 2011 letter from T.J. London

<sup>4</sup> Emission limits for CELLOSIZETM HEC Flare are specified by Permit R13-0171

<sup>5</sup> Tank 4998 vent routed to process

<sup>6</sup> New tank truck loading operation to be operational 2<sup>nd</sup> quarter of 2012. Vent gas to be returned to Tank 4998.



## **APPENDIX B: R13-0171 Example Recordkeeping Form and Certification of Data Accuracy Form**



### CERTIFICATION OF DATA ACCURACY

I, the undersigned, hereby certify that, based on information and belief formed after reasonable inquiry, all information contained in the attached \_\_\_\_\_, representing the period beginning \_\_\_\_\_ and ending \_\_\_\_\_, and any supporting documents appended hereto, is true, accurate, and complete.

Signature<sup>1</sup>  
(please use blue ink)

\_\_\_\_\_  
Responsible Official or Authorized Representative

\_\_\_\_\_  
Date

Name and Title  
(please print or type)

\_\_\_\_\_  
Name

\_\_\_\_\_  
Title

Telephone No. \_\_\_\_\_

Fax No. \_\_\_\_\_

<sup>1</sup> This form shall be signed by a "Responsible Official." "Responsible Official" means one of the following:

- a. For a corporation: The president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:
  - (i) the facilities employ more than 250 persons or have a gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), or
  - (ii) the delegation of authority to such representative is approved in advance by the Director;
- b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
- c. For a municipality, State, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of U.S. EPA); or
- d. The designated representative delegated with such authority and approved in advance by the Director.