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
South Charleston
R30-03900003-2012

John A. Benedict
Director

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

Permit Number: **R30-03900003-2012**
Permittee: **Union Carbide Corporation**
(A Subsidiary of The Dow Chemical Company)
Facility Name: **South Charleston**
Mailing Address: **PO Box 8361**
South Charleston, WV 25303

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.

Facility Location:	South Charleston, Kanawha County, West Virginia
Telephone Number:	(304) 747-7000
Type of Business Entity:	Corporation
Facility Description:	Industrial Organic Chemical Manufacturing
SIC Codes:	2869
UTM Coordinates:	439.67 km Easting • 4,246.72 km Northing • Zone 17

Permit Writer: Jesse Hanshaw, P.E.

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.

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	Design Capacity	Control Device
Gum Base Plant (PVA)					
T-2647	2647	Tank 2647 – No Regulated Pollutant	1935/1992	********	
T-3014	3014 or E25 or E27 or E533	Tank 3014	1935	********	None or B25, B27, or B26 or Vessel E533
T-3021	3021 or E25 or E27	Tank 3021	1965	********	None or B25, B26 or B27
T-3030	E25 or E27 or E-531 or E-533	Tank 3030	1996	********	B25, B26, or B27 or Vessel E531 or Vessel E533
T-3031	E25 or E27 or E-531 or E-533	Tank 3031	1996	********	B25, B26, or B27 or Vessel E531 or Vessel E533
T-3046	3046	Tank 3046	OOS	OOS	
T-3047	3047	Tank 3047	OOS	OOS	
T-3056	3056	Tank 3056	OOS	OOS	
T-3057	3057	Tank 3057	OOS	OOS	
T-3078	3078	Tank 3078	OOS	OOS	
T-3079	3079	Tank 3079	OOS	OOS	
T-3080	3080 or E25 or E27	Tank 3080	1961	********	None or B25, B26, or B27
T-5930	5930	Tank 5930	1967	********	
T-5966	5966	Tank 5966	1961	********	
T-9011	9011	Tank 9011 (*******)	1960	********	
C-215	OSS	Vessel C215 (OOS) (**********)	OOS	OOS	
C-216	OSS	Vessel C216 (OOS) (**********)	OOS	OOS	
C-217B	OSS	Vessel C217B (OOS) (**********)	OOS	OOS	
C-218	E-229	Baghouse C218	Nap	Nap	
C-219	E-228	Baghouse C219	Nap	Nap	
C-501	E25 or E27	Vessel C501 (*********)	1996	********	B25, B26, or B27
C-528B	E25 or E27	Vessel C528B (*********)	1996	********	B25, B26, or B27

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
C-532	E25 or E27	Vessel C-532 (**********)	1996	********	B25, B26, or B27
C-650R	650R or E25 or E27	Vessel 650R (*********)	1996	********	None or B25, B26, or B27
C-651	E25 or E27	Vessel C651 (********** *********)	1996	********	B25, B25, or B27
C-0210	E-217	Vessel C0210 (OOS) (**********)	OOS	OOS	
C-0250	O250	Vessel C0250 (**********)	1966	********	
D-509	509	Tank 509	1995	********	
D-2040	2040	Vessel D-2040 (**********)	1997	********	
E-503	E25 or E27	Vessel E-503 (*********)	Nap	Nap	B25, B26, or B27
E-524	E25 or E27	Vessel E-524 (**********)	Nap	Nap	B25, B26, or B27
E-528	E25 or E27	Vessel E-528 (**********)	Nap	Nap	B25, B26, or B27
E-531	E25 or E27	Vessel E-531 (*********)	Nap	Nap	B25, B26, or B27
E-533	E25 or B25 or E-533	Vessel E533 (*******)	Nap	Nap	B25, B26, or B27 or Vessel E-533
E-652	E25 or E27	Vessel E-652 (*********)	Nap	Nap	B25, B26, or B27
Y-520	E25 or E27	Vessel Y520 (*********)	1996	********	B25, B26, or B27
Y-525	E25 or E27	Vessel Y525 (*********)	1996	********	B25, B26, or B27
Y-228	E-228 or E-229	Packaging	Nap	Nap	
L-221	E25 or E27	TT Rack	Nap	Nap	B25, B26, or B27
L-222	222L	Loading Rack	OOS	OOS	
L-223	223L	Loading Rack	OOS	OOS	
GBRS	Not Applicable	Industrial Refrigeration System	Nap	Nap	
GBHDR	Fugitive	Plant header to Island Power House	Nap	Nap	
Energy Systems					
B25	25E	NG/Liquid Residue Boiler	1953	323 MM Btu/hr	ESP
B26	26E	NG/Waste Gas Boiler	1996	352 MM Btu/hr	
B27	27E	NG/Waste Gas Boiler	1998	353 MM Btu/hr	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
001	A-001	portable diesel auxiliary air compressors			
002	A-002	portable diesel auxiliary air compressors			
003	A-003	portable diesel auxiliary air compressors			
004	A-004	portable diesel auxiliary air compressors			
EOHDR	Fugitive	EO Distribution System			
Oxide Adducts					
9120	T9120	Tank 9120	1950	*******	
9121	T9121	Tank 9121	1950	*******	
9128	T9128	Tank 9128	1953	*******	
9129	T9129	Tank 9129	1953	*******	
9151	T9151	Tank 9151	1943	*******	
9180	T9180	Tank 9180	1957	*******	
9181	T9181	Tank 9181	1957	*******	
9182	T9182	Tank 9182	1957	*******	
9186	T9186	Tank 9186	1966	*******	
9187	T9187	Tank 9187	1966	*******	
9223	T9223	Tank 9223	1952	*******	
9228	T9228	Tank 9228	1947	*******	
9501	T9501	Tank 9501	1965	*******	
9502	T9502	Tank 9502	1968	*******	
9504	T9504	Tank 9504	1965	*******	
9505	T9505	Tank 9505	1965	*******	
9507	T9507	Tank 9507	1971	*******	
9509	T9509	Tank 9509	1978	*******	
9510	T9510	Tank 9510	1988	*******	
9511	T9511	Tank 9511	1990	*******	
9512	T9512	Tank 9512	1990	*******	
9513	T9513	Tank 9513	1990	*******	
9514	T9514	Tank 9514	1942	*******	
9550	T9550	Tank 9550	1978	*******	
9551	T9551	Tank 9551	1978	*******	
9552	T9552	Tank 9552	1978	*******	
9553	T9553	Tank 9553	1978	*******	
9554	T9554	Tank 9554	1978	*******	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
9555	T9555	Tank 9555	1978	*******	
9556	T9556	Tank 9556	1967	*******	
9557	T9557	Tank 9557	1967	*******	
9558	T9558	Tank 9558	1967	*******	
9559	T9559	Tank 9559	1967	*******	
9560	T9560	Tank 9560	1961	*******	
9562	T9562	Tank 9562	1950	*******	
9563	T9563	Tank 9563	1972	*******	
9564	T9564	Tank 9564	1972	*******	
9565	T9565	Tank 9565	1954	*******	
9566	T9566	Tank 9566	1957	*******	
9567	T9567	Tank 9567	1953	*******	
9568	T9568	Tank 9568	1953	*******	
9569	T9569	Tank 9569	1966	*******	
9611	T9611	Tank 9611	1966	*******	
9612	T9612	Tank 9612	1966	*******	
9613	T9613	Tank 9613	1966	*******	
9614	T9614	Tank 9614	1966	*******	
9615	T9615	Tank 9615	1966	*******	
9616	T9616	Tank 9616	1966	*******	
9617	T9617	Tank 9617	1967	*******	
9619	T9619	Tank 9619	1967	*******	
9621	T9621	Tank 9621	1966	*******	
9622	T9622	Tank 9622	1966	*******	
9623	T9623	Tank 9623	1966	*******	
9624	T9624	Tank 9624	1966	*******	
9625	T9625	Tank 9625	1966	*******	
9627	T9627	Tank 9627	1967	*******	
9629	T9629	Tank 9629	1967	*******	
9631	T9631	Tank 9631	1947	*******	
9632	T9632	Tank 9632	1947	*******	
9633	T9633	Tank 9633	1945	*******	
9634	T9634	Tank 9634	1951	*******	
9635	T9635	Tank 9635	1951	*******	
9637	T9637	Tank 9637	1947	*******	
9638	T9638	Tank 9638	1947	*******	
9639	T9639	Tank 9639	1947	*******	
9640	T9640	Tank 9640	1948	*******	
9641	T9641	Tank 9641	1948	*******	
9642	T9642	Tank 9642	1948	*******	
9643	T9643	Tank 9643	1942	*******	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
9644	T9644	Tank 9644	1942	*******	
9645	T9645	Tank 9645	1942	*******	
9646	T9646	Tank 9646	1947	*******	
9647	T9647	Tank 9647	1946	*******	
9648	T9648	Tank 9648	1946	*******	
9649	T9649	Tank 9649	1946	*******	
9650	T9650	Tank 9650	1964	*******	
9651	T9651	Tank 9651	1952	*******	
9656	T9656	Tank 9656	1953	*******	
9657	T9657	Tank 9657	1956	*******	
9732	T9732	Tank 9732	1956	*******	
9733	T9733	Tank 9733	1957	*******	
9734	T9734	Tank 9734	1940	*******	
9735	T9735	Tank 9735	1950	*******	
9736	T9736	Tank 9736	1940	*******	
9738	T9738	Tank 9738	1966	*******	
9740	T9740	Tank 9740	1949	*******	
9749	T9749	Tank 9749	1957	*******	
9750	T9750	Tank 9750 (Sulfuric Acid)	1981	*******	
9751	T9751	Tank 9751	1966	*******	
9752	T9752	Tank 9752	1966	*******	
9756	T9756	Tank 9756	Prior to 1984	*******	
9757	T9757	Tank 9757	2004	*******	
9771	T9771	Tank 9771	1966	*******	
9772	T9772	Tank 9772	1966	*******	
9773	T9773	Tank 9773	1966	*******	
9774	T9774	Tank 9774	1966	*******	
9775	T9775	Tank 9775	1966	*******	
9776	T9776	Tank 9776	1966	*******	
9781	T9781	Tank 9781	1966	*******	
9782	T9782	Tank 9782	1966	*******	
9783	T9783	Tank 9783	1966	*******	
9784	T9784	Tank 9784	1966	*******	
9785	T9785	Tank 9785	1966	*******	
9786	T9786	Tank 9786	1966	*******	
9793	T9793	Tank 9793	1964	*******	
9798	T9798	Tank 9798	1964	*******	
9811	T9811	Tank 9811	1966	*******	
9812	T9812	Tank 9812	1966	*******	
9813	T9813	Tank 9813	1966	*******	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
9814	T9814	Tank 9814	1966	*******	
9815	T9815	Tank 9815	1966	*******	
9821	T9821	Tank 9821	1966	*******	
9822	T9822	Tank 9822	1966	*******	
9823	T9823	Tank 9823	1966	*******	
9824	T9824	Tank 9824	1966	*******	
9825	T9825	Tank 9825	1966	*******	
5694	T5694	Tank 5694 (from AA)	2012		
9636	T9636	Tank 9636 (from AA)	2012		
200	T200	Tank 200 (from AA)	2012		
P700	E700	Prep System 1	1970	*******	
P701	E701	Prep System 2	1970	*******	
P716	E716	Prep System 3	1970	*******	
R703	E703	Reactor 1	1970	*******	
R704	E704	Reactor 2	1970	*******	
R705	E705	Reactor 4	1970	*******	
R706	E706	Reactor 5	1970	*******	
R707	E707	Reactor 7	1971	*******	
R708	E708	Reactor 6	1995	*******	
721T	E709	#1 Product Treatment Emiss. Pt. for Vac Jet	1970	*******	C709 and/or None
722T	E710	#2 Product Treatment Emiss. Pt. for Vac Jet	1970	*******	C710 and/or None
723T	E711	#5 Product Treatment Emiss. Pt. for Vac Jet	1970	*******	C711 and/or None
730HW	E730	Hotwell System	Nap	Nap	
732T	E732	Other Treatment	1970	*******	
717R1	E717	Recovery and Refining Systems 1	1970	*******	
717R2	E718	Recovery and Refining Systems 2	1970	*******	
L001	L001TT	Tank Truck Rack	Nap	Nap	
L002	L002RC	Rail Car Rack	Nap	Nap	
C709	E709 and/or E730	#1 Jets/Condenser	Nap	Nap	
C710	E710 and/or E730	#2 Jets/Condenser	Nap	Nap	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
C711	E711 and/or E730	#5 Jets/Condenser	Nap	Nap	
Misc Drop Tanks	E703A - Virtual Emission Point for #1 Reactor Drop Tanks	R27 CO Process Id. E703A	Nap	Nap	
Misc Drop Tanks	E704A - Virtual Emission Point for #2 Reactor Drop Tanks	R27 CO Process Id. E704A	Nap	Nap	
Misc Drop Tanks	E705A - Virtual Emission Point for #4 Reactor Drop Tanks	R27 CO Process Id. E705A	Nap	Nap	
Misc Drop Tanks	E706A - Virtual Emission Point for #5 Reactor Drop Tanks	R27 CO Process Id. E706A	Nap	Nap	
Misc Drop Tanks	E707A - Virtual Emission Point for #7 Reactor Drop Tanks	R27 CO Process Id. E707A	Nap	Nap	
Misc Drop Tanks	E708A - Virtual Emission Point for #6 Reactor Drop Tanks	R27 CO Process Id. E708A	Nap	Nap	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
Product Treatment 1, 2, 5, and/or Other Treatment	E703B - Virtual Emission Point for #1 Reactor Product Treatment	R27 CO Process Id. E703B Virtual because can treat products from reactor 1 in treater 2 or 5	Nap	Nap	
Product Treatment 1, 2, 5, and/or Other Treatment	E704B- Virtual Emission Point for #2 Reactor Product Treatment	R27 CO Process Id. E704B	Nap	Nap	
Product Treatment 1, 2, 5, and/or Other Treatment	E705B- Virtual Emission Point for #4 Reactor Product Treatment	R27 CO Process Id. E705B	Nap	Nap	
Product Treatment 1, 2, 5, and/or Other Treatment	E706B- Virtual Emission Point for #5 Reactor Product Treatment	R27 CO Process Id. E706B	Nap	Nap	
Product Treatment 1, 2, 5, and/or Other Treatment	E707B- Virtual Emission Point for #7 Reactor Product Treatment	R27 CO Process Id. E707B	Nap	Nap	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
Product Treatment 1, 2, 5, and/or Other Treatment	E708B-Virtual Emission Point for #6 Reactor Product Treatment	R27 CO Process Id. E708B	Nap	Nap	
Chemical Mixing					
2001	2001E	Tank 2001	1962	********	
2003	2003E	Tank 2003	1962	********	
2005	2005E	Tank 2005	1962	********	
2006	2006E	Tank 2006	1962	********	
2007	2007E	Tank 2007	1962	********	
2008	2008E	Tank 2008	1945	********	
2009	2009E	Tank 2009	1962	********	
2010	2010E	Tank 2010	1968	********	
2011	2011E	Tank 2011	1962	********	
2012	2012E	Tank 2012	1962	********	
2014	2014E	Tank 2014	1962	********	
2016	2016E	Tank 2016	1962	********	
2017	2017E	Tank 2017	1956	********	
2018	2018E	Tank 2018	1956	********	
2019	2019E	Tank 2019	1953	********	
2020	2020E	Tank 2020	1953	********	
2040	2040E	Tank 2040	1962	********	
2041	2041E	Tank 2041	1962	********	
2042	2042E	Tank 2042	1962	********	
2043	2043E	Tank 2043	1962	********	
2044	2044E	Tank 2044	1962	********	
2045	2045E	Tank 2045	1962	********	
2046	2046E	Tank 2046	1962	********	
2047	2047E	Tank 2047	1962	********	
2048	2048E	Tank 2048	1962	********	
2049	2049E	Tank 2049	1962	********	
2050	2050E	Tank 2050	1966	********	
2051A	2051AE	Tank 2051A	1967	********	
2051B	2051BE	Tank 2051B	1967	********	
2052	2052E	Tank 2052	1962	********	
2053	2053E	Tank 2053	1962	********	
2054	2054E	Tank 2054	1962	********	
2055	2055E	Tank 2055	1962	********	
2056	2056E	Tank 2056	1962	********	
2057	2057E	Tank 2057	1962	********	
2058	2058E	Tank 2058	1962	********	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
2059	2059E	Tank 2059	1962	********	
2060	2060E	Tank 2060	1962	********	
2061	2061E	Tank 2061	1975	********	
2062	2062E	Tank 2062	1962	********	
2063	2063E	Tank 2063	1962	********	
2064	2064E	Tank 2064	1962	********	
2065	2065E	Tank 2065	1962	********	
2066	2066E	Tank 2066	1962	********	
5766	5766E	Tank 5766	1962	********	
9000	9000E	Tank 9000 located at NCDT	1956	********	
SL-01	SL-01E	Vessel SL-01/ confidential	Nap	Nap	
SL-02	SL-02E	Vessel SL-02/ confidential	Nap	Nap	
SL-03	SL-03E	Vessel SL-03/ confidential	Nap	Nap	
D-104	D-104E	Vessel D-104E/ confidential	Nap	Nap	
L050TT	TT050L	In Unit Tank Truck Rack	Nap	Nap	
L050RC	RC050L	In Unit Rail Car Rack	Nap	Nap	
L050DR	DR050L	In Unit Drum Loading	Nap	Nap	
Specialty Surfactants (TRITON)					
8101	E-1081-2	Vessel 8101/Refining Still	1977	********	C8105
8310	E-1081-3	Tank 8310	1992	********	C8110
8313	T8313	Tank 8313	1959	********	
8314	T8314	Tank 8314	1959	********	
8320	T8320	Tank 8320	1959	********	
8321	T8321	Tank 8321	1944	********	
8322	T8322	Tank 8322	1944	********	
8323	T8323	Tank 8323	1959	********	
8324	T8324	Tank 8324	1959	********	
8330	E-1081-3	Tank 8330	1976	********	C8110
8331	T8331	Tank 8331	1976	********	
8332	T8332	Tank 8332	1976	********	
8333	T8333	Tank 8333	1959	********	
8334	T8334	Tank 8334	1959	********	
8340	E-1081-3	Tank 8340	1944	********	C8110
8341	T8341	Tank 8341	1944	********	
8343	T8343	Tank 8343	1959	********	
8344	T8344	Tank 8344	1959	********	
8345	T8345	Tank 8345	1959	********	
8346	T8346	Tank 8346	1959	********	
8350	T8350	Tank 8350	1944	********	
8351	T8351	Tank 8351	1944	********	
8352	T8352	Tank 8352	1945	********	
8353	E-1081-3	Tank 8353	1959	********	C8130
8354	T8354	Tank 8354	1959	********	
8355	T8355	Tank 8355	1959	********	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
8356	T8356	Tank 8356	1959	********	
8360	T8360	Tank 8360	1962	********	
8361	T8361	Tank 8361	1944	********	
8362	T8362	Tank 8362	1942	********	
8363	E-1081-3	Tank 8363	1959	********	C8130
8364	T8364	Tank 8364	1959	********	
8365	T8365	Tank 8365	1959	********	
8366	T8366	Tank 8366	1959	********	
8370	E-1081-3	Tank 8370	1975	********	
8371	T8371	Tank 8371	1976	********	
8372	T8372	Tank 8372	1948	********	
8373	T8373	Tank 8373	1952	********	
8375	T8375	Tank 8375	1959	********	
8376	T8376	Tank 8376	1959	********	
8380	T8380	Tank 8380	1976	********	
8381	T8381	Tank 8381	1976	********	
8382	T8382	Tank 8382	1993	********	
8383	T8383	Tank 8383	1952	********	
8390	T8390	Tank 8390	1976	********	
8391	T8391	Tank 8391	1976	********	
8392	T8392	Tank 8392	1977	********	
8393	T8393	Tank 8393	1952	********	
8400	E-1084-1 or E-1084-2 or E-1081-3	8400 Reactor	1976	********	C8110 or none
8415	E-1084-2	Triad Hotwell	NA	NA	
8420	T8420	Tank 8420	1976	********	
8433	T8433	Tank 8433	1993	********	
8435	T8345	Tank 8345	1993	********	
8500	E-1085-1 or E-1085-2 or E-1081-3	8500 Reactor	1976	********	C8110 or C8130 or none
8515	E-1085-2	LCAP Hotwell	Not applicable	Nap	
8518	None	East Filter Press	1993	********	
8520	E-1085-4 (shared with 8835)	Tank 8520	1993	********	
8528	E-1081-3	Tank 8528	1975	********	C8110
8540	E-1081-3	Tank 8540	1994	********	C8110
8600	E-1081-3 or E-1084-2 or E-1086-1	8600 Reactor	1976	********	C8130 or none
	Fugitive	Hopper 8629 for 8600 Reactor	Not applicable	Nap	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
8617	E-1081-3 or E-1084-2 or E-1086-3	8617 Reactor	1976	********	C8130 or none
8621	E-1081-3	Tank 8621	1976	********	C8130
8636	E-1086-7	Glycol System C-8636	1975	Nap	
8701	E-1087-1	Bin 8701	1993	Nap	C-1087
8706	T8706	Tank 8706	1993	********	
8709	T8709	Tank 8709	1993	********	
8721	T8721	Tank 8721	1993	********	
8723	T8723	Tank 8723	1993	********	
8725	T8725	Tank 8725	1993	********	
8729	T8729	Tank 8729 - No Regulated Pollutant	1993	********	
8738	T3738	Tank 8738	NA	NA	
	Fugitive	Process Funnel for Tank 8738	NA	NA	
8800	E-1088-1 or E-1084-2 or E-1081-3	8800 Reactor	1976	********	
8817	T-8817	Tank 8817	1976	********	
8820	None	West Filter Press	1993	********	
	Fugitive	Hopper 8826 for 8800 Reactor	NA		
8835	E-1085-4 (shared with 8520)	Tank 8835	1993	********	
	Fugitive	Funnel for Tank 8835	Not applicable	Nap	
C1087	E-1087-1	Baghouse	Not applicable	Nap	
C8110	E-1081-3	Caustic Scrubber	1976	Nap	C8130
C8130	E-1081-3	Water Scrubber	1976	Nap	
C8105	E-1081-02	Condenser	Not Applicable	Nap	
L1001	L1001	Loading Rack L1001	Not applicable	Nap	
L1002	L1002	Loading Rack L1002	Not applicable	Nap	
L1003	L1003	Loading Rack L1003	Not applicable	Nap	
L1004	L1004	Loading Rack L1004	Not applicable	Nap	
L1005	L1005	Loading Rack L1005 (not located within TRITON plant)	Not applicable	Nap	
TR020		GR-7M Decant Wastewater Stream			Group 1 MON

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
Environmental Operations					
DP01	DP01E	Diesel Firewater Em. Pump	380 hp	Prior to 2002	
DP02	DP02E	Diesel Firewater Em. Pump	380 hp	Prior to 2002	
DP03	DP03E	Diesel Firewater Em. Pump	560 hp	Prior to 2002	
T01	T01E	Tank 01 (Sulfuric Acid)	Nap	Nap	
T02	Not applicable	Tank 2702 – No regulated pollutants (Water Treatment Additive)	Nap	Nap	
T04	Not applicable	T04 – No regulated pollutants (50% Caustic)	Nap	Nap	
T06	Nap	T06 – No regulated pollutants (25% Caustic)	Nap	Nap	
T2702	Nap	Tank 2702 - No regulated pollutants (Water Treatment Additive)	Nap	Nap	
T891047	Nap	Tank 891047 - No regulated pollutants (Water Treatment Additive)	Nap	Nap	
T891048	Nap	Tank 891048 - No regulated pollutants (Water Treatment Additive)	Nap	Nap	
T891049	Nap	Tank 891049 - No regulated pollutants (Water Treatment Additive)	Nap	Nap	
T891050	Nap	Tank 891050 No regulated pollutants (Water Treatment Additive)	Nap	Nap	
Nap	Nap	Salt Brine Tank – No regulated pollutant	Nap	Nap	
Nap	Nap	Salt Brine Dissolver – No regulated pollutants	Nap	Nap	
Nap	Nap	Demineralizer Beds – No regulated pollutants	Nap	Nap	
Nap	Nap	Softeners – No regulated pollutants	Nap	Nap	
Nap	Nap	Accelerators/Clarifiers – No regulated pollutants	Nap	Nap	
Maintenance / Paint Shop & North Charleston Distribution (NCDT)					
9000	T9000 or 9000E	Tank 9000 *********	1956	*********	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
9004	T9004	Tank 9004 **********	1960	*********	
9010	T9010	Tank 9010	1962	*********	
9011	T9011	Tank 9011 **********	1960	*********	
9012	T9012	Tank 9012 – No Regulated Pollutants *********	1960	*********	
9015	T9015	Tank 9015 **********	1960	*********	
9099	T9099	Tank 9099	1927	********	
L031TTR1	ELO31TTR1	Tank Truck Rack 1	Nap	Nap	
L031TTR2	ELO31TTR2	Tank Truck Rack 2	Nap	Nap	
L031TTR3	ELO31TTR3	Tank Truck Rack 3	Nap	Nap	
L031RC1	ELO31RC1	Rail Car Rack 1	Nap	Nap	
L031RC2	ELO31RC2	Rail Car Rack 2	Nap	Nap	
LU031BG	ELU031BG	Barge Loading/Unloading	Nap	Nap	
T-1490	E012	Gasoline Storage Tank	1974	*********	
T-2206	E014	Diesel Storage Tank	1974	*********	
B-307 Paint Booths	Nap	Building 307 Paint Booths for Small Parts	Nap	Nap	
B-307 Weld Shop	Nap	Building 307 Welding Shop	Nap	Nap	
B-463 Carpentry Shop	Nap	Building 463 Carpentry Shop	Nap	Nap	
Metal Solvent Cleaning Baths	Nap	Building 307 and miscellaneous locations	Nap	Nap	
Remediation Operations					
A42VE	SVE1	Vapor Extractive System	2011	NA	A42INC & A42PBS
A42INC	SVE1	Regenerative Thermal Oxidizer (Incinerator)	2011	NA	A42PBS
A42PBS	SVE1	Packed Bed Caustic Scrubber	2011	NA	APCD

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.

Permit Number	Date of Issuance
R13-1517B (TRITON® Plant)	06/30/2005
R13-2568 (Boiler 25)	04/19/2004
R13-2033C (Boiler 26)	09/20/2011
R13-2141C (Boiler 27)	04/19/2004
R13-2414C	08/08/2011
R13-2840	08/12/2010

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

CAAA	Clean Air Act Amendments
CBI	Confidential Business Information
CEM	Continuous Emission Monitor
CES	Certified Emission Statement
C.F.R. *or* CFR	Code of Federal Regulations
CO	Carbon Monoxide
C.S.R. *or* CSR	Codes of State Rules
DAQ	Division of Air Quality
DEP	Department of Environmental Protection
FOIA	Freedom of Information Act
HAP	Hazardous Air Pollutant
HON	Hazardous Organic NESHAP
HP	Horsepower
lbs/hr *or* lb/hr	Pounds per Hour
LDAR	Leak Detection and Repair
m	Thousand
MACT	Maximum Achievable Control Technology
mm	Million
mmBtu/hr	Million British Thermal Units per Hour
mmft^3/hr *or* mmcf/hr	Million Cubic Feet Burned per Hour
NA *or* N/A	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAPS	National Emissions Standards for Hazardous Air Pollutants
NO_x	Nitrogen Oxides
NSPS	New Source Performance Standards
PM	Particulate Matter
PM_{10}	Particulate Matter less than 10μm in diameter
pph	Pounds per Hour
ppm	Parts per Million
PSD	Prevention of Significant Deterioration
psi	Pounds per Square Inch
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
TAP	Toxic Air Pollutant
TPY	Tons per Year
TRS	Total Reduced Sulfur
TSP	Total Suspended Particulate
USEPA	United States Environmental Protection Agency
UTM	Universal Transverse Mercator
VEE	Visual Emissions Evaluation
VOC	Volatile Organic Compounds

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 no 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.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and 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. **Ozone Season Continuous Emission Monitoring, Recordkeeping and Reporting Requirements (Boiler B25, Boiler B26, Boiler B27).** The permittee shall operate continuous emission monitoring systems in accordance with 40 CFR Part 75 and the NO_X mass emissions provisions set forth in Subpart H of 40 CFR Part 75, to attribute ozone season NO_X mass emissions to each boiler. The permittee shall comply with the general monitoring, recordkeeping and reporting requirements set forth in 40 CFR Part 75.
[45CSR40]

3.2. Monitoring Requirements

3.2.1. N/A

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, Permit Number R13-2033, Condition 4.2.1; R13-2840, Condition 4.3.1; R13-2414, Condition 4.4.1]

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 57th 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. 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.]

3.6. Compliance Plan

3.6.1. N/A

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.

45CSR5	Coal Handling Facilities Exemption due to 45CSR2 applicability
45CSR7	Sulfuric acid mist/vapours and Phosphoric Acid vapours Tanks used to store sulfuric acid or phosphoric acid from concentration limits. Per Section 10.6 of Regulation 7, sources with potential to emit less than 0.1 lbs/hr, 100 lbs/yr are exempt from the concentration limits of Section 4.2. The following tanks have been found to meet this criteria: Tank 9750 is used to store sulphuric acid at the Oxide Adducts Plant. Tank 8372 is used to store sulfuric acid at the Specialty Surfactants Plant. Tank 8433 is used to store phosphoric acid at the Specialty Surfactants Plant. Tank T01 is used to store sulfuric acid at the Water Treatment Plant.
45CSR7	The carpentry shops (B463) and welding shops (B307) are used for fabrication of materials to support site operations. These activities are incidental (support) operations to the South Charleston Facility and are not manufacturing processes. Carpentry and welding shop activities are not covered by 45CSR7.
45CSR10A 45CSR10	Testing, Monitoring, Record Keeping, and Reporting Requirements under 45CSR10 are not applicable to Boilers 26 and 27 since they only combusts natural gas. 45CSR§10-10.3 Boilers 26 and 27 are also exempt from the 2000 ppm SO2 requirements of 45CSR§10-4 due to 45CSR§10-4.1.e having a potential of less than 500 lbs/yr SO2 from any manufacturing processes venting to these boilers. Additionally 45CSR§10-5 for combustion of refinery or process gases containing hydrogen sulfide in excess of 50 grains/100 ft^3 due to process gas streams having no known potential for sulfur contamination.
40CFR60, Subpart Kb	The following tanks associated with the Oxide Adducts Plant are greater than or equal to 19,813 gallons but less than 39,890 gallons and were constructed or modified after July 23, 1984 and have a maximum true vapor pressure less than 2.2 psia: 9513. The following tanks associated with the Oxide Adducts Plant are greater than or equal to 39,890 gallons and were constructed or modified after July 23, 1984 and have a maximum true vapor pressure less than 0.51 psia: 9510, 9511, and 9512. All tanks over 19,813 gallon capacity located at the Specialty Surfactants Plant store materials with < 2.2 psia vapor pressure at storage conditions.

40CFR60, Subpart Y	NSPS for coal handling facilities. The coal handling facilities have not been modified or reconstructed after the affected date of Subpart Y. Additionally the coal handling equipment has been shut down and is scheduled for decommissioning along with the B25 coal fired boiler.
40CFR63, Subpart Y	NESHAP for Marine Vessel Loading Operations. The North Charleston Distribution Terminal is exempt from Subpart Y requirements because they no longer load barges at this location or any other location covered by this permit
40CFR63, Subpart JJ	Wood Furniture Surface Coating. The South Charleston Facility is an incidental manufacturer and exempt from Subpart JJ. Less than 100 gallons per month surface coating and adhesive is used for wood furniture.
40CFR63, Subpart EEE	The permittee will discontinue burning of hazardous waste in Boiler 25 prior to the compliance date of Subpart EEE for industrial boilers. Therefore Subpart EEE does not apply.
40CFR63, Subpart EEEE	The North Charleston Distribution Terminal (NCDT) and the Chemical Mixing Unit are exempt from the OLD MACT for one or more of the following reasons: Storage vessels located at NCDT are part of processing units covered by other MACTs, or streams (materials transferred) have annual average true vapor pressure of Subpart EEEE Table 1 OHAPs at 77°F less than 0.1 psia, or streams contain less than 5% by weight of Subpart EEEE Table 1 OHAPS and are not organic liquids subject to the OLD MACT. The EO distribution header system does not meet the definition of an OLD MACT affected source as defined in 40 C.F.R.§63.2338(b) and is therefore not covered by 40 C.F.R. 63, Subpart EEEE. The Specialty Surfactants Plant is not subject to the OLD MACT. The Specialty Surfactants Plant is covered by the Polyether Polyol and Miscellaneous Organic Chemical Manufacturing MACT. Annual average vapor pressure of Table 1 OHAP at 77°F used as heat transfer liquid is less than 0.1 psia, or no streams containing greater than or equal to 5% by weight Table 1 OHAPS. The Gum Base Plant (previously known as Polyvinyl Acetate) is covered by the MON MACT. Annual average vapor pressure of Table 1 OHAP at 77°F used as heat transfer liquid is less than 0.1 psia.
40CFR63, Subpart MMMM	Coating of Metal Parts. The South Charleston Facility is an incidental manufacturer and exempt from Subpart MMMM due to 40CFR§63.3881(b). This provision establishes a lower cut-off at less than 250 gallons per month of paints/solvents used.
40CFR63, Subpart FFFF	The Triton unit has one reactor, which is subject to 40CFR63, Subpart PPP for polyethylene polyols production. As a result, reactor 8400 (Alkox Reactor) is exempt from the requirements of Subpart FFFF in accordance with §63.2435(b)(3).

4.0 Source-Specific Requirements [Energy Systems - Boiler Power House and Auxiliary Air Compressors, Emission Point ID(s) (25E, 26E, 27E, A-001, A-002, A-003, A-004)]

4.1. Limitations and Standards

4.1.1. The maximum allowable emissions from Boiler B26 through emission point 26E to the atmosphere are as follows:

Pollutant	Potential Emissions (pounds/hour)	Potential Emissions (tons/year)
Carbon Monoxide (CO)	22.5	98.4
Oxides of Nitrogen (NOx)	70.4	308.35
PM/PM10/PM2.5*	2.22	9.7
Sulfur Dioxide (SO2)	20.1	88.1
Total VOCs	24.2	13.1
Vinyl Acetate	0.82	1.1
Propylene Oxide	20	0.6
Hexane	1.4	2.8
Total HAPs	22.3	4.6
CO2e	43,370	186,301

*Includes condensables

The SO2 limitations established by this requirement streamlines and assures compliance with the 45CSR§10-3.2.c SO2 limit of 563.2 lb/hr. Additionally, this is also true with respect to PM emissions, as limited by 45CSR§2-4.1.b to 31.68 lb/hr PM.

[45CSR13, Permit Number R13-2033, Condition 4.1.1., Emission Point ID (26E)]

4.1.2. Boiler 26 shall only combust the following materials:

4.1.2.1 Natural gas.

4.1.2.2 Natural gas liquid condensate from boiler fuel feed piping.

4.1.2.3 Process vent gas from Bayer MaterialScience's propylene oxide filtering system containing water vapor, nitrogen and propylene oxide.

4.1.2.4 Process vent gas from Union Carbide's Gum Base Plant (previously referred to as the Polyvinyl Acetate Plant) containing acetone, isopropanol, vinyl acetate and nitrogen.

[45CSR13, Permit Number R13-2033, Condition 4.1.2., Emission Point ID (26E)]

4.1.3. Total heat input from all process vent gas combustion shall not exceed 10% of the total annual heat input to the boiler based on a 12 month rolling average.

[45CSR13, Permit Number R13-2033, Condition 4.1.3., Emission Point ID (26E)]

4.1.4. No later than 180 days following commencement of process vent gas and/or liquid natural gas condensate combustion in Boiler 26 (whichever comes first), Boiler 25 will be permanently shutdown. During this 180 day period, only natural gas, natural gas condensate and process vent gases will be burned in Boiler 25. Coal feed pulverizer electrical feeds will be disconnected prior to commencement of the 180 day period. Permanent shutdown of Boiler 25 will be completed by the end of the 180 day commissioning period by disconnecting boiler cycle water piping and installing blind flanges. All $PM_{2.5}$ and CO emissions from Boiler 25 shall be permanently retired and never used for netting purposes, emission reduction credits etc.

[45CSR13, Permit Number R13-2033, Condition 4.1.4., Emission Point ID (26E, 25E)]

4.1.5. Boiler B26 shall not combust more than 352,000 cubic feet of natural gas per hour nor more than 3,086 MMcf per year based on a rolling 12 month total.
[45CSR13, Permit Number R13-2033, Condition 4.1.5., Emission Unit ID (B26)]

4.1.6. Boiler 26 shall not combust more than 100 gallons per hour of natural gas liquid condensate nor more than 24,700 gallons per year based on a rolling 12 month total.
[45CSR13, Permit Number R13-2033, Condition 4.1.6., Emission Unit ID (B26)]

4.1.7 Boiler 26 shall comply with all applicable emission standards of 40 CFR 60 Subpart Db including but not limited to the following:

4.1.7.1 NO_x emissions from Boiler 26 shall not exceed 0.2 pounds per MMBtu following commencement of burning process vent gas or natural gas condensate.
[40 CFR §60.44b(1)(ii)]

4.1.7.2 NOx emissions from Boiler 26 shall not exceed 0.07 pounds per MMBtu of heat input prior to commencement of burning process vent gas or natural gas condensate.
[45CSR§30-12.7]

NOx emissions data shall be calculated and maintained using the 30-day rolling average method.
[45CSR§30-12.7, 45CSR13, Permit Number R13-2033, Condition 4.1.7., Emission Unit ID (B26)]

4.1.8 Anytime Boiler 26 or 27 is combusting process vent gas from Bayer MaterialScience, the permittee shall comply with all applicable emission standards of 40 CFR 63 Subpart PPP including but not limited to the following:

4.1.8.1 Emissions of propylene oxide shall be reduced by at least 98%.
[40 CFR §63.1425(b)(2)]

4.1.8.2 Process vent gas shall be introduced into the boiler combustion chamber.
[40 CFR §63.1430(b)(2)(iii)]

[40CFR63, Subpart PPP, 45CSR13, Permit Number R13-2033, Condition 4.1.8., Emission Unit ID (B26, B27)]

4.1.9 Anytime Boiler 26 or 27 is combusting process vent gas from Union Carbide's Gum Base plant, the permittee shall comply with all applicable emission standards of 40 CFR 63 Subpart FFFF including but not limited to the following:

4.1.9.1 Emissions of vinyl acetate shall be reduced by at least 98%.
[40 CFR §63.2455(a)]

4.1.9.2 Process vent gas shall be introduced into the flame zone of the boiler.
[40 CFR §63.2450(e), 63.982(c)(2), and 63.988(a)(3)]

[40CFR63, Subpart FFFF, 45CSR13, Permit Number R13-2033, Condition 4.1.9., Emission Unit ID (B26, B27)]

4.1.10 Visible emissions from Boiler 26 shall not exceed 10% opacity based on a six minute block average.
[45CSR§2-3.1., 45CSR13, Permit Number R13-2033, Condition 4.1.10., Emission Unit ID (B26)]

4.1.11 The permittee shall comply with all applicable requirements of 45CSR40 – "Control of Ozone Season Nitrogen Oxides Emissions".
[45CSR13, Permit Number R13-2033, Condition 4.1.11., Emission Unit ID (B26)]

4.1.12. Boiler 27 shall be constructed and operated in accordance with information filed in Permit Application R13-2141A, B, and C and any amendments thereto. The Director may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to.
[45CSR13, Permit Number R13-2141, Condition C.3., Emission Unit ID (B27)]

4.1.13. Boiler B27 shall utilize natural gas as its fuel source, and shall be operated in a manner not to exceed the maximum design heat input of 353 million Btu per hour.
[45CSR13, Permit Number R13-2141 Condition A.1., Emission Unit ID (B27)]

4.1.14. Boiler B27 shall not consume more than 353,000 cubic feet of natural gas per hour, or approximately 3,092 million cubic feet per year. Annual fuel consumption shall be based on a 12-month rolling yearly total. A rolling yearly total shall mean the total natural gas usage at any given time for the previous twelve (12) consecutive calendar months.
[45CSR13, Permit Number R13-2141 Condition A.2., Emission Unit (B27)]

4.1.15. The process vent gases from the following plants may be drafted to B27 for the purpose of VOC reduction at a minimum control efficiency of 99 percent:

a. Union Carbide Corporation - Polyvinyl Acetate (aka Gum Base Plant)

b. Bayer Polymers, LLC - Propylene Oxide Filtering
[45CSR13, Permit Number R13-2141, Condition A.3., Emission Unit ID (B27)]

4.1.16. The emission of NO_X to the atmosphere from Boiler B27 (No. 27 Boiler) shall be limited to 0.2 lbs NO_x per million Btu heat input, "high heat release," as set forth in 40 CFR 60 Subpart Db, Section 60.44(b). Compliance with the hourly emission limits shall be based on a 30-day rolling average in accordance to 40CFR60.46(b).
[45CSR13, Permit Number R13-2141, Condition A.5., Emission Point ID (27E)]

4.1.17. The maximum allowable emissions to the atmosphere from the operation of the natural gas fired Boiler B27 (No. 27 Boiler, ID: 27E) shall be limited to those pollutants and associated rates shown in Table 4.1.17.

Table 4.1.17.

	Emission Point ID - 27E	
Pollutant	**Hourly Limits (lbs/hr)**	**Annual Limits (tons/yr)**
CO	33.00	95.00
NO_X	70.60	309.00
SO_2	0.26	1.15
PM_{10}	5.00	14.50
VOC	30.00	29.50
Propylene Oxide	20.00	0.58
Hexane	1.25	2.75
Vinyl Acetate	0.11	0.46

The SO2 limitations established by this requirement streamlines and assures compliance with the §10-3.2.c SO2 limit of 564.8 lb/hr. Additionally, this is also true with respect to PM emissions, as limited by 45CSR§2-4.1.b to 31.77 lb/hr PM.
[45CSR13, Permit Number R13-2141, Condition A.6., Emission Point ID (27E)]

4.1.18. The pertinent sections of 45CSR2 applicable to this facility include, but are not limited to, the following:

§2-3.1.
No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average.

§2-4.1.
No person shall cause, suffer, allow or permit the discharge of particulate matter into the open air from all fuel burning units located at one plant, measured in terms of pounds per hour in excess of the amount determined as follows:

b. For Type 'b' fuel burning units, the product of 0.09 and the total design heat inputs for such units in million B.T.U.'s per hour, provided however that no more than six hundred (600) pounds per hour of particulate matter shall be discharged into the open air from all such units;

§2-4.4.
The addition of sulfur oxides to a combustion unit exit gas stream for the purpose of improving emissions control equipment efficiency shall be reviewed by the Director. No person shall cause, suffer, allow or permit the addition of sulfur oxides as described above unless written approval for such addition is provided by the Director.

§2-8.1. Testing.

a. Upon request of the Director, the owner or operator of a fuel burning unit(s) shall demonstrate compliance with of 45CSR§2-3 by periodic testing in accordance with 40 CFR Part 60, Appendix A, Method 9, or a certified continuous opacity monitoring system, as approved by the Director, and of 45CSR§2-4 by periodic particulate matter stack testing, conducted in accordance with the appropriate test method set forth in the Appendix to 45CSR2 or other equivalent EPA approved method approved by the Director.

b. At such reasonable times as the Director may designate, the owner or operator of any fuel burning unit(s) may be required to conduct or have conducted tests to determine the compliance of such unit(s) with the emission limitations of 45CSR§2-4. Such tests shall be conducted in accordance with the appropriate method set forth in the Appendix to 45CSR2 or other equivalent EPA approved method approved by the Director. The Director, or his duly authorized representative, may at his option witness or conduct such tests. Should the Director exercise his option to conduct such tests, the operator will provide all necessary sampling connections and sampling ports 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.

    1. Sufficient information on temperatures, velocities, pressures, weights and dimensional values shall be reported to the Director, with such necessary commentary as he may require to allow an accurate evaluation of the reported test results and the conditions under which they were obtained.

c. The Director, or his duly authorized representative, may conduct such other tests as he may deem necessary to evaluate air pollution emissions other than those noted in of 45CSR§2-4.1.

§2-8.2. Monitoring.

a. To demonstrate compliance with 45CSR§2-3 the owner or operator of a fuel burning unit(s) shall conduct monitoring as set forth in an approved monitoring plan as provided in Section 4.2 of this permit for each emission unit. Such monitoring plan(s) shall include, but not be limited to, one or more of the following: continuous measurement of emissions, monitoring of emission control equipment, periodic parametric monitoring, or such other monitoring as specified in this permit.

§2-8.3. Recordkeeping and Reporting.

a. The owner or operator of a fuel burning unit(s) shall maintain on-site all records of monitored data established in the monitoring plan pursuant to of 45CSR§2-8.2.a. as provided by Section 4.3 of this permit.

b. The permittee shall submit a periodic exception report to the Director, as specified in Section 4.5 of this permit. Such exception report shall provide details of all excursions outside the range of measured emissions or monitored parameters established in an approved monitoring plan, and shall include, but not be limited to, the time of the excursion, the magnitude of the excursion, the duration of the excursion, the cause of the excursion and the corrective action taken.

c. The permittee shall maintain records of the operating schedule and the quantity and quality of fuel consumed in each fuel burning unit as specified in Section 4.4 of this permit. Such records are to be maintained on-site and made available to the Director or his duly authorized representative upon request.

d. Where appropriate the owner or operator of a fuel burning unit(s) may maintain such records in electronic form.

§2-9.2.
At all times, including periods of start-ups, shutdowns and malfunctions, owners and operators shall, to the extent practicable, maintain and operate any fuel burning unit(s) including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Director which may include, but is not limited to, monitoring results, visible emission observations, review of operating and maintenance procedures and inspection of the source. Compliance with this provision shall be demonstrated by compliance with the testing, recordkeeping and reporting as specified by Section 4.2, 4.3, 4.4, and 4.5 of this permit.

[45CSR13, Permit Number R13-2141, Condition B.1., Emission Point ID (27E)]

4.1.19. The permitted facility shall comply with all applicable requirements of 45CSR10, with the exception of any more stringent limitations set forth in 4.1.17. The principle provisions of 45CSR10, applicable to the permitted facility, are:

§10-3.2.
No person shall cause, suffer, allow, or permit the discharge of sulfur dioxide into the open air from all stacks located at one plant, measured in terms of pounds per hour, in excess of the amount determined as follows:

§10-3.2.c.
For Type 'b' and Type 'c' fuel burning units, the product of 1.6 and the total design heat inputs for such units discharging through those stacks in million BTU's per hour, provided however, that no more than 5,500 pounds per hour of sulfur dioxide shall be discharged into the open air from all such stacks.

§10-8.1.a.
At such reasonable times as the Director may designate, the owner or operator of any fuel burning unit(s), manufacturing process source(s) or combustion source(s) may be required to conduct or have conducted tests to determine the compliance of such source(s) with the emission limitations of sections 3, 4, or 5 of 45CSR10. Such tests shall be conducted in accordance with the appropriate test method set forth in 40CFR Part 60, Appendix A, Method 6, Method 15, or equivalent EPA testing method approved by the Director.

§10.8.3.a.

The owner or operator of fuel burning unit(s), manufacturing process source(s) or combustion source(s) subject to sections 3, 4, or 5 of 45CSR10 shall maintain on-site a record of all required monitoring data as established in a monitoring plan pursuant to 45CSR§10-8.2.c as specified in Section 4.2, 4.3, and 4.4 of this permit
[45CSR13, Permit Number R13-2141, Condition B.2, Emission Point ID (27E)]

4.1.20. Maximum aggregate emissions to the atmosphere from Emission Point ID No. A-001, A-002, A-003, and A-004 shall not exceed the following hourly and annual limits:

Pollutant	**Emissions (lb/hr)**	**Emissions (tpy)**
Nitrogen Oxides	43.4	15.0
Carbon Monoxide	9.4	0.9
PM-10	3.1	0.3
Hydrocarbons	0.5	0.6

[45CSR13, Permit Number R13-2414, Condition 4.1.1., Emission Point ID (A-001, A-002, A-003, A-004)]

4.1.21. The permittee is limited to four (4) portable diesel auxiliary air compressors (designated as 001 through 004) on site for the purposes of maintaining adequate pressure and delivery volume in the plant air header in the event that the normal electric driven compressors fail, require maintenance, or lose power supply.
[45CSR13, Permit Number R13-2414, Condition 4.1.2., Emission Unit ID (001, 002, 003, 004)]

4.1.22. **40 C.F.R. 63, Subpart DDDDD.**
The natural gas fired boilers [B26 and B27] shall comply with all applicable requirements for existing affected sources, pursuant to 40 C.F.R. 63, Subpart DDDDD, "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" no later than the existing source compliance date of March 21, 2014, or as amended by US EPA.
[40 C.F.R. 63, Subpart DDDDD, Equipment ID (B26, B27)]

If required to submit a Notification of Compliance Status (NOCS) pursuant to 40 C.F.R. 63, Subpart DDDDD, the permittee shall also submit a complete application for significant modification to the Title V permit to incorporate the specific requirements of the rule no later than the maximum time allowed for the NOCS submittal in 40 C.F.R. §63.7545(e).

If requested, this Title V permitting deadline may be changed upon written approval by the Director. The permittee shall request the change in writing at least 30 days prior to the application due date.
[40 C.F.R. 63, Subpart DDDDD, 45CSR§30-6.5.b.]

4.2. Monitoring Requirements

4.2.1. For Boilers B26, and B27 the permittee shall maintain and operate a NOx continuous emission monitoring systems during ozone season. In accordance with 45CSR40 NOx emissions during Ozone Season shall be monitored in accordance with 40CFR75, Subpart H.
[45CSR40, Emission Point ID (26E, 27E)]

4.2.2. Boilers B26 and B27 are subject to 40 CFR 60, Subpart Db. The permittee shall comply with all applicable provisions contained in 40 CFR 60, specifically Subpart Db. As provided by 40CFR§60.48b(2) installation of a nitrogen oxides continuous emission monitoring system (CEMS), which meets the requirements of 40 CFR 75, Subpart H, also meets the requirements of Subpart Db, except that the permittee shall also meet the requirements of §60.49b. (Data reported to meet the requirements of §60.49b shall not include data substituted using the missing data procedures in subpart D of part 75 of chapter 40, nor shall the data have been bias adjusted according to the procedures of part 75.) All reports, requests, or notifications under Subpart Db shall be submitted as provided by Condition 3.5.3 of this permit.
[45CSR13, Permit Number R13-2141, Condition B.6., 40CFR§60.48b(2), Emission Point ID (26E, 27E)]

4.2.3. In order to determine compliance with annual combustion limit of section 4.1.5 of this permit, the permittee shall maintain monthly records of the amount of natural gas combusted by Boiler 26. Additionally, in order to determine compliance with the hourly combustion limit of section 4.1.5 of this permit, the permittee shall maintain monthly records of the hours of operation of Boiler 26. Compliance with the hourly limit shall be determined by dividing the amount of natural gas consumed during the month by the monthly hours of operation.
[45CSR13, Permit Number R13-2033, Condition 4.2.4., Emission Point ID (26E)]

4.2.4. In order to determine compliance with annual combustion limit of section 4.1.6 of this permit, the permittee shall maintain monthly records of the amount of natural gas condensate combusted by Boiler 26. Additionally, in order to determine compliance with the hourly combustion limit of section 4.1.6 of this permit, the permittee shall maintain monthly records of the hours of operation of Boiler 26. Compliance with the hourly limit shall be determined by dividing the amount of natural gas condensate consumed during the month by the monthly hours of operation.
[45CSR13, Permit Number R13-2033, Condition 4.2.5., Emission Point ID (26E)]

4.2.5. In order to determine compliance with annual combustion limit of section 4.1.3 of this permit, the permittee shall maintain monthly records of the amount of process vent gas from Bayer MaterialScience combusted by Boiler 26.
[45CSR13, Permit Number R13-2033, Condition 4.2.6., Emission Point ID (26E)]

4.2.6. In order to determine compliance with annual combustion limit of section 4.1.3 of this permit, the permittee shall maintain monthly records of the amount of process vent gas from Union Carbide's Gum Base Plant combusted by Boiler 26.
[45CSR13, Permit Number R13-2033, Condition 4.2.7., Emission Point ID (26E)]

4.2.7. The permittee shall comply with all applicable monitoring and recordkeeping requirements of 40 CFR 60 Subpart Db including but not limited to the following:

4.2.7.1 The permittee shall install, calibrate, maintain, and operate CEMS for measuring NO_X and O_2(or CO_2) emissions discharged to the atmosphere, and shall record the output of the system. As provided by 40 CFR §60.48b(b)(2), installation of a CEMS meeting the requirements of 40 CFR 75, Subpart H, meets the requirements of Subpart Db, except as otherwise provided by 40 CFR §60.48b.
[40 CFR §60.48b(b)]

[45CSR13, Permit Number R13-2033, Condition 4.2.8., Emission Point ID (26E)]

4.2.8. The permittee shall comply with all applicable monitoring and recordkeeping requirements of 40 CFR 63 Subpart PPP.
[45CSR13, Permit Number R13-2033, Condition 4.2.9., Emission Point ID (26E)]

4.2.9. The permittee shall comply with all applicable monitoring and recordkeeping requirements of 40 CFR 63 Subpart FFFF.
[45CSR13, Permit Number R13-2033, Condition 4.2.10., Emission Point ID (26E)]

4.2.10. The permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for the emission points corresponding to Boilers B26 and B27.

The visible emission check shall determine the presence or absence of visible emissions. At a minimum, the observer must be trained and 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. This training may be obtained from written materials found in the 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 when natural gas condensate is burned. These checks shall be performed on the Boiler 26 stack exhaust 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 normal facility operation and appropriate weather conditions.

If visible emissions are present for three (3) consecutive monthly checks, the permittee shall conduct an opacity reading at that source(s) using the procedures and requirements of Method 9 as soon as practicable, but within seventy-two (72) hours of the final visual emission check. Method 9 checks shall be performed on the source for at least six (6) minutes. A Method 9 observation at a source(s) restarts the count of the number of consecutive readings with the presence of visible emissions.
[45CSR§30-5.1.c., 45CSR13, Permit Number R13-2033, Condition 4.2.11., Emission Point ID (26E, 27E)]

4.2.11. The permittee shall monitor the hours of operation for each auxiliary compressor (001-004).
[45CSR13, Permit Number R13-2414, Condition 4.2.1., Emission Unit ID (001, 002, 003, 004)]

4.2.12. At the end of each month, the permittee shall perform calculations using the monthly hours of operations, the horse power rating of any compressors used that month and appropriate emission factors (either AP-42 or factors developed by the engine manufacturer) to show compliance with section 4.1.20 of this permit. Additionally, the permittee may (at the permittee's discretion) use fuel usage based emission factors (either AP-42 or factors developed by the engine manufacturer) if fuel usage was monitored and recorded for that entire month. Once the monthly emissions are calculated, a rolling twelve month total of emissions shall be calculated.

[45CSR13, Permit Number R13-2414, Condition 4.2.2., Emission Unit ID (001, 002, 003, 004)]

4.3. Testing Requirements

4.3.1. In order to determine compliance with the emission limits in section 4.1.1 of this permit, within 180 days of commencement of process vent gas and/or liquid natural gas condensate combustion in Boiler 26 (whichever comes first) the permittee shall complete the following performance testing:

4.3.1.1. The permittee shall perform or have performed EPA approved stack tests to determine emissions of vinyl acetate from Boiler 26. Said testing shall be performed while the boiler is operating as close to maximum steam capacity as practical and receiving process vent gas from Union Carbide's Gum Base plant at the highest practical loading.

4.3.1.2. The permittee shall perform or have performed EPA approved stack tests to determine emissions of propylene oxide from Boiler 26. Said testing shall be performed while the boiler is operating as close to maximum steam capacity as practical and receiving process vent gas from Bayer Materialscience's Propylene Oxide Filtration System at the highest practical loading.

4.3.1.3. The permittee shall perform or have performed EPA approved stack tests to determine emissions of hexane from Boiler 26. Said testing shall be performed while the boiler is combusting natural gas condensate as close to practical a feed rate of approximately 100 gallons per hour. **[45CSR§13-5.11.]**

[45CSR13, Permit Number R13-2033, Condition 4.3.1., Emission Point ID (26E)]

4.3.2. The permittee shall comply with all applicable testing requirements of 40 CFR 63 Subpart PPP.
[45CSR13, Permit Number R13-2033, Condition 4.3.2., Emission Point ID (26E)]

4.3.3. The permittee shall comply with all applicable testing requirements of 40 CFR 63 Subpart FFFF.
[45CSR13, Permit Number R13-2033, Condition 4.3.3., Emission Point ID (26E)]

4.3.4. The permittee shall comply with all applicable testing requirements of 40 CFR 60 Subpart Db
[45CSR13, Permit Number R13-2033, Condition 4.3.4., Emission Point ID (26E)]

4.3.5. After the testing required by 4.3.1 of this permit is completed, ongoing compliance shall be demonstrated by repeating the testing required by 4.3.1 according to the following schedule:

Test	Test Results	Testing Frequency
Initial	< 50% of limits	Upon Directors Request
Initial	Between 50% and 90% limits	Once/5 years
Initial	≥90% of limits	Once/3 years
Once/3 years	After two successive tests indicate emission rates ≤50% of limits	Upon Directors Request
Once/3 years	After two successive tests indicate emission rates <90% of limits	Once/5 years
Once/3 years	≥90% of limits	Once/3 years
Once/5 years	After two successive tests indicate emission rates <50% of limits	Upon Directors Request
Once/5 years	After two successive tests indicate emission rates < 90% of limits	Once/5 years
Once/5 years	≥90% of limits	Once/3 years

[45CSR13, Permit Number R13-2033, Condition 4.3.5., Emission Point ID (26E)]

4.3.6. The permittee must conduct performance demonstrations for nitrogen oxides continuous emission monitoring system in accordance with Regulation 40 (40CFR75, Subpart H for Boilers B26, and B27). The demonstrations conducted in accordance with Regulation 40 may be used for the performance demonstrations as required by 40CFR60, Subpart Db for Boilers B26 and B27.
[45CSR40, Emission Point IDs (26E, and 27E)]

4.4. Recordkeeping Requirements

4.4.1. The permittee shall maintain accurate records of the amount of natural gas consumed in Boiler B27 on a monthly and yearly basis using the sample record keeping format, or equivalent, as supplied within Attachment A of permit number R13-2141C, also included herein as Attachment A
[45CSR13, Permit Number R13-2141, Condition B.5., Emission Unit ID (B27)]

4.4.2. Manufacturer's specification sheets shall be kept on file for the portable diesel auxiliary air compressors (designated as equipment IDs. 001 through 004 of this permit) on site.
[45CSR13, Permit Number R13-2414, Condition 4.4.5., Emission Unit ID (001, 002, 003, 004)]

4.4.3. The permittee shall maintain accurate records of the hours of operation for each portable auxiliary air compressor (designated as equipment ID(s) 001 through 004 of this permit). All applicable records shall be maintained in such a form suitable and readily available for expeditious inspection and review. The files shall be maintained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two (2) years of data may be maintained off site, but must remain accessible within a reasonable time. Where appropriate, the permittee may maintain records electronically (on a computer, on computer floppy disks, CDs, DVDs, or magnetic tape disks), on microfilm, or on microfiche.
[45CSR13, Permit Number R13-2414, Condition 4.4.4., Emission Unit ID (001, 002, 003, 004)]

4.4.4. The permittee must maintain a record of the F-factor, and supporting calculations, used in the calculation of Boiler B27 and B26 nitrogen oxide emissions and heat input for the NOx Ozone Season Program (45CSR40). No further petitions under 40 CFR§75.66 are necessary for these F-factor calculations provided that the permittee continues to use the same F-factor calculation methodology for vent gases that was approved by EPA.
[45CSR40, Emission Unit ID (27E, 26E)]

4.5. Reporting Requirements

4.5.1. The permittee shall submit notification and reports as required by 45CSR40, as appropriate. (40CFR75, Subpart H)
[45CSR40, Emission Point ID (26E and 27E)]

4.5.2. The permittee shall submit semi-annual reports of nitrogen oxide emissions for Boilers B26 and B27 as required by 40 CFR 60, Subpart Db
[45CSR13, Permit Number R13-2033, Condition 4.4.3., 40CFR60, Subpart Db., Emission Point ID (26E, 27E)]

4.5.3. Any violations of the allowable visible emission requirement for any emission source discovered during testing must be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten 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 violation(s), and any corrective measures taken or planned.
[45CSR13, Permit Number R13-2033, Condition 4.4.1., Emission Point ID (26E)]

4.6. Compliance Plan

4.6.1. N/A

5.0 Source-Specific Requirements [Specialty Surfactants (Triton™), Unit ID(s) (listed under Specialty Surfactants within Section 1.0)]

5.1. Limitations and Standards

5.1.1. Emissions to the atmosphere from the Specialty Surfactants Plant shall be limited to the hourly and annual emission limits established in Table 5.1.1.

Table 5.1.1. Emission Limits for Specialty Surfactants Process

Emission Point ID No.	Pollutant	Emission Limits pph	Emission Limits tpy
E-1081-3, E-1081-2, E-1084-1, E-1084-2, E-1085-1, E-1085-2, E-1086-1, E-1086-3, E-1086-4, E-1088-1	SO_2	—	0.25
	VOC	88.0	9.88
	Ethylene Oxide	0.65	0.0445
	Propylene Oxide	10.8	0.62
	Formaldehyde	0.17	0.0200
	Ethylene Dichloride	0.088	0.009
	THAP[1]	45.0	2.27
T-8313, T-8314, T-8320, T-8321, T-8322, T-8323, T-8324, T-8331, T-8332, T-8333, T-8334, T-8341, T-8343, T-8344, T-8345, T-8346, T-8350, T-8351, T-8352, T-8354, T-8355, T-8356, T-8360, T-8361, T-8362, T-8363, T-8364, T-8365, T-8366, T-8371, T-8372, T-8373, T-8375, T-8376, T-8380, T-8381, T-8382, T-8383, T-8390, T-8391, T-8392, T-8393, T-8420, T-8433, T-8435, T-8520, T-8706, T-8709, T-8721, T-8723, T-8725, T-8817, T-8835, L-1001, L-1002, L-1003, L-1004, L-1005	PM_{10}	0.2	0.02
	VOC	69.0	2.45
	Ethylene Oxide	0.09	0.02
	Formaldehyde	0.16	0.02
	Propylene Oxide	12.8	0.1209
	THAP[1]	26.0	0.17
E-1086-7	Ethylene Glycol	0.01	0.001
T-8729	No Regulated Air Pollutant	NA	NA
T-8738	No Regulated Air Pollutant	NA	NA
E-1087-1	PM_{10}	3.22	0.06

[1]THAP includes: ethylene oxide, propylene oxide, formaldehyde, ethylene dichloride, acetaldehyde, benzyl chloride, cresylic acid, 1,4-dioxane, ethylene glycol, glycol ethers, methanol, toluene, and other HAPs that could be present as trace constituents in raw materials.

This requirement streamlines compliance with 45CSR§7-4.1 for emission point E-1087-1

[45CSR13, Permit Number R13-1517, Condition 4.1.1., Emission Point ID (Above in Table 5.1.1)]

5.1.2. All emissions from the operation of the 8500 Reactor, with the exception of emissions from the production of X-200 Starter, Product CF-10, Product DF-12, or Product DF-18, shall be directed first through the Caustic Scrubber (C-8110) and then through the Water Scrubber (C-8130). Emissions from the production of X-200 Starter, Product CF-10, Product DF-12, and Product DF-18, may be directed from the 8500 Reactor directly to the Water Scrubber (C-8130).

[45CSR13, Permit Number R13-1517, Condition 4.1.2., Emission Unit ID (8500 Reactor)]

5.1.3. The permittee shall ensure complete reaction by redundant measurement and interlock of starter charge, Ethylene Oxide and Propylene Oxide feed, temperature, and pressure. The process interlock shall prevent venting until the preset criteria for complete reaction are met. These criteria must include positive isolation of Ethylene Oxide and Propylene Oxide feed.

[45CSR13, Permit Number R13-1517, Condition 4.1.3., Emission Unit ID (8400)]

5.1.4. *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 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.
[45CSR§13-5.11.]

[45CSR13, Permit Number R13-1517, Condition 4.1.4., Equipment ID(s) (C-1087-1, C-8110, C-8130)]

5.1.5. Emissions from the equipment identified in 5.1.1 above shall be routed to and controlled by those control devices identified in Section 1.0 under Specialty Surfactants prior to venting emissions to the atmosphere, excepting only periods of emergency repairs of control equipment and unanticipated control equipment failure for reasons beyond the reasonable control of the permittee, or as otherwise allowed by this permit or applicable regulation.

In the event that both the Caustic Scrubber (C-8110) and the Water Scrubber (C-8130) are off-line (e.g. due to plant turnaround), storage tank emissions that normally vent to the scrubber system are authorized to be discharged directly to the air. During such outages, there shall be no materials transferred into tanks that normally vent to the scrubber system.

Due to unavoidable malfunction of equipment or other conditions resulting in emissions exceeding the levels established in this permit, the Director may grant the permittee a variance to operate the related production equipment 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 permittee and approved by the Director. During such times, the permittee shall take all reasonable and practicable steps to minimize emissions.

[45CSR13, Permit Number R13-1517, Condition 4.1.5., Equipment ID(s) (C-1087-1, C-8110, C-8130)]

5.1.6. The permittee shall implement a Leak Detection and Repair Program ("LDAR") compliant with the HON equipment leak requirements in 40 CFR 63, Subpart H for all equipment covered by 40 CFR 63, Subpart PPP (as well as equipment in TAP service). For the remainder of the Specialty Surfactants Plant, the permittee shall implement a LDAR Program compliant with 45CSR§21-37, excluding the fugitive emission components associated with the equipment listed below that have been determined as insignificant fugitive emission sources provided that the total organic liquid vapor pressure is maintained at or below 0.01 mm Hg at 20°C.

Tanks 8323, 8324, 8332, 8333, 8343, 8344, 8353, 8354, 8363, 8364, 8373, 8381, 8382, 8383, 8706, 8709, 8721, 8723, and 8725.

For equipment components in the Specialty Surfactants Plant that are in light liquid service less than 300 hours per year, the permittee shall implement a LDAR Program compliant with the heavy liquid provisions of 45CSR§21-37. Periodic reports required by the LDAR program may be submitted as part of the semi-annual periodic reports required by Section 5.5.3.

[45CSR13, Permit Number R13-1517, Condition 4.1.6., 40CFR§63.1434, CO-R27-97-17-A(94-21), CO-R21-98-22, Equipment (VOC/HAP/TAP service)]

5.1.7. The permittee shall comply with all applicable standards and requirements of 40CFR Part 63 Subpart PPP – "National Emission Standards for Hazardous Air Pollutants for Polyether Polyols Production". The subpart includes requirements to limit HAP emissions from polyether polyols manufacturing units – which includes purification systems, reactors and their associated product separator and recovery devices, other associated unit operations, storage vessels, surge control vessels, bottoms receivers, product transfer racks, connected ducts and piping, combustion, recovery, or recapture devices or systems, and equipment leaks. This subpart also includes specific notification, testing, monitoring, recordkeeping, and reporting requirements. The pertinent sections of 40CFR§63.1420 applicable to this facility include, but are not limited to, the following:
[40CFR§63.1420]

5.1.7.1 The permittee shall reduce the total epoxide emissions from the applicable 40CFR63 Subpart PPP process vents of the Specialty Surfactants Plant by an aggregated 98 percent.
[40CFR§63.1425(b)(2)(ii)]

[45CSR13, Permit Number R13-1517, Condition 4.1.7., Equipment ID (8400)]

5.1.8. The permittee shall comply with all applicable requirements of 45CSR7 "To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations", with the exception of any more stringent limitations set forth in this permit.

5.1.8.1. The permittee shall not 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 Sections 5.1.8.2 and 5.1.8.3.
[45CSR§7-3.1.] {*E-1087-1*}

5.1.8.2. The provisions of Section 5.1.8.1 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.
[45CSR§7-3.2.] { *E-1087-1*}

5.1.8.3. The permittee shall not cause, suffer, allow or permit visible emissions from any storage structure(s) associated with any manufacturing process(es) that pursuant to Section 5.1.8.4 is required to have a full enclosure and be equipped with a particulate matter control device.
[45CSR§7-3.7.]

5.1.8.4. 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 operation and maintenance procedures, to minimize the emissions of fugitive particulate matter. To minimize means such system shall be installed, maintained and operated to ensure the lowest fugitive particulate matter emissions reasonably achievable.
[45CSR§7-5.1]{*T-8706, and T-8709*}
[45CSR13, Permit Number R13-1517, Condition 4.1.8]

5.1.9. The permittee shall comply with all applicable requirements of 45CSR21 "Regulation to Prevent and Control Air Pollution from the Emission of Volatile Organic Compounds", with the exception of any more stringent limitations set forth in this permit. Specific emission limits under 45CSR21, which pertain to the Specialty Surfactants Area can be found in Section 9.0 of this Title V Permit

[45CSR13, Permit Number R13-1517, Condition 4.1.9., Emission Point ID (E-1081-3, T-8352, T-8362, and L-1004)]

5.1.10. The permittee shall comply with all applicable requirements of 45CSR27 "To Prevent and Control the Emissions of Toxic Air Pollutants", with the exception of any more stringent limitations set forth in this permit. Specific emission limits under 45CSR27, which pertain to the Specialty Surfactants Area can be found in Section 8.0 of this Title V Permit.

[45CSR13, Permit Number R13-1517, Condition 4.1.10., Emission Unit ID (8400)]

5.1.11. The heat exchanger systems used in the Specialty Surfactants Plant to cool process equipment or materials that are covered by 40CFR63, Subpart PPP shall operate with a cooling pressure fluid at least 5 psig greater than the maximum pressure on the process fluid side or are operated as once through cooling water subject to an NPDES permit that meets the requirements of 40CFR§63.104(a)(3) and therefore meet the exemption from the heat exchanger monitoring requirements of 40CFR§63.104(a).
[45CSR34, 40CFR §63.104(a)]

5.1.12. **MON MACT.** The permittee shall comply with the following provisions for wastewater as specified by 40 C.F.R. §63.2485(i).

Process wastewater stream ID TR020/GR-7M Decant is classified as Group 1 wastewater. As provided by the NOCS, TR020/GR-7M Decant must be managed as hazardous waste and shipped to an off-site facility authorized to manage hazardous waste.

The permittee shall develop and maintain a maintenance wastewater plan that is implemented per §63.2485(a) and §63.105, except as specified in §63.2485.
[45CSR34, 40 C.F.R. §63.2485; Wastewater Stream ID (TR020/GR-7M Decant)]

5.1.13. **MON MACT.** The permittee shall comply with the following general requirements for emission limits, work practice standards and compliance requirements as specified by §63.2450.

- The Solvent Recovery Column (Eq. Id. 8101), Group 2 Continuous Process Vent, must be operated with a total resource effectiveness (TRE) index greater than 5.0.

- Rail car and tank truck loading racks used to load organic liquids containing hazardous air pollutants shall be operated as Group 2 transfer operations as defined by the MON Rule. (Rack IDs: L-1001, L-1003, L-1004 and L-1005).

- The following storage vessels shall be operated as Group 2 as defined by the MON Rule. (Storage Vessel IDs: T8310, T8320, T8321, T8322, T8323, T8324, T8331, T8334, T8343, T8344, T8345, T8346, T8351, T8353, T8355, T8356, T8360, T8361, T8362, T8363, T8364, T8365, T8366, T8373, T8375, T8376, T8380, T8381, T8382, T8383, T8390, T8391, T8392, T8393, T8420, and T8817.

[45CSR34, 40 C.F.R. §63.2450]

5.1.14. **MON MACT.** The permittee shall comply with the applicable equipment leak standards of the MON MACT as specified by 40 C.F.R. §63.2480(b), Subpart H of 40 C.F.R. 63. As a result, the permittee has defined the following schedule within their NOC report.

Phase	Planned Schedule for Implementation On or Before
Phase I – Beginning on the compliance date	May 10, 2008
Phase II – Beginning no later than 1 year after the compliance date	May 10, 2009
Phase III – Beginning no later than 2 ½ years after the compliance data	November 8, 2010

[45CSR34, 40 C.F.R. §63.2480]

5.1.15. **MON MACT** The permittee shall comply with the applicable general provisions of 40 C.F.R.63 Subpart A as specified by 40 C.F.R. §63.2540 and Table 12 of Subpart FFFF.
[45CSR34, 40 C.F.R. §63.2540; 40 C.F.R. 63 Table 12 to Subpart FFFF]

5.2. Monitoring Requirements

5.2.1. The permittee shall install, calibrate, and maintain in good working condition the following equipment and record and maintain data from these devices:

a. Caustic Scrubber (C-8110) – Ethylene Oxide and Propylene Oxide Venting

i. Continuous monitoring and recording instrumentation with automatic alarm to ensure that scrubber liquid level is sufficient and add solution to maintain at least 100 gallons in the base section with the circulation pump on.
ii. Scrubber circulation flow monitor, alarm, and interlock to prevent venting at less than 6 gpm (3,000 pph) of water flow.
iii. Scrubber liquid temperature monitor, alarm, and interlock to prevent venting at less than 75°C, (167°F) base liquid temperature.
iv. 8400 Reactor pressure monitor to automatically control vapor flow to the packed bed scrubber at 120 scfm or less.
v. Scrubber differential pressure monitor, alarm, and interlock to override reactor pressure control to maintain scrubber differential pressure at 25 inches of water or lower.
vi. The permittee shall sample, titrate, and record scrubber caustic concentration once per shift during operation and add NaOH as required to maintain at least 2% NaOH concentration.
vii. The permittee shall blow down half of the scrubber liquid and replace with fresh solution at least weekly. This activity must be performed during periods when the 8400 Reactor is not venting.

b. Water Scrubber (C-8130)

i. Continuous monitoring and recording instrumentation with automatic alarm to ensure that scrubber liquid level is sufficient and add solution to maintain at least 100 gallons in the base section with the circulation pump on.
ii. Scrubber make-up water flow monitor, alarm, and interlock to prevent venting at less than 6 gpm (3,000 pph) make-up flow.
iii. Scrubber liquid temperature monitor, alarm, and interlock to prevent venting at greater than 35°C (95°F)base liquid temperature.
iv. Scrubber differential pressure monitor, alarm, and interlock to override reactor pressure control to maintain scrubber differential pressure at 25 inches of water or lower.
[45CSR13, Permit Number R13-1517, Condition 4.2.1., Equipment ID (C-8110, C-8130)]

5.2.2. The permittee shall monitor time from the end of the epoxide feed to the end of the Extended Cook-Out ("ECO");

[40CFR§63.1427(i), 45CSR13, Permit Number R13-1517, Condition 4.2.2., Equipment ID (8400)]

5.2.3. For the purpose of determining compliance with the opacity limits of 45CSR7, the permittee shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit.

The visible emission check shall determine the presence or absence of visible emissions. At a minimum, the observer must be trained and 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. This training may be obtained from written materials found in the 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 each time that solid material is unloaded to Vessel 8701. These checks shall be performed at each source (stack, transfer point, fugitive emission source, etc.) 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 operation and appropriate weather conditions.

If visible emissions are present, the permittee shall conduct an opacity reading at that source(s) using the procedures and requirements of 45CSR§7A as soon as practicable, but within seventy-two (72) hours of the visual emission check unless corrective action is taken to eliminate the visible emissions.

[45CSR13, Permit Number R13-1517, Condition 4.2.3., 45CSR§30-5.1.c.1.B., Emission Point ID (E-1087-1)]

5.3. Testing Requirements

5.3.1. At the request of the Secretary a performance test shall be conducted to confirm compliance with emission limitations set forth in Section 5.1.1., and to confirm correlation between on-line computer simulation determinations and actual measurements during subject performance tests. Results of such performance tests shall be submitted to the Director of the Division of Air Quality within ninety (90) days following the completion of the aforementioned tests. Tests shall be conducted under those production conditions in which peak emission rates will occur. Thirty (30) days prior to conducting such performance tests, a test protocol shall

be submitted to the Director for his approval. The Director must be notified at least fifteen (15) days in advance of the actual dates and times during which the tests will be conducted.
[45CSR§13-6.1]

[45CSR13, Permit Number R13-1517, Condition 4.3.1]

5.3.2. *Stack testing.* At such reasonable times as the Secretary may designate, the permittee may be required to conduct or have conducted stack tests to determine the particulate matter loading in exhaust gases when the Secretary has reason to believe that an emission limitation is being violated. For cause, the Secretary may request the permittee to install such stack gas monitoring devices as the Secretary deems necessary to determine continuing compliance. The data from such devices shall be readily available for review on-site or at such other reasonable location that the Secretary may specify. At the request of the Secretary, such data shall be made available for inspection or copying and the Secretary may require periodic submission of excess emission reports.

[45CSR13, Permit Number R13-1517, Condition 4.3.2., Emission Point ID (E-1087-1)]

5.3.3. *Compliance testing.* Any such test to determine compliance with particulate matter limitations set forth in Section 5.1.1 shall be conducted in accordance with Method 5 of 40CFR60 Appendix A or Method 201 or 201A of 40CFR§51. All such compliance tests must consist of not less than three (3) test runs; any test run duration shall not be less than sixty (60) minutes and no less than thirty (30) standard cubic feet of exhaust gas must be sampled during each test run. Such tests shall be conducted under such reasonable operating conditions as the Secretary may specify. The Secretary, or a duly authorized representative, may option to witness or conduct such stack tests. Should the Secretary exercise this option to conduct such tests, the registrant shall provide all necessary sampling connections and sampling ports located in a manner as the Secretary may require, power for test equipment and required safety equipment in place such as scaffolding, railings and ladders in order to comply with generally accepted good safety practices.
{E-1087-1}

[45CSR13, Permit Number R13-1517, Condition 4.3.3.]

5.3.4. Any stack serving any process source operation or air pollution control device on any process source operation shall contain flow straightening devices or a vertical run of sufficient length to establish flow patterns consistent with acceptable stack sampling procedures.
[45CSR§7-4.12.] {*E-1087-1*}

[45CSR13, Permit Number R13-1517, Condition 4.3.4]

5.3.5. *Opacity testing.* Any test to determine compliance with the visible emission (opacity) limitations set forth in Sections 5.1.8, except as provided by Condition 5.2.3., shall be conducted by a qualified visible emission observer in accordance with 45CSR7A – "Compliance Test Procedures for 45CSR7 – *To Prevent and Control Particulate Air Pollution from Manufacturing Process Operations*" and Method 22 of 40CFR60 Appendix A. Nothing in this section, however, shall preclude any permittee or the Secretary from using opacity data from a properly installed, calibrated, maintained and operated continuous opacity monitor as evidence to demonstrate compliance or a violation of visible emission requirements. If continuous opacity monitor data results are submitted when determining compliance with visible emission limitations for a period of time during which 45CSR7A or Method 22 data indicates noncompliance, the 45CSR7A or Method 22 data shall be used to determine compliance with the visible emission limitations.
{E-1087-1}

[45CSR13, Permit Number R13-1517, Condition 4.3.5]

5.3.6. *Notification of compliance testing.* For any stack emission compliance test to be conducted by the permittee as set forth in Section 5.3, a test protocol shall be submitted to the Secretary at least thirty (30) calendar days prior to the scheduled date of the test. Such compliance test protocol shall be subject to approval by the Secretary. The permittee shall notify the Secretary at least fifteen (15) days in advance of actual test dates and times during which the test (or tests) will be conducted.

[45CSR13, Permit Number R13-1517, Condition 4.3.6]

5.3.7. *Alternative test methods.* 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., 45CSR13, Permit Number R13-1517, Condition 4.3.7]

5.4. Recordkeeping Requirements

5.4.1. *Record of Maintenance of Air Pollution Control Equipment.* For all pollution control equipment listed in Section 1.0 of permit Number R13-1517B and any amendments thereto, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures. This provision applies to Baghouse C-1087-1, Caustic Scrubber C-8110, and Water Scrubber C-8130.

[45CSR13, Permit Number R13-1517, Condition 4.4.2., Equipment ID(s) (C-1087-1, C-8110, C-8130)]

5.4.2. *Record of Malfunctions of Air Pollution Control Equipment.* For all air pollution control equipment listed in Section 1.0 of permit Number R13-1517B and any amendments thereto, 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. This provision applies to Baghouse C-1087-1, Caustic Scrubber C-8110, and Water Scrubber C-8130. 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, Permit Number R13-1517, Condition 4.4.3 Equipment ID(s) (C-1087-1, C-8110, C-8130)]

5.4.3. Compliance with Sections 5.4.1 and 5.4.2 may be shown by keeping similar records required by the requirements of the Startup, Shutdown, and Malfunction Plan as contained in 40CFR63 Subpart A and as may be amended by specific MACT subpart requirements.

[45CSR13, Permit Number R13-1517, Condition 4.4.4., Equipment ID(s) (C-1087-1, C-8110, C-8130, E-1085)]

5.4.4. To ensure proper operation of Reactor 8400 the permittee shall verify and record that the correct amount of active catalyst has been charged for each batch, except for those reactions which are self-initiating.

[45CSR13, Permit Number R13-1517, Condition 4.4.5., Equipment ID (8400 Reactor)]

5.4.5. Unless otherwise specified in this permit, the permittee shall keep copies of all applicable records and reports required by section 5 of this permit and by 40CFR63 Subpart PPP for at least five (5) years. All applicable records shall be maintained in such a manner that they can be readily accessed. The most recent six months of records shall be retained on site or shall be accessible from a central location by computer or other means that provide access within a reasonable time. Access to the most recent six months of records required by 40CFR63 Subpart PPP must be provided within two hours after a request. The remaining four and one-half years of records may be retained offsite. If the permittee submits copies of reports to the WV DAQ and US EPA Regional Office, the permittee is not required to maintain copies of reports. Records may be maintained in hard copy or computer-readable form including, but not limited to, on microfilm, computer, floppy disk, magnetic tape, or microfiche.

[45CSR13, Permit Number R13-1517, Condition 4.4.6]

5.4.6. The permittee shall maintain the records specified in paragraphs a. and b. below, for each product class. The permittee shall also maintain the records related to the initial determination of the percent epoxide emission reduction specified in paragraphs c. through j. below, as applicable, for each product class.

a. Operating conditions of the product class, including:

   i. Pressure decay curve;

   ii. Minimum reaction temperature;

   iii. Number of hydrogen atoms in the raw material;

   iv. Minimum catalyst concentration;

   v. Ratio of Ethylene Oxide/Propylene Oxide at the end of the epoxide feed; and

   vi. Reaction conditions, including the size of the reactor or batch.

b. A listing of all products in the product class, along with the information specified in paragraphs a.i. through a.vi. of this section, for each product.

c. The concentration of epoxide at the end of the epoxide feed, determined in accordance with 40CFR§63.1427(b)(1).

d. The concentration of epoxide at the onset of the ECO, determined in accordance with 40CFR§63.1427(c).

e. The uncontrolled epoxide emissions at the onset of the ECO, determined in accordance with 40CFR§63.1427(c)(1). The records shall also include all the background data, measurements, and assumptions used to calculate the uncontrolled epoxide emissions.

f. The epoxide emissions at the end of the ECO, determined in accordance with 40CFR§63.1427(d)(1). The records shall also include all the background data, measurements, and assumptions used to calculate the epoxide emissions.

g. The percent epoxide reduction for the batch cycle, determined in accordance with 40CFR§63.1427(e)(1). The records shall also include all the background data, measurements, and assumptions used to calculate the epoxide emissions.

h. The parameter level, established in accordance with 40CFR§63.1427(i)(2).

i. If epoxide emissions occur before the end of the ECO, the permittee shall maintain records of the time and duration of all such emission episodes that occur during the initial demonstration of batch cycle efficiency.

[40CFR§63.1427(j)(1), 45CSR13, Permit Number R13-1517, Condition 4.4.7., Equipment ID (8400)]

5.4.7. The permittee shall maintain the following records for each batch cycle: the product being produced and the product class to which it belongs, and a record of the value of the parameter monitored in accordance with Section 5.2.2. In addition, if epoxide emissions occur before the end of the ECO, the permittee shall maintain records of the time and duration of all such emission episodes.
[40CFR§63.1427(j)(2), 45CSR13, Permit Number R13-1517, Condition 4.4.8., Equipment ID (8400)]

5.4.8. The permittee shall maintain records of all monitoring data required by Section 5.2.3 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 A of R13-1517. Should a visible emission observation be required to be performed per the requirements specified in 45CSR7A, the data records of each observation shall be maintained per the requirements of 45CSR7A. For an emission unit out of service during the normal monthly evaluation, the record of observation may note "out of service" (O/S) or equivalent.

[45CSR13, Permit Number R13-1517, Condition 4.4.9., Emission Point ID (E-1087-1)]

5.4.9. **MON MACT.** The permittee shall keep record of tank truck inspections used to ship TR020/GR-7M Decant (Group 1 Wastewater) to off-site disposal.

[45CSR34, 40 C.F.R. §63.2470(e), §63.1253(f); Wastewater Stream (TR020/GR-7M Decant)]

5.4.10. **MON MACT.** The permittee shall maintain the applicable records for compliance with the MON as specified by 40 C.F.R. §63.2525. Therefore, the permittee shall maintain the following records to demonstrate compliance with the MON requirements and this permit.

● Maintain supporting information used to determine MON initial applicability to process vents, storage vessels, equipment leaks, transfer operations, heat exchangers, process wastewater and in-process aqueous liquid streams.

● Maintain operating scenarios and calculations of uncontrolled hazardous air pollutant emissions for process vents used to prepare the NOCS.

● Maintain documentation of total source effectiveness (TRE) index determination for the Surfactant Recovery Column (Eq. Id. 8101).

- Maintain records of monitoring and inspections results required by 40 CFR 63, Subpart H for equipment component leak detection and repair.

- Maintain records of visual inspections conducted for tank trucks that are used to ship TR-020/GR-7M Decant to off-site locations.

- Maintain a record of each off-site shipment of wastewater stream TR020/GR-7M Decant.

- Maintain a record each time a safety device is opened to the air that contains hazardous air pollutants to avoid unsafe conditions.

- Maintain a copy of the following reports and notifications:

  - Notice of initial notification

  - Notification of compliance status report

  - Semiannual compliance reports including information regarding process changes as specified by §63.2520(e)(10).

[45CSR34, 40C.F.R.§63.2525]

5.5. Reporting Requirements

5.5.1. On a semi-annual basis, the permittee shall report the emission rates of ethylene oxide and propylene oxide, from process vents, as calculated by computer simulation (adjusted if necessary to reflect any changes required by more recent or accurate stack test data) based on actual production data.

[45CSR13, Permit Number R13-1517, Condition 4.5.1., Emission Point ID (E-1081-3)]

5.5.2. The permittee, on a semi-annual basis, shall file reports which identify all periods of time during which compliance was not achieved with the operating parameters shown in Section 5.2.1 above. Such reports shall be certified to be accurate and true by a corporate official or his or her designee and filed within sixty (60) days of the end of each semi-annual reporting period. In any such aforementioned period of time, the permittee shall provide information detailing reasons for such excursions and corrective action taken. If there are periods of non-compliance, the report shall so certify. The report(s) may be submitted as part of the Title V semi-annual periodic report.

[45CSR13, Permit Number R13-1517, Condition 4.5.2., Equipment ID (C-8110, C-8130)]

5.5.3. The permittee shall submit semi-annual Periodic Reports as specified in paragraphs a. through f. of this section. Each report shall be submitted no later than sixty (60) days after the end of each six-month period. The semi-annual Periodic Report shall cover the preceding six-month period. This report may be submitted as part of the Title V semi-annual periodic report.

a. For equipment leaks, the permittee shall submit the information specified in 40CFR§63.1434(f).

b. Reports of each batch cycle for which an ECO excursion occurred, as defined in 40CFR§63.1427(i)(3).

c. Notification of each batch cycle when the time and duration of epoxide emissions before the end of the ECO, recorded in accordance with Section 5.4.7., exceed the time and duration of the emission episodes during the initial epoxide emission percentage reduction determination, as recorded in Section 5.4.6.h.

d. If any performance tests are reported in a Periodic Report, the following information shall be included:

i. One complete test report shall be submitted for each test method used for a particular kind of emission point tested. A complete test report shall contain the information specified in 40CFR§63.1439(e)(5)(i)(B).

ii. For additional tests performed for the same kind of emission point using the same method, results and any other information required by the test method to be in the test report shall be submitted, but a complete test report is not required.

e. The results for each change made to a primary product determination for a PMPU made under 40CFR§63.1420(e)(3) or (10).

f. The results for each reevaluation of the applicability of 40CFR63 Subpart PPP to a storage vessel that begins receiving material from (or sending material to) a process unit that was not included in the initial determination, or a storage vessel that ceases to receive material from (or send material to) a process unit that was included in the initial determination, in accordance with 40CFR§63.1420(f)(8).

[45CSR13, Permit Number R13-1517, Condition 4.5.3., Equipment ID (8400)]

5.5.4. The permittee shall comply with the reporting requirements of 40CFR§63.1427(l) – "New polyether polyol products" and 40CFR§63.1427(m) – "Polyether polyol product changes".

[45CSR13, Permit Number R13-1517, Condition 4.5.4., Equipment ID (8400)]

5.5.5. The permittee shall submit semi-annual monitoring reports for equipment components subject to the LDAR requirements of 45CSR§21-37 covered under Section 5.1.6. These reports may be submitted on the same schedule as the reports provided per Section 5.5.3. Semi-annual monitoring reports provided per Section 5.5.3, and required by 40CFR Part 63, Subpart PPP, will satisfy the equipment leak monitoring reports required by 45CSR27.

[45CSR13, Permit Number R13-1517, Condition 4.5.5., Equipment (all in VOC service)]

5.5.6. Any violation(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 violation(s), and any corrective measures taken or planned.

[45CSR13, Permit Number R13-1517, Condition 4.5.6.]

5.5.7. The permittee shall comply with the reporting requirements for polyether polyol product manufacturing units as provided by §63.1439(e)(6)(i) through (viii).
[45CSR34 and 40 CFR§63.1439(e)(6), **Emission Unit ID (8400)]**

5.5.8. **MON MACT**. The permittee shall comply with the applicable reporting requirements of the MON (40 C.F.R. §63, Subpart FFFF) in accordance with 40 C.F.R. §63.2520. As a result, the permittee shall submit a semiannual compliance report that includes the information specified by 63.2525(e) and the results of equipment leak monitoring and repair conducted per 40 C.F.R. 63, Subpart H.

[45CSR34, 40 C.F.R. §63.2520(e)]

6.0 Source-Specific Requirements [Energy Systems – Equipment to be Decommissioned, Emission Point ID(s) (25E)]

6.1. Limitations and Standards

6.1.1. Boiler B25 shall be constructed and operated in accordance with information filed in Permit Application R13-2568, and any amendments thereto. The Director may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to.
[45CSR13, Permit Number R13-2568, Condition C.3., Emission Unit ID (B25 Boiler)]

6.1.2. The process vent gases from the following plants may be drafted to Boiler B25 for the purpose of VOC reduction at a minimum control efficiency of 99 percent:

a. Union Carbide Corporation - Polyvinyl Acetate (aka Gum Base Plant)

b. Bayer Polymers, LLC - Propylene Oxide Filtering

[45CSR13, Permit Number R13-2568, Condition A.5, Emission Unit ID (B25 Boiler)]

6.1.3. The pertinent sections of 45CSR2 applicable to this facility include, but are not limited to, the following:

§2-3.1.
No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any fuel burning unit which is greater than ten (10) percent opacity based on a six minute block average.

§2-3.2.
For Boiler B25 compliance with the visible emission requirements of 45CSR§2-3.1 shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9 or by using measurements from continuous opacity monitoring systems approved by the Director. The Director may require the installation, calibration, maintenance and operation of continuous opacity monitoring systems and may establish policies for the evaluation of continuous opacity monitoring results and the determination of compliance with the visible emission requirements of 45CSR§2-3.1. Continuous opacity monitors shall not be required on fuel burning units which employ wet scrubbing systems for emission control.

§2-4.1.
No person shall cause, suffer, allow or permit the discharge of particulate matter into the open air from all fuel burning units located at one plant, measured in terms of pounds per hour in excess of the amount determined as follows:

b. For Type 'b' fuel burning units, the product of 0.09 and the total design heat inputs for such units in million B.T.U.'s per hour, provided however that no more than six hundred (600) pounds per hour of particulate matter shall be discharged into the open air from all such units;

§2-4.4.
The addition of sulfur oxides to a combustion unit exit gas stream for the purpose of improving emissions control equipment efficiency shall be reviewed by the Director. No person shall cause, suffer, allow or permit the addition of sulfur oxides as described above unless written approval for such addition is provided by the Director.

§2-8.1. Testing.

a. Upon request of the Director, the owner or operator of a fuel burning unit(s) shall demonstrate compliance with of 45CSR§2-3 by periodic testing in accordance with 40 CFR Part 60, Appendix A, Method 9, or a certified continuous opacity monitoring system, as approved by the Director, and of 45CSR§2-4 by periodic particulate matter stack testing, conducted in accordance with the appropriate test method set forth in the Appendix to 45CSR2 or other equivalent EPA approved method approved by the Director.

b. At such reasonable times as the Director may designate, the owner or operator of any fuel burning unit(s) may be required to conduct or have conducted tests to determine the compliance of such unit(s) with the emission limitations of 45CSR§2-4. Such tests shall be conducted in accordance with the appropriate method set forth in the Appendix to 45CSR2 or other equivalent EPA approved method approved by the Director. The Director, or his duly authorized representative, may at his option witness or conduct such tests. Should the Director exercise his option to conduct such tests, the operator will provide all necessary sampling connections and sampling ports 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.

    1. Sufficient information on temperatures, velocities, pressures, weights and dimensional values shall be reported to the Director, with such necessary commentary as he may require to allow an accurate evaluation of the reported test results and the conditions under which they were obtained.

c. The Director, or his duly authorized representative, may conduct such other tests as he may deem necessary to evaluate air pollution emissions other than those noted in of 45CSR§2-4.1.

§2-8.2. Monitoring.

a. To demonstrate compliance with 45CSR§2-3 the owner or operator of a fuel burning unit(s) shall conduct monitoring as set forth in an approved monitoring plan as provided in Section 6.2 of this permit for each emission unit. Such monitoring plan(s) shall include, but not be limited to, one or more of the following: continuous measurement of emissions, monitoring of emission control equipment, periodic parametric monitoring, or such other monitoring as specified in this permit.

§2-8.3. Recordkeeping and Reporting.

a. The owner or operator of a fuel burning unit(s) shall maintain on-site all records of monitored data established in the monitoring plan pursuant to of 45CSR§2-8.2.a. as provided by Section 4.3 of this permit.

b. The permittee shall submit a periodic exception report to the Director, as specified in Section 4.5 of this permit. Such exception report shall provide details of all excursions outside the range of measured emissions or monitored parameters established in an approved monitoring plan, and shall include, but not be limited to, the time of the excursion, the magnitude of the excursion, the duration of the excursion, the cause of the excursion and the corrective action taken.

c. The permittee shall maintain records of the operating schedule and the quantity and quality of fuel consumed in each fuel burning unit as specified in Section 4.4 of this permit. Such records are to be maintained on-site and made available to the Director or his duly authorized representative upon request.

d. Where appropriate the owner or operator of a fuel burning unit(s) may maintain such records in electronic form.

§2-9.2.
At all times, including periods of start-ups, shutdowns and malfunctions, owners and operators shall, to the

extent practicable, maintain and operate any fuel burning unit(s) including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Director which may include, but is not limited to, monitoring results, visible emission observations, review of operating and maintenance procedures and inspection of the source. Compliance with this provision shall be demonstrated by compliance with the testing, recordkeeping and reporting as specified by Section 4.2, 4.3, 4.4, and 4.5 of this permit.

[45CSR13, Permit Number R13-2568, Condition B.1., Emission Point ID (25E)]

6.1.4. The permitted facility shall comply with all applicable requirements of 45CSR10, with the exception of any more stringent limitations set forth in 4.1.12., 4.1.18, or 4.1.21. The principle provisions of 45CSR10, applicable to the permitted facility, are:

§10-3.2.
No person shall cause, suffer, allow, or permit the discharge of sulfur dioxide into the open air from all stacks located at one plant, measured in terms of pounds per hour, in excess of the amount determined as follows:

§10-3.2.c.
For Type 'b' and Type 'c' fuel burning units, the product of 1.6 and the total design heat inputs for such units discharging through those stacks in million BTU's per hour, provided however, that no more than 5,500 pounds per hour of sulfur dioxide shall be discharged into the open air from all such stacks.

§10-8.1.a.
At such reasonable times as the Director may designate, the owner or operator of any fuel burning unit(s), manufacturing process source(s) or combustion source(s) may be required to conduct or have conducted tests to determine the compliance of such source(s) with the emission limitations of sections 3, 4, or 5 of 45CSR10. Such tests shall be conducted in accordance with the appropriate test method set forth in 40CFR Part 60, Appendix A, Method 6, Method 15, or equivalent EPA testing method approved by the Director.

§10.8.3.a.
The owner or operator of fuel burning unit(s), manufacturing process source(s) or combustion source(s) subject to sections 3, 4, or 5 of 45CSR10 shall maintain on-site a record of all required monitoring data as established in a monitoring plan pursuant to 45CSR§10-8.2.c as specified in Section 4.2, 4.3, and 4.4 of this permit
[45CSR13, Permit Number R13-2568, Condition B.2., Emission Point ID (25E)]

6.1.5. Boiler B25 is designed to burn coal, natural gas, waste residues, and process vent gases. Boiler B25 shall be operated in a manner not to exceed the maximum design heat input of 323 million Btu per hour.
[45CSR13, Permit Number R13-2568, Condition A.1., Emission Point ID (25E)]

6.1.6. Boiler B25 shall not consume more than 12.9 tons of coal per hour based on a 24-hour average and a moisture content of 4%, or 113,000 tons per year. Annual fuel consumption shall be based on a 12-month rolling yearly total.
[45CSR13, Permit Number R13-2568, Condition A.2., Emission Unit ID (B25 Boiler)]

6.1.7. Boiler B25 shall not consume more than 323,000 cubic feet of natural gas per hour, or 2,830 million cubic feet per year. Annual fuel consumption shall be based on a 12-month rolling yearly total.
[45CSR13, Permit Number R13-2568, Condition A.3., Emission Unit ID (B25 Boiler)]

6.1.8. The sulfur content of the coal burned in Boiler B25 shall not exceed 1% concentration by weight.
[45CSR13, Permit Number R13-2568, Condition A.4., Emission Unit ID (B25 Boiler)]

6.1.9. Particulate matter (PM) and Lead emissions from Boiler B25 shall be controlled with an electrostatic precipitator, identified in permit application R13-2568 as C-25. The electrostatic precipitator shall be installed, operated and maintained so as to achieve a minimum 99.0 percent control efficiency of particulate matter and a 95.0 percent control efficiency of lead.

Due to the fuel burning limitations of 6.1.17, which eliminate the use of coal and liquid fuel as options as well as the low ash content of natural gas and the gaseous process vent streams routed to this boiler, this 45CSR2 requirement shall only apply while solid fuel and/or liquid residues are combusted in the fuel burning unit.

[45CSR§30-5.1.c., 45CSR13, Permit Number R13-2568, Condition A.7., Emission Point ID (25E)]

6.1.10. Particulate matter emissions released from emission point E-25 shall not exceed a maximum ten (10) percent opacity, except as otherwise provided by 45CSR2.
[45CSR13, Permit Number R13-2568, Condition A.8., Emission Point ID (25E)]

6.1.11. The maximum allowable emissions to the atmosphere from the operation of Boiler B25 through emission point E-25 shall be limited to those pollutants and associated rates shown in Table 6.1.11.of this permit.

Table 6.1.11. - Permitted Emissions

Pollutant	Control Device		Controlled Emissions	
	ID	Control Eff. (%)	Hourly (lbs/hr)	Annual (tons/yr)
CO	-	-	64.60	28.3
NO_X	-	-	246.00	1,076.0
SO_2	-	-	491.00	2,150.4
PM	C-25	99.00	16.80	73.6
VOC	-	-	28.90	6.60
Lead	C-25	95.00	0.03	0.20
Propylene Oxide	B-25	99.00	20.00	0.60
Hexane	-	-	1.15	2.50
Vinyl Acetate	-	-	0.11	0.46
Hydrofluoric Acid (HF)	-	-	2.91	8.50
Hydrochloric Acid (HCl)	-	-	83.80	367.2
Chlorine (Cl_2)	-	-	4.79	21.0
Other HAPs	-	-	0.22	0.50

[45CSR13, Permit Number R13-2568, Condition A.9., Emission Point ID (25E)]

6.1.12. Boiler B25 annual limits shall be based on a 12-month rolling total. A 12-month rolling total shall mean the total at any given time for the previous twelve (12) consecutive calendar months.
[45CSR13, Permit Number R13-2568, Condition A.10., Emission Point ID (25E)]

6.1.13. No later than 180 days following commencement of process vent gas and/or liquid natural gas condensate combustion in Boiler 26 (whichever comes first), Boiler 25 will be permanently shutdown. During this 180 day period, only natural gas, natural gas condensate and process vent gases will be burned in Boiler 25. Coal feed pulverizer electrical feeds will be disconnected prior to commencement of the 180 day period. Permanent shutdown of Boiler 25 will be completed by the end of the 180 day commissioning period by disconnecting boiler cycle water piping and installing blind flanges. All $PM_{2.5}$ and CO emissions from Boiler 25 shall be permanently retired and never used for netting purposes, emission reduction credits etc.
[45CSR13, Permit Number R13-2033, Condition 4.1.4., Emission Point ID (25E and 26E)]

6.1.14. The permittee shall implement a coal sampling and analysis plan that allows determination of heating value and ash content of coal as burned on a daily basis in Boiler B25. The permittee shall collect and analyze a representative coal sample from a dedicated storage pile prior to burning. This plan may be amended upon written notification to and approval by the Director.
[45CSR§2-8.2.a, Emission Unit ID (25E)]

6.1.15. **40 C.F.R. 63, Subpart DDDDD.**
The natural gas fired boiler [B25] shall comply with all applicable requirements for existing affected sources, pursuant to 40 C.F.R. 63, Subpart DDDDD, "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" no later than the existing source compliance date of March 21, 2014, or as amended by US EPA.
[40 C.F.R. 63, Subpart DDDDD, Equipment ID (B26, B27)]

If required to submit a Notification of Compliance Status (NOCS) pursuant to 40 C.F.R. 63, Subpart DDDDD, the permittee shall also submit a complete application for significant modification to the Title V permit to incorporate the specific requirements of the rule no later than the maximum time allowed for the NOCS submittal in 40 C.F.R. §63.7545(e).

If requested, this Title V permitting deadline may be changed upon written approval by the Director. The permittee shall request the change in writing at least 30 days prior to the application due date.
[40 C.F.R. 63, Subpart DDDDD, 45CSR§30-6.5.b.]
[45CSR34, 40CFR63, Subpart DDDDD, Emission Unit ID (25E)]

6.1.16. Coal and ash handling activities associated with Boiler 25 are subject to the fugitive emission provisions of 45CSR§2-5. As a result the permittee shall minimize fugitive dust emissions via the following work practice standards:

The coal conveyance and crusher system shall be equipped with enclosures in accordance with good engineering practices.
Trucks hauling boiler ash out of the facility shall be covered.
Good housekeeping practices shall be utilized for coal stockpiling and boiler ash handling activities

[45CSR§2-5, 45CSR§30-12.7, Emission Unit ID (25E Boiler Coal and Ash Handling System)]

6.1.17. As a result of entering the decommissioning phase of operations for boiler 25, the permittee shall limit the type of fuels burned to gas feeds consisting of natural gas and process vent gas. Natural gas in this context shall correspond to the definition supplied with 45CSR2.
[45CSR§30-12.7, Equipment ID (B25)]

6.1.18. The permitted facility shall comply with all applicable requirements of 40 CFR 63, Subpart PPP - Polyethers Polyol Production, with the exception of any more stringent limitations set forth in Section 6.0 of this permit. The pertinent requirements of this regulation applicable to this facility include, but are not limited to, the following:

40 CFR 63.1425(b)(2)(ii)
For an existing affected source, the owner or operator shall reduce the total epoxide emissions from the group of applicable process vents by an aggregated 98 percent.

40 CFR 63.1430(b)(2)(iii)
As a means of demonstrating compliance with the process vent control requirements when using a boiler for controls, the permittee shall maintain a description of the location at which the process vent stream is introduced into the boiler or process heater.
[45CSR13, Permit Number R13-2568, Condition B.4., Emission Point ID (25E)]

6.1.19. See Title V permit condition 10.1.6 for "MON" MACT control requirements applicable combustion sources in accordance with 40 C.F.R. 63, Subpart FFFF.
[45CSR34, 40 C.F.R. §63.2455, §63.988(b)(2)(ii), §63.988(c), Emission Unit (B25)]

6.2. Monitoring Requirements

6.2.1. As a means of demonstrating compliance with the opacity limit for Boiler B25 as set forth by 6.1.10., the permittee shall install and maintain a Continuous Opacity Monitoring System (COMS) in accordance with 40 CFR Part 60, Appendix B - Performance Specification 1, per 45CSR2A-6.2.c.

However, due to the fuel usage limitation of 6.1.17 and gaseous fuels having no ash content, the use of COMS is not required while using natural gas as the primary fuel and burning gaseous process vent streams. As an alternative to demonstrating compliance with a COMS unit, Method 22 VE checks shall be performed on a monthly basis in order to demonstrate compliance with 6.1.10.

[45CSR§30-5.1.c., 45CSR13, Permit Number R13-2568, Condition B.10., Emission Point ID (25E)]

6.3. Testing Requirements

6.3.1. As a means of demonstrating compliance with the sulfur dioxide emission limits for Boiler B25 as set forth 6.1.11., the permittee shall conduct weight emission tests on a five (5) year schedule in accordance with 40 CFR Part 60, Appendix A, Method 6 or other equivalent EPA testing method approved by the Secretary.
[45CSR13, Permit Number R13-2568, Condition B.8., Emission Point ID (25E)]

6.3.2. As a means of demonstrating compliance with the particulate matter emission limits for Boiler B25 as set forth by 6.1.11., the permittee shall conduct or have conducted, weight emission tests on a three (3) year schedule to determine the compliance of each fuel stack with the weight emission standards set forth in section 4 of 45CSR2. Weight emission tests shall be conducted in accordance with 45CSR2 Appendix "Compliance Test Procedures for 45CSR2" or other equivalent EPA approved method approved by the Director.
[45CSR13, Permit Number R13-2568, Condition B.9., Emission Point ID (25E)]

6.4. Recordkeeping Requirements

6.4.1. The permittee must maintain a record of the F-factor, and supporting calculations, used in the calculation of Boiler B25 nitrogen oxide emissions and heat input for the CAIR NOx Ozone Season Trading Program (45CSR40). No further petitions under 40 CFR§75.66 are necessary for these F-factor calculations provided that the permittee continues to use the same F-factor calculation methodology for vent gases that was approved by EPA.

[45CSR40, Emission Unit ID (25E)]

6.4.2. The permittee shall keep daily records of the amount of natural gas, coal, and liquid residues combusted in Boiler #25.
[45CSR13, Permit Number R13-2568, Condition B.5., and B.6., Emission Point ID (25E)]

6.4.3. For the purpose of determining compliance with the sulfur concentration limits set forth in 6.1.8, and the sulfur related emission limits set forth in 4.1.11, the permittee shall maintain daily records of the sulfur content of the coal combusted in Boiler #25. Coal samples must be collected and analyzed per the same schedules as heating value and ash content per Condition 6.1.14.
[45CSR13, Permit Number R13-2568, Condition B.7., 45CSR§30-12.7., Emission Point ID (25E)]

6.5. Reporting Requirements

6.5.1. The permittee shall submit to the Director quarterly reports for Boiler B25 continuous opacity monitoring in a form and manner as specified by the Director.
[45CSR2, 45CSR2A, Emission Point ID (25E)]

6.5.2. Reserved

6.5.3. The permittee shall submit reports of excess particulate matter emissions as provided by Section 9.3 of Regulation 2 (45CSR§2-9.3)
[45CSR§2-9.3., Emission Point ID (25E)]

6.5.4. If, at any time in the future, the permittee should discontinue the use of any vent gas or liquid residue currently combusted in Boiler 25 or should begin combusting additional vent gases or liquid residues, the permittee shall provide notice to the WVDAQ and US EPA at least 21 days in advance of any such change in operation. The permittee shall also provide F_c calculations for any new vent gases combusted in Boiler 25 (if applicable). However, no further petitions under 40 CFR§75.66 are necessary for these operational changes unless the permittee desires to use an F-factor calculation methodology for vent gases and liquid residue combustion that differs from the methodology approved by US EPA on May 13, 2004.
[45CSR40, Emission Unit ID (25E)]

7.0. Source-Specific Requirements [40CFR63, Subpart PPP "Polyether Polyols" MACT requirements for Oxide Adducts production units, Emission Point ID(s) (See Section 1.0 for Oxide Adducts Equipment List)]

7.1. Limitations and Standards

7.1.1. The permittee shall comply with all applicable requirements of 40 CFR 63 Subpart PPP "National Emission Standard for Hazardous Air Pollutants from Polyether Polyols Production". The enumerated requirements that follow, address specific obligations taken from applicable sections of this regulation. However, the permittee shall comply with the Polyether Polyols Production MACT as referenced above in its entirety, which includes, but is not limited to the specific requirements listed within this section of the Title V permit.

7.1.2. The permittee shall comply with the standards established within 40 CFR §63.1424, as follows:

(a) Except as provided under paragraph (b) of this section, the owner or operator of an existing or new affected source shall comply with the provisions in:

(1) Sections 63.1425 through 63.1430 for process vents;
(2) Section 63.1432 for storage vessels;
(3) Section 63.1433 for wastewater;
(4) Section 63.1434 for equipment leaks;
(5) Section 63.1435 for heat exchangers;
(6) Section 63.1437 for additional test methods and procedures;
(7) Section 63.1438 for monitoring levels and excursions; and
(8) Section 63.1439 for general reporting and recordkeeping requirements.

(b) When emissions of different kinds (i.e., emissions from process vents subject to §§63.1425 through 63.1430, storage vessels subject to §63.1432, process wastewater, and/or in-process equipment subject to §63.149) are combined, and at least one of the emission streams would require control according to the applicable provision in the absence of combination with other emission streams, the permittee shall comply with the requirements of either paragraph (b)(1) or (2) of this section.

(1) Comply with the applicable requirements of this subpart for each kind of emission in the stream as specified in paragraphs (a)(1) through (5) of this section; or
(2) Comply with the most stringent set of requirements that applies to any individual emission stream that is included in the combined stream, where either that emission stream would be classified as requiring control in the absence of combination with other emission streams, or the owner chooses to consider that emission stream to require control for the purposes of this paragraph.

[45CSR34 and 40CFR§63.1424]

7.1.3. Since the permittee uses epoxides in the production of polyether polyols the affected source is subject to 63.1425(b), process vent control requirements as follows:

(b) *Requirements for epoxide emissions.* The owner or operator of an existing affected source may comply with the requirement to reduce epoxide emissions by 98% from process vents by using extended cook-out.

[45CSR34 and 40CFR§63.1425(b)(2)(ii), Emission Unit IDs (R703, R704, R705, R706, R707, R708)]

7.1.4. It is important to note the exemption given to processes which employee extended cookout (ECO) from having to determine the uncontrolled organic HAP emissions, which is stated as follows:

(d) *Determination of uncontrolled organic HAP emissions.* For each process vent at a PMPU that is complying with the process vent control requirements in §**63**.1425(b)(1)(i), (b)(1)(iii), (b)(2)(ii), (b)(2)(iv), (c)(1)(ii), or (d)(2) using a combustion, recovery, or recapture device, the permittee shall determine the uncontrolled organic HAP emissions in accordance with the provisions of this paragraph, with the exceptions noted in paragraph (d)(1) of this section. The provisions of §**63**.1427(c)(1) shall be used to calculate uncontrolled epoxide emissions prior to the onset of an extended cook out.

(1) *Exemptions.* The permittee is not required to determine uncontrolled organic HAP emissions for process vents as provided by 40CFR63.1426(d) because all process vents subject to the epoxide emission reduction requirements of §**63**.1425(b) are controlled at all times using extended cookout.
[45CSR34 and 40CFR§63.1426(d)(1)(i), Emission Unit IDs (R703, R704, R705, R706, R707, R708)]

7.1.5. The permittee shall determine the epoxide emission control efficiency for process vents subject to the epoxide emission reduction requirements of §63.1425(b) in accordance with §63.1427(e)
[45CSR34 and 40CFR§63.1426(2)(iii), Emission Unit IDs (R703, R704, R705, R706, R707, R708)]

7.1.6. The permittee must conduct a design evaluation for the extended cookout control technique as presented in §63.1427(f)(2). The permittee is not required to conduct performance tests provided uncontrolled epoxide emissions prior to the end of ECO are less than 10 tons per year (9.1 mega grams per year). Per §63.1427(a)(2)(ii) uncontrolled epoxide emissions prior to ECO shall be determined by the procedures in §63.1427(d)(1). The design evaluation shall establish the minimum duration (time) of extended cookout.
[45CSR34 and 40CFR§63.1426(f)(1) & (2), (b)(6), (d)(1)(i), Emission Unit IDs (R703, R704, R705, R706, R707, R708)]

7.1.7. The remainder of the process vent requirements specific to ECO are listed within 63.1427 as follows:
(a) *Applicability of extended cookout requirements.* Owners or operators of affected sources that produce polyether polyols using epoxides, and that are using ECO as a control technique to reduce epoxide emissions in order to comply with percent emission reduction requirements in §**63**.1425(b)(1)(i) or (b)(2)(ii) shall comply with the provisions of this section.

(1) For each product class, the permittee shall determine the batch cycle percent epoxide emission reduction for the most difficult to control product in the product class, where the most difficult to control product is the polyether polyol that is manufactured with the slowest pressure decay curve.

(2) The permittee shall determine the batch cycle percent epoxide emission reduction by using process knowledge, reaction kinetics, and engineering knowledge, in accordance with §63.1427 (a)(2)(ii) and §63.1427(e).

(ii) The permittee must maintain uncontrolled epoxide emissions prior to the end of the ECO less than 10 tons per year (9.1 mega grams per year) as determined by the procedures in §63.1427(d)(1).

(d) *Determine emissions at the end of the ECO.* The permittee shall calculate the epoxide emissions at the end of the ECO, where the end of the ECO is defined as the point immediately before the time when the reactor contents are emptied and/or the reactor vapor space purged to the atmosphere or to a combustion, recovery, or recapture device.

(d)(1) The epoxide emissions at the end of the ECO shall be determined using Equation 9

$$E_{e,E} = (C_{liq,f})(V_{liq,f})(D_{liq,f}) + (C_{vap,f})(V_{vap,f})(D_{vap,f}) \quad \text{[Equation 9]}$$

Where:

$E_{e,E}$ = Epoxide emissions at the end of the ECO, kg.

$C_{liq,f}$ = Concentration of epoxide in the reactor liquid at the end of the ECO, determined in accordance with §63.1427 (f)(1) of this section, weight percent.

$V_{liq,f}$ = Volume of reactor liquid at the end of the ECO, liters.

$D_{liq,f}$ = Density of reactor liquid, kg/liter.

$C_{vap,f}$ = Concentration of epoxide in the reactor vapor space as it exits the reactor at the end of the ECO, determined in accordance with §63.1427 (f)(2), weight percent.

$V_{vap,f}$ = Volume of the reactor vapor space as it exits the reactor at the end of the ECO, liters.

$D_{vap,f}$ = Vapor density of reactor vapor space at the end of the ECO, kg/liter.

[45CSR34 and 40CFR§63.1427(a)(1) , (a)(2)(i), (a)(2)(ii), (d)(1), Emission Unit IDs (R703, R704, R705, R706, R707, R708)]

7.1.8. (b) *Define the end of epoxide feed.* The permittee shall determine the concentration of epoxide in the reactor liquid at the point in time when all epoxide has been added to the reactor and prior to any venting. This concentration shall be determined in accordance with the procedures in §63.1427(f)(1)(i).
[45CSR34 and 40CFR§63.1427(b)(1), Emission Unit IDs (R703, R704, R705, R706, R707, R708)]

7.1.9. c) *Define the onset of the ECO.* The permittee shall calculate the uncontrolled emissions for the batch cycle by calculating the epoxide emissions, if any, prior to the onset of the ECO, plus the epoxide emissions at the onset of the ECO. The onset of the ECO is defined as the point in time when the combined unreacted epoxide

concentration in the reactor liquid is equal to 25 percent of the concentration of epoxides at the end of the epoxide feed, which was determined in accordance with §63.1427(b)- Equation 8 as follows.

(1) The uncontrolled epoxide emissions for the batch cycle shall be determined using Equation 8.

$E_{e,u} = (C_{liq,i})(V_{liq,i})(D_{liq,i}) + (C_{vap,i})(V_{vap,i})(D_{vap,i}) + (E_{epox,bef})$ [Equation 8]

Where:
$E_{e,u}$ = Uncontrolled epoxide emissions at the onset of the ECO, kilograms per (kg/)batch.
$C_{liq,i}$ = Concentration of epoxide in the reactor liquid at the onset of the ECO, which is equal to 25 percent of the concentration of epoxide at the end of the epoxide feed, determined in accordance with paragraph (b)(1) of this section, weight percent. Note: (f)(1) of this section is referenced by (b)(1) for determining epoxide concentration in the reactor liquid.
$V_{liq,i}$ = Volume of reactor liquid at the onset of the ECO, liters.
$D_{liq,i}$ = Density of reactor liquid, kg/liter.
$C_{vap,i}$ = Concentration of epoxide in the reactor vapor space at the onset of the ECO, determined in accordance with paragraph (f)(2) of this section, weight percent.
$V_{vap,i}$ = Volume of the reactor vapor space at the onset of the ECO, liters.
$D_{vap,i}$ = Vapor density of reactor vapor space at the onset of the ECO, kg/liter.
$E_{epox,bef}$ = Epoxide emissions that occur prior to the onset of the ECO, determined in accordance with the provisions of §**63**.1426(d), kilograms.
[45CSR34 and 40CFR§63.1427(c)(1), Emission Unit IDs (R703, R704, R705, R706, R707, R708)]

7.1.10. (d) *Determine emissions at the end of the ECO.* The permittee shall calculate the epoxide emissions at the end of the ECO, where the end of the ECO is defined as the point immediately before the time when the reactor contents are emptied and/or the reactor vapor space purged to the atmosphere or to a combustion, recovery, or recapture device.

(d)(1) The epoxide emissions at the end of the ECO shall be determined using Equation 9
$E_{e,E} = (C_{liq,f})(V_{liq,f})(D_{liq,f}) + (C_{vap,f})(V_{vap,f})(D_{vap,f})$ [Equation 9]
Where:

$E_{e,E}$ = Epoxide emissions at the end of the ECO, kg.

$C_{liq,f}$ = Concentration of epoxide in the reactor liquid at the end of the ECO, determined in accordance with §63.1427 (f)(1) of this section, weight percent.

$V_{liq,f}$ = Volume of reactor liquid at the end of the ECO, liters.

$D_{liq,f}$ = Density of reactor liquid, kg/liter.

$C_{vap,f}$ = Concentration of epoxide in the reactor vapor space as it exits the reactor at the end of the ECO, determined in accordance with §63.1427 (f)(2), weight percent.

$V_{vap,f}$ = Volume of the reactor vapor space as it exits the reactor at the end of the ECO, liters.

$D_{vap,f}$ = Vapor density of reactor vapor space at the end of the ECO, kg/liter.

[45CSR34 and 40CFR§63.1427(d)(1), Emission Unit IDs (R703, R704, R705, R706, R707, R708)]

7.1.11. e) *Determine percent epoxide emission reduction.* (1) The permittee shall determine the percent epoxide emission reduction for the batch cycle using Equation 10.

$$R_{batchcycle} = \left[\frac{E_{e,u} - \left(E_{e,E}\right)\left(1 - \frac{R_{addon,i}}{100}\right) - \left(E_{e,o}\right)\left(1 - \frac{R_{addon,j}}{100}\right)}{E_{e,u}} \right] * 100 \qquad [Equation\ 10]$$

Where:
$R_{batchcycle}$ = Epoxide emission reduction for the batch cycle, percent.
$E_{e,E}$ = Epoxide emissions at the end of the ECO determined in accordance with paragraph (d)(1) of this section, kilograms.
$R_{addon,i}$ = Control efficiency of combustion, recovery, or recapture device that is used to control epoxide emissions after the ECO, determined in accordance with the provisions of §63.1426(c), percent.
$E_{e,o}$ = Epoxide emissions that occur before the end of the ECO, determined in accordance with the provisions of §**63**.1426(d), kilograms.
$R_{addon,j}$ = Control efficiency of combustion, recovery, or recapture device that is used to control epoxide emissions that occur before the end of the ECO, determined in accordance with the provisions of §**63**.1426(c), percent.
$E_{e,u}$ = Uncontrolled epoxide emissions determined in accordance with paragraph (c)(1) of this section, kilograms.
[45CSR34 and 40CFR§63.1427(e)(1) , Emission Point IDs (E-703, E-704, E-705, E-706, E-707, E-708)]

7.1.12. (f) *Determination of epoxide concentrations.* The permittee shall determine the epoxide concentrations in accordance with the procedures in this paragraph.

(1) The permittee shall determine the concentration of epoxide in the reactor liquid using reaction kinetics in accordance with paragraph (f)(1)(ii) of §63.1427 as listed by Equation 12 below. The permittee may also request to use an alternative methodology in accordance with paragraph (f)(1)(iii) of §63.1427.

(ii) Determine the epoxide concentration in the reactor liquid using Equation 12. [Equation 12]

$$C_{liq,f} = C_{liq,i}\, e^{-kt} \qquad [Equation\ 12]$$

$C_{liq,f}$ = Concentration of epoxide in the reactor liquid at the end of the time period, weight percent.
$C_{liq,i}$ = Concentration of epoxide in the reactor liquid at the beginning of the time period, weight percent.
k = Reaction rate constant, 1/hr.
t = Time, hours.
Note: This equation assumes a first order reaction with respect to epoxide concentration. where:

[45CSR34 and 40CFR§63.1427(f)(1)(ii), Emission Unit IDs (R703, R704, R705, R706, R707, R708)]

7.1.13. (f)(2) The permittee shall determine the concentration of epoxide in the reactor vapor space by engineering estimation in accordance with paragraph §63.1427(f)(2)(ii) as follows.

ii) Determine the epoxide concentration in the vapor space using Raoult's Law or another appropriate phase equilibrium equation and the liquid epoxide concentration, determined in accordance with §63.1427 (f)(1) of this section.
[45CSR34 and 40CFR§63.1427(f)(2)(ii), Emission Unit IDs (R703, R704, R705, R706, R707, R708)]

7.1.14. (g) *Determination of pressure.* The permittee shall determine the total pressure of the system using standard pressure measurement devices calibrated 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 and 40CFR§63.1427(g) Emission Unit IDs (R703, R704, R705, R706, R707, R708)]

7.1.15. (h) *Determination if pressure decay curves are similar.* The permittee shall determine the pressure decay curve as defined in §63.1423. Products with similar pressure decay curves constitute a product class. To determine if two pressure decay curves are similar when the pressure decay curves for products have different starting and finishing pressures, the permittee shall determine the time when the pressure has fallen to half its total pressure by using Equation 13:

$$Time\ (P_{half}1) - Time\ (P_{half}2) < 20\%\ T_{AVG} \qquad [Equation\ 13]$$

Where:
$P_{half}1$ = Half the total pressure of the epoxide for product 1.
Time ($P_{half}1$) = Time when the pressure has fallen to half its total pressure for product 1.
$P_{half}2$ = Half the total pressure of the epoxide for product 2.
Time ($P_{half}2$) = Time when the pressure has fallen to half its total pressure for product 2.
T_{AVG} = The average time to cookout to the point where the epoxide pressure is 25 percent of the epoxide pressure at the end of the feed step for products 1 and 2.
[45CSR34 and 40CFR§63.1427(h), Emission Unit IDs (R703, R704, R705, R706, R707, R708)]

7.1.16. The heat exchanger systems used in the Oxide Adducts Plant to cool process equipment or materials are exempt from the heat exchanger monitoring requirements of 40CFR§63.104(a) as long as the following conditions are maintained:

(i). Uses intervening fluid with less than 5% HAPs between process and cooling water sides (reactors), or
(ii). Process side HAP concentration less than 5% (product treatment systems).
[45CSR34 and 40CFR§63.1435]

7.2. Monitoring Requirements

7.2.1. (i) *ECO monitoring requirements.* The permittee using ECO shall comply with the monitoring requirements of this paragraph to demonstrate continuous compliance with this subpart. Paragraphs (i)(1) through (3) of §63.1427 address monitoring of the extended cookout.

(1) To comply with the provisions of §63.1427 (process vent provisions), the permittee shall monitor the time from the end of the epoxide feed to the end of ECO

(2) During the determination of the percent epoxide emission reduction in paragraphs (b) through (e) of §63.1427, the permittee shall establish, as a level that shall be maintained during periods of operation the following:

(i) The time from the end of the epoxide feed to the end of the ECO;

(3) For each batch cycle where ECO is used to reduce epoxide emissions, the permittee shall record the value of the monitored parameter at the end of the ECO. This parameter is then compared with the level established in accordance with number (2) above, which corresponds with paragraph (i)(2)(i) of §63.1427 to determine if an excursion has occurred. An ECO excursion is defined as one of the following:

(i) When the time from the end of the epoxide feed to the end of the ECO is less than the time established in paragraph (i)(2)(i) of §63.1427; or

(ii) When the parameter is not measured and recorded at the end of the ECO; or

[45CSR34 and 40CFR§63.1427(i), Emission Unit IDs (R703, R704, R705, R706, R707, R708)]

7.2.2. Storage tanks T-9510, 11, 12, and 13 shall comply with the monitoring and reporting provisions of 40CFR60, Subpart Kb for tanks by keeping records of the material stored and associated vapor pressures.
[45CSR16, 40CFR§60.116b(b), Emission Unit ID (T-9510, T-9511, T-9512, T-9513]

7.3. Testing Requirements

7.3.1. N/A

7.4. Recordkeeping Requirements

7.4.1. (j) *Recordkeeping requirements.*
(1) The permittee shall maintain the records specified in paragraphs (j)(1)(i) and (ii) of §63.1427, for each product class. The permittee shall also maintain the records related to the initial determination of the percent epoxide emission reduction specified in paragraphs (j)(1)(iii) through (ix) of §63.1427, as applicable, for each product class.

(i) Operating conditions of the product class, including:

(A) Pressure decay curve;
(B) Minimum reaction temperature;
(C) Number of reactive hydrogens in the raw material;
(D) Minimum catalyst concentration;
(E) Ratio of EO/PO at the end of the epoxide feed; and
(F) Reaction conditions, including the size of the reactor or batch.

(ii) A listing of all products in the product class, along with the information specified in paragraphs (j)(1)(i)(A) through (F) of §63.1427, for each product, incorporated herein as 7.4.1.(j)(1)(i)(A)-(F) .

(iii) The concentration of epoxide at the end of the epoxide feed, determined in accordance with paragraph (b)(1) of §63.1427, incorporated herein as 7.1.8.

(iv) The concentration of epoxide at the onset of the ECO, determined in accordance with paragraph (c) of §63.1427, incorporated herein as 7.1.9.

(v) The uncontrolled epoxide emissions at the onset of the ECO, determined in accordance with paragraph (c)(1) of §63.1427, incorporated herein as 7.1.9. The records shall also include all the background data, measurements, and assumptions used to calculate the uncontrolled epoxide emissions.

(vi) The epoxide emissions at the end of the ECO, determined in accordance with paragraph (d)(1) of §63.1427, incorporated herein as 7.1.10. The records shall also include all the background data, measurements, and assumptions used to calculate the epoxide emissions.

(vii) The percent epoxide reduction for the batch cycle, determined in accordance with paragraph (e)(1) of §63.1427, incorporated herein as 7.1.11. The records shall also include all the background data, measurements, and assumptions used to calculate the percent reduction.

(viii) The parameter level, established in accordance with paragraph (i)(3) of §63.1427, incorporated herein as 7.2.1.

(ix) If epoxide emissions occur before the end of the ECO, the permittee shall maintain records of the time and duration of all such emission episodes that occur during the initial demonstration of batch cycle efficiency.

(2) The permittee shall maintain the following records as applicable from paragraphs (j)(2)(i) through (iv) of §63.1427.

(i) For each batch cycle, the product being produced and the product class to which it belongs.

(ii) For each batch cycle, the permittee shall record the time from the end of epoxide feed to the end of extended cook-out.

(iii) If epoxide emissions occur before the end of the ECO, the permittee shall maintain records of the time and duration of all such emission episodes.

[45CSR34 and 40CFR§63.1427(j), Emission Unit IDs (R703, R704, R705, R706, R707, R708)]

7.5. Reporting Requirements

7.5.1. The permittee shall submit a semi-annual report containing the following information:
(k) *Reporting requirements.* The permittee shall comply with the reporting requirements in this paragraph.

(3) The following information shall be provided in the semi-annual Periodic Report, as specified in §63.1439(e)(6).

(i) Reports of each batch cycle for which an ECO excursion occurred, as defined in §63.1427(i)(3)

(ii) Notification of each batch cycle when the time and duration of epoxide emissions before the end of the ECO, recorded in accordance with paragraph (j)(2)(v) of §63.1427 (Condition 7.4.2.(ii) of this permit), exceed the time and duration of the emission episodes during the initial epoxide emission percentage reduction determination, as recorded in paragraph (j)(1)(viii) of §63.1427 (Condition 7.4.1.(viii) of this permit)

[45CSR34 and 40CFR§63.1427(k)(3)(i)&(ii), 40CFR§63.1427(e)(6), Emission Unit IDs (R703, R704, R705, R706, R707, R708)]

7.5.2. The permittee shall comply with the reporting requirements for new polyether poly products as provided by §63.1427(l).
[45CSR34 and 40 CFR§63.1427(l)., **Emission Unit ID (R703, R704, R705, R706, R707, R708)]**

7.5.3. The permittee shall comply with the reporting requirements for polyether polyol product changes as provided by §63.1427(m).
[45CSR34 and 40 CFR§63.1427(m)., **Emission Unit ID (R703, R704, R705, R706, R707, R708)]**

7.5.4. The permittee shall comply with the reporting requirements for polyether polyol product manufacturing units as provided by §63.1439(e)(6)(i) through (viii) of this section
[45CSR34 and 40 CFR§63.1439(e)(6)., **Emission Unit ID (R703, R704, R705, R706, R707, R708)]**

7.5.5. The permittee shall comply with the reporting requirements for equipment leak provisions as provided by §63.1434(f).
[45CSR34 and 40 C.F.R. §63.1439(e)(6)(vii)., **Emission Unit IDs (R703, R704, R705, R706, R707, R708]**

7.6. Compliance Plan

7.6.1. Not Applicable

8.0 Source-Specific Requirements [Toxic Air Pollutant Sources, Incorporation of 45CSR27 Standards and Consent Order # CO-R27-97-17-A(94-21), Emission Point ID(s)(Listed Below 8.1.5 Tables)]

8.1. Limitations and Standards

8.1.1. Except as provided in Sections 3.2 and 3.3 of 45CSR27, the owner or operator of a plant that discharges or may discharge a toxic air pollutant into the open air in excess of the amount shown in Table A of 45CSR27 shall employ BAT at all chemical processing units emitting the toxic air pollutant: Provided, that any source or equipment specifically subject to a federal regulation or standard shall not be required to comply with provisions more stringent than such regulation or standard.
[45CSR§27-3.1., State-Enforceable Only]

8.1.2. All chemical processing units shall be properly instrumented to alert the operator of process upsets, leaks, and other abnormal discharges of toxic air pollutants into the air and the operator shall record all such incidents and the associated emissions estimated from direct measurements of toxic air pollutant concentration and/or calculations using other process measurements.
[45CSR§27-3.4., State-Enforceable Only, Process Unit IDs (N. Chas. Distribution, Chemical Mixing, Specialty Surfactants, Oxide Adducts)]

8.1.3. Owners and operators of chemical processing units and/or wastewater treatment systems subject to 45CSR27 shall employ BAT to remove and control or destroy toxic air pollutants from wastewater at the source and/or apply BAT at the wastewater treatment plant to prevent or control the discharge to toxic air pollutants resulting from air stripping or evaporation: Provided, that this provision shall not be more stringent than any specifically applicable federal regulation or standard.
[45CSR§27-6.1., State-Enforceable Only]

8.1.4. Owners and operators of chemical processing units or facilities subject to the requirements of 45CSR27 shall employ BAT to prevent or control toxic air pollutant discharges in the loading and unloading of railcars and tank trucks with toxic air pollutants or material mixtures containing toxic air pollutants.
[45CSR§27-7.1., State-Enforceable Only]

8.1.5. The permittee shall implement "BAT" in accordance with the compliance plan agreed upon within consent order number, CO-R27-97-17-A(94-21), for the control of ethylene oxide and propylene oxide emissions. As a result the following emission limits and LDAR program shall apply:

Table 8.1.5.a. Propylene Oxide Emissions

Source ID	Control Description	Emission Point ID	Pre-Control Emissions	Allowable Emissions	Allowable Emissions
Oxide Adducts			(lb/yr)	(lb/hr)	(lb/yr)
#1 Reactor	Extended Cookout	E-703	17,600	0.6	200
#2 Reactor	Extended Cookout	E-704	7,100	25.8	263
#4 Reactor	Extended Cookout	E-705	13,800	32.6	1,094
#5 Reactor	Extended Cookout	E-706	7,100	18.2	263
#6 Reactor	Extended Cookout	E-708	9,100	15.0	979
#7 Reactor	Extended Cookout	E-707	12,800	16.4	1,011

			67,500		3,810
#1Drop Tank	Extended Cookout	E-703A	9,400	0.6	198
#2DropTank	Extended Cookout	E-704A	6,800	6.1	189
#4 Drop Tank	Extended Cookout	E-705A	1,100	7.8	1023
#5 Drop Tank	Extended Cookout	E-706A	6,800	5.1	189
#6 Drop Tank	Extended Cookout	E-708A	1,700	4.1	289
#7 Drop Tank	Extended Cookout	E-707A	2,500	4.7	600
			28,300		2,488
#1 Treatment	Extended Cookout	E-703B	20,000	1.2	407
#2 Treatment	Extended Cookout	E-704B	17,600	21.9	478
#4 Treatment	Extended Cookout	E-705B	800	6.9	954
#5 Treatment	Extended Cookout	E-706B	17,600	15.7	498
#6 Treatment	Extended Cookout	E-708B	400	1.0	470
#7 Treatment	Extended Cookout	E-707B	900	1.2	217
					3,024
			153,100		9,322
#1 Double Valve and Vent	Double Valve and Buffer	E-720	98	0	0
#2 Double Valve and Vent	Double Valve and Buffer	E-721	43	0	0
#4 Double Valve and Vent	Double Valve and Buffer	E-722	52	0	0
#5 Double Valve and Vent	Double Valve and Buffer	E-723	28	0	0
#6 Double Valve and Vent	Double Valve and Buffer	E-724	20	0	0
#7 Double Valve and Vent	Double Valve and Buffer	E-725	13	0	0
Wastewater Secondary Emissions		700	134*	0*	0*
Fugitive Emissions	LDAR, Subpart H Part 63	700 Fug.	4,295*	-	1,000*
Propylene Oxide R27 “BAT” Threshold = 5000 lb/yr			**157,783**		**10,322**
Treatment represents the handling of material after it leaves the drop tanks, it does not refer to a single source					

*** Fugitive emissions controlled by work practices and estimated empirically. The fugitive emission numbers are provided for informational purpose.**

Table 8.1.5.b. Ethylene Oxide Emissions

Source ID	**Control Description**	**Emission Point ID**	**Pre-Control Emissions**	**Allowable Emissions**	**Allowable Emissions**
Oxide Adducts			(lb/yr)	(lb/hr)	(lb/yr)
#2 Reactor	Extended Cookout	E-704	5,300	0.18	14
#4 Reactor	Extended Cookout	E-705	140	0.18	1
#5 Reactor	Extended Cookout	E-706	5,300	0.18	9
#6 Reactor	Extended Cookout	E-708	310	0.01	<1
#7 Reactor	Extended Cookout	E-707	470	0.02	<1
			11,520		26
#2DropTank	Extended Cookout	E-704A	120	0.03	15
#4 Drop Tank	Extended Cookout	E-705A	20	0.03	<1
#5 Drop Tank	Extended Cookout	E-706A	120	0.03	14
#6 Drop Tank	Extended Cookout	E-708A	10	<0.01	<1
#7 Drop Tank	Extended Cookout	E-707A	20	<0.01	<1
			290		30
#2 Treatment	Extended Cookout	E-704B	320	<0.01	<1
#4 Treatment	Extended Cookout	E-705B	15	<0.01	<1
#5 Treatment	Extended Cookout	E-706B	320	<0.01	<1
#6 Treatment	Extended Cookout	E-708B	5	<0.01	<1
#7 Treatment	Extended Cookout	E-707B	2	<0.01	<1
			662		2
			12,472		58
#2 Double Valve and Vent	Double Valve and Buffer	E-721	90	0	0
#4 Double Valve and Vent	Double Valve and Buffer	E-722	35	0	0
#5 Double Valve and Vent	Double Valve and Buffer	E-723	60	0	0
#6 Double Valve and Vent	Double Valve and Buffer	E-724	54	0	0
#7 Double Valve and Vent	Double Valve and Buffer	E-725	38	0	0
Source ID	**Control Description**	**Emission Point ID**	**Pre-Control Emissions**	**Allowable Emissions**	**Allowable Emissions**
			(lb/yr)	(lb/hr)	(lb/yr)
Wastewater Secondary Emissions		700	30*	0	0
Fugitive Emissions	LDAR, Subpart H Part 63	700 Fug.	3271*	-	1500*
EO Distribution Header					
Fugitive Emissions	LDAR, Subpart H Part 63				
Ethylene Oxide R27 "BAT" Threshold = 500 lb/yr			**17,867**		**2,348**
Treatment represents the handling of material after it leaves the drop tanks, it does not refer to a single source					

*** Fugitive emissions controlled by work practices and estimated empirically. The fugitive emission numbers are provided for informational purpose.**

c. Fugitive Emission Requirements

All owners and operators subject to the requirements of 45CSR27 shall, by application of BAT, prevent and control fugitive emissions to the air of toxic air pollutants as a result of leakage from equipment in toxic air pollutant service including but not limited to, pump seals, compressor seals, valves, sampling connections, open-ended lines, safety relief valves, and flanges. In no event shall any equipment standard, program, or work practice less stringent than required under 40CFR61, Subpart V be deemed to represent BAT for control of toxic air pollutant emissions: Provided, that any source or equipment specifically subject to a federal regulation or standard shall not be required to comply with provisions more stringent than such federal regulation and standard. Equipment to be used in toxic air pollutant service installed after the effective date of 45CSR27shall, to the maximum extent possible, be designed and operated so as to prevent leaks of toxic air pollutants.

The Company shall implement a Leak Detection and Repair Program ("LDAR") for equipment in TAP service. The LDAR program shall meet the requirements of 40CFR63, subpart H ("subpart H"). The Company agrees to comply with the provisions of subpart H [except as excluded by 45 CSR 27 – 2.11 "Toxic Air Pollutant Service" means for the purpose of 45CSR27, that a piece of equipment such as a pump, valve or flange contains or contacts a process fluid containing 10% or more by weight of a toxic air pollutant]. For the purposes of Consent Order CO-R27-97-17-A(94-21), all manufacturing processes subject to LDAR requirement for 45 CSR 27 have previously been deemed to be Group 1 sources under the above referenced subpart H. The Company was required to commence implementation and comply with LDAR equipment standards required under Phase I of subpart H on or before December 1992. The Company shall implement Phase II and Phase III as prescribed in subpart H. The Director hereby determines compliance with subpart H to constitute BAT. All notices and reports to be submitted to the United States Environmental Protection Agency ("USEPA") under subpart H shall be submitted to the Director (and the USEPA Administrator, if appropriate) in accordance with the requirements of subpart H and CO-R27-97-17-A(94-21). Because the emissions from PA ID 050 and PA ID 103 are low, and because benzene and formaldehyde emissions are required by this consent order to be maintained below the 45CSR27 applicability level, LDAR is not required for these sources.
[45CSR§27-4.1., CO-R27-97-17-A(94-21), III.2, III.3, State-Enforceable Only]

8.1.6 The Company shall operate all emission control equipment at all times when the production unit is in operation, excepting only periods of emergency repairs for the control equipment and unanticipated control equipment failure for reasons beyond the reasonable control of the Company. In the event that the control equipment is inoperable, the production unit shall be shut down as expeditiously as possible. Recognizing the potentially reactive nature of the production unit(s) products, however, in-process material may continue to be processed. The Company shall not begin operation of the production unit when the control equipment is not in operation without being granted a variance by the Director.
[CO-R27-97-17-A(94-21), IV.11, State-Enforceable Only]

8.2. Monitoring Requirements

8.2.1. To demonstrate compliance with Condition 8.1.5.c. of this permit, written records shall be maintained that identify all pumps, compressors, pressure relief valves, valves, sampling connections, open-ended lines, and flanges of a chemical processing unit that are in toxic air pollutant service. These records shall record the results of all monitoring and inspections, emissions control measures applied and the nature, timing, and results of repair efforts in accordance with 40CFR63, Subpart H.
[45CSR§27-10.3., State-Enforceable Only, 45CSR§30-12.7]

8.2.2. Except as provided below, compliance with the requirements of Condition 8.1.5 for the Oxide Adducts Manufacturing Plant shall be demonstrated by adhering to the monitoring, recordkeeping, and reporting provisions in accordance with Section 7.0 of this permit.

(i). Ethylene oxide (EO) and propylene oxide (PO) emissions from the double valve and vent system shall continue to be eliminated through the use of a work practice defined as the double valve and buffer system, which utilizes nitrogen pressure placed between the valves sufficient enough to then push any remaining EO or PO into the process.
[45CSR27, 45CSR34, 40CFR63, Subpart PPP]

8.2.3. Reserved

8.2.4. Reserved

8.2.5. To demonstrate compliance with 45CSR27 "BAT" requirements for emissions of toxic air pollutants from the Specialty Surfactants Plant, the permittee shall adhere to the limitations, monitoring, recordkeeping, and reporting provisions in accordance with Section 5.0 of this permit.
[45CSR13, Permit Number R13-1517, CO-R27-97-17-A(94-21), I.5, State-Enforceable Only]

8.2.6. Reserved

8.2.7. To demonstrate compliance with Regulation 27 Consent Order provisions for benzene and formaldehyde, the permittee must calculate emissions for each calendar year and submit a certification to the WVDAQ by July 1 of each year whether the Regulation 27 BAT threshold amounts were met.
[**CO-R27-97-17-A(94-21), I.1 and I.4., State-Enforceable Only]**

8.2.8. To demonstrate compliance with the Regulation 27 Consent Order provisions for wastewater, the permittee shall comply with the process wastewater provisions of applicable standards from 40 CFR 63, Subparts G and PPP or 40 CFR 63, Subpart FFFF, as applicable under Section 63.2485.
[**CO-R27-97-17-A(94-21), State-Enforceable Only]**

8.3. Testing Requirements

8.3.1. At such reasonable times as the Director may designate, the owner or operator of any chemical processing unit may be required to conduct or have conducted tests to determine the compliance with 45CSR27. Such tests shall be conducted in such manner as the Director may specify or approve and be filed on forms and in a manner specified by the Director. The Director, or his duly authorized representative, may at his option witness or conduct such 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, railing, and ladders to comply with generally accepted good safety practices.
[45CSR§27-10.1., State-Enforceable Only]

8.4. Recordkeeping Requirements

8.4.1. N/A

8.5. Reporting Requirements

8.5.1. Upon the discovery of any TAP not addressed in CO-R27-97-17-A(94-21) and the emissions of which is not known as of the consent order date, the Company shall notify the Director in writing within fifteen (15) days of such discovery. Unless the Director determines these emissions to be insignificant, the Company shall submit a compliance program for control of such emissions within sixty (60) days of the date of notification. Upon a determination by the Director that the proposed compliance program represents BAT, the Director shall, in his or her discretion, consider such program for inclusion as an amendment to the above referenced order or entry as a separate consent order and shall determine the conditions to be met for approval and entry of such consent order or amended consent order. This provision shall not be construed to limit the Director's ability to initiate any enforcement action prescribed by the Code as a result of deficiencies, errors, or omissions in the prior compliance plan submitted by the Company.
[CO-R27-97-17-A(94-21), III.4, State-Enforceable Only]

8.5.2. 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 chemical processing unit owner/operator has knowledge of such emission:

10.4.a. For ethylene oxide, and vinyl chloride, one (1) pound

10.4.b. For acrylonitrile and butadiene, ten (10) pounds

10.4.c. For all other toxic air pollutants, fifty (50) pounds.

The permittee shall file a written report with the Director stating the details of all such incidents resulting in the emission of more than fifty (50) pounds of any toxic air pollutant within seven (7) days of the occurrence. The owner/operator shall submit to the Director, at his request, records of all abnormal toxic air pollutant discharges to the air.
[45CSR§27-10.4., State-Enforceable Only]

8.5.3. Any period of failure or inoperability of air pollution control equipment required by 45CSR27 shall be reported to the Director not later than 24-hours after the owner/operator has knowledge of such failure. Such reports shall be made in conjunction with necessary requests for variances as provided under 45CSR§27-12.
[45CSR§27-10.5., State-Enforceable Only]

8.6. Compliance Plan

N/A

9.0 Source-Specific Requirements [Volatile Organic Compound Sources and Incorporation of 45CSR21 Standards and Consent Order # CO-R21-98-22, ID(s)(Listed in Attachment C)]

9.1. Limitations and Standards

The permittee shall implement an Alternate Emissions Reduction Plan (AERP) in accordance with the compliance plan agreed upon within consent order number, CO-R21-98-22, and any amendments thereof for the control of VOCs. As a result the following emission limits and LDAR program shall apply:

9.1.1. The permittee shall, on and after June 6, 1998, reduce VOC emissions from the sources listed in Attachment A of CO-R21-98-22 as amended by UCC letter dated October 10, 2006 from J. L. Blatt, UCC Responsible Care Leader to John A Benedict, Director of WVDAQ, and incorporated herein as Attachment C; and shall continue to comply with such emissions reduction requirements and the emission limits set forth in Attachment A of CO-R21-98-22, as revised, as expressedly provided by the referenced consent order. Compliance with the emission limits set forth in CO-R21-98-22, as revised, and included herein as Attachment C shall be demonstrated by test or monitoring data, approved emission factors, material balances, and/or representative calculations in accordance with 45CSR21.
[CO-R21-98-22, III.1. State-Enforceable Only]

9.1.2. Unless otherwise expressly exempted from Leak Detection and Repair ("LDAR") requirements in CO-R21-98-22, the COMPANY hereby agrees to implement and maintain LDAR programs for the reduction of fugitive VOC emissions in all FACILTY manufacturing process units subject to 45CSR21 Section 40 producing a product or intermediate or final, in excess of 1000 mega grams (1100 tons) per year in accordance with the applicable methods and criteria of 45CSR21 Section 37 or alternative procedures approved by the DIRECTOR. This requirement shall apply to all units irrespective of whether or not such units produce as intermediates or final products, substances on the list contained within 40CFR60, 40CFR61, or 40CFR63. The permittee will follow the applicable requirements of 45CSR§21-37 for LDAR requirements for all equipment except for the North Charleston Distribution Terminal, the Chemical Mixing Area, and the fugitive emission components associated with the equipment listed below:

Process Unit	Process ID	Equipment for which LDAR monitoring is not required
Specialty Surfactants	1000	Raw material tanks 8332, 8354, 8333, 8353, 8363, Intermediate tanks 8323, 8343, 8344, 8324, 8382 Neat products tanks 8373, aqueous product tanks 8364 and 8383, and the X-200 process system including the 8700 reactor and tank 8381
Oxide Adducts	700	Product tanks and Drop tanks 9614, 9616, 9617, 9624, And 9627
Polyvinyl Acetate GB	225	Fugitive Components in molten PVA service downstream of final dryer (excluding components subject to Regulation 27 Consent Order)

In addition, those components in Specialty Surfactants Process area 1000 that are in light liquid service less than 300 hours per year will be subject only to the heavy liquid LDAR.

Although the above listed units are exempted from the frequency of testing as described in 45CSR§21-37, LDAR testing of these units will be required every three years, upon request by the Director or his or her duly

authorized representative. Waiver or rescheduling of LDAR testing every three years may be granted by the Director if a written request and justification are submitted by the permittee. Units exempted from LDAR monitoring as required by 45CSR§21-37, are not exempted from testing which may be required under any other applicable State or Federal regulations, orders or permits. The Director may periodically require verification by the Permittee that maintenance and repair procedures associated with approved exemptions are continued and practiced.
[CO-R21-98-22, III.2. State-Enforceable Only]

9.1.3. At all times, including periods of start-up, shutdown, and malfunction, the permittee shall maintain and operate the VOC emitting sources and associated air pollution control devices subject to the provisions of CO-R21-98-22 in a manner consistent with good air pollution control practices for minimizing emissions. Compliance with the emission limits set forth in Attachment C of this Title V Permit shall be demonstrated at all times unless exception periods are provided for in accordance with this paragraph. The permittee shall comply with 45CSR§21-5.2 and 45CSR§21-9.3 with respect to all periods of non-compliance with the emission limitations and emission reduction request set forth in Attachment C resulting from unavoidable malfunctions of equipment. In the event that the emission limitation and/or emission reduction requirements for a source listed in Attachment C cannot be met during route start-up, shutdowns, or routine maintenance activities, the permittee shall, within 180 days of June 6, 1998, submit an operation and VOC emissions mitigation plan for such periods. This plan is included within the Title V Permit as Attachment D. The Director may require reasonable revisions to the permittee's plan if he or she finds that 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 permittee's plan submitted under this provision shall not be subject to the variance approval process of 45CSR§21-9.3 provided that the permittee maintains test, monitoring, operating, and maintenance records containing sufficient information and detail to enable the permittee and the Director to verify compliance with the plan and associated VOC emission 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.
[CO-R21-98-22, III.3. State-Enforceable Only]

9.1.4. The permittee agrees that construction or modification of any emission source having maximum theoretical emissions of VOC equaling or exceeding six pounds per hour after May 1, 1996 shall require the prior approval by the Director of an emission control plan that meets the definition of Reasonably Available Control Technology (RACT) on a case-by-case basis for both fugitive and non-fugitive VOC emissions from such source. All RACT control plans for sources constructed or modified (as defined herein) after May 1, 1996 shall be embodied in a permit in accordance with 45CSR13 or 45CSR30. Physical changes to or changes in the method of operation of an existing emission source listed or required to be listed in Attachment C which do not result in an increase in its potential to emit VOCs in a cumulative amount of two pounds per hour or five tons per year or more (with cumulative accounting commencing on June 6, 1998) shall not require submittal of a RACT plan, provided that, the permittee continues to comply with its facility wide VOC emission reduction requirement (RACM or AERP). For existing sources or emission units with current maximum theoretical emissions below the threshold of six pounds per hour, the permittee shall not be required to submit a RACT plan for that particular source, if a modification causes an increase in the maximum emissions that results in the source exceeding the six pound per hour level for the first time, as long as the increase is less than the two pounds per hour or five tons per year.
[CO-R21-98-22, III.7. State-Enforceable Only]

9.1.5. Reports of excess emissions. -- Except as provided in 45CSR§21-9.3., 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]

9.1.6. Variance. -- If the provisions of this regulation 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 this regulation 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 permittee and approved by the Director. During such time periods, the permittee shall take all reasonable and practicable steps to minimize VOC emissions.
[45CSR§21-9.3]

9.1.7. In the event that the DAQ finds that a violation of the National Ambient Air Quality Standards (NAAQS) for ozone (that were in effect on or before May 1, 1996) has occurred after the effective date of Consent Order CO-R21-98-22, the permittee agrees to submit to the DAQ a plan within one hundred eighty (180) days of notification of such a finding for complete, FACILITY-wide implementation of RACT requirements and shall fully implement such plan within two (2) years of its approval by the DAQ.
[CO-R21-98-22, III.9. State-Enforceable Only.]

9.1.8. Unless granted a variance pursuant to 45CSR§21-9.3, the permittee shall operate all emission control equipment for those emission sources listed in Attachment C, 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.
[CO-R21-98-22, IV.7. State-Enforceable Only.]

9.1.9 The permittee shall operate all solvent metal cleaners in accordance with the provisions of 45CSR§§21-30.3.a.4 through 30.3.a.9 as follows:

4. Provide a permanent, legible, conspicuous label, summarizing the operating requirements;

5. Store waste solvent in covered containers;

6. Close the cover whenever parts are not being handled in the cleaner;

7. Drain the cleaned parts until dripping ceases;

8. If used, supply a solvent spray that is a solid fluid stream (not a fine, atomized, or shower-type spray) at a pressure that does not exceed 10 pounds per square inch gauge (psig); and

9. Degrease only materials that are neither porous nor absorbent.

[State Enforceable Only; 45CSR§21-30.3.a.4 through §30.3.a.9, Equipment ID (Building 307 Shop)]

9.1.10 State Rule 45CSR21, stage I vapor recovery requirements apply to the permittee's underground gasoline storage tank as follows:

45CSR§21-23.1.c. Any gasoline dispensing facility with a throughput of less than 38,000 L (10,000 gal) per month is subject only to the provisions of sections 45CSR§21-23.2.a.1. and 45CSR§21-23.3.

45CSR§21-23.2. Standards.

45CSR§21-23.2.a. The owner or operator of each gasoline dispensing facility subject to this section 23 shall comply with the following requirements:

1. All gasoline storage vessels at gasoline dispensing facilities shall be loaded by submerged fill;
[45CSR§21-23.2.a.1., Equipment ID (T-1490)]

9.2. Monitoring, Testing, Recordkeeping, and Reporting Requirements

9.2.1. The monitoring requirements specified within section 5.0 for Specialty Surfactants, 7.0 for Oxide Adducts, and 10.0 for Gum Base of this permit shall also demonstrate compliance with the requirements of section 9.1 above. **[45CSR13, Permit Number R13-1517, 40CFR63, Subpart PPP, Subpart H,F,G]**

9.2.2. In accordance with 45CSR21the permittee shall keep the following records pertaining to its underground gasoline tank.:

45CSR§21-23.3. Recordkeeping. -- The owner or operator of each gasoline dispensing facility subject to this section 23 shall maintain daily records showing the quantity of all gasoline delivered to the site. These records shall be retained for at least 3 years in a readily accessible location and shall be made available to the Director upon verbal or written request.

[45CSR§21-23.3., Emission Unit ID (T-1490)]

9.3. Compliance Plan

9.3.1. N/A

10.0 Source-Specific Requirements [Gum Base Plant (Polyvinyl Acetate, PVA) - (See Section 1.0 for Gum Base Plant Equipment List)]

10.1. Limitations and Standards

10.1.1. Particulate matter emissions from the Y-228 packaging system shall not exceed 2.28 lb/hr PM from either emission point E228 or E229.
[45CSR§7-4.1, Emission Point ID (E228, E229)]

10.1.2. Particulate emissions from emission points E228 and E229 shall not exceed an opacity of 20%. The 20% opacity provisions of subsection 3.1 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.
[45CSR§7-3.1 & 3.2, Emission Point ID (E228, E229)]

10.1.3. The following point sources, which emit volatile organic compounds (VOCs) are limited in accordance with 45CSR21 and Consent Order # CO-R21-98-22 within section 9.0 of the Title V permit: T-3021, T-3030, T-3031, T-3080, C-650R. These sources along with others feed the vent header system.
[45CSR§21-40, CO-R21-98-22, Emission Unit ID (T-3021, T-3030, T-3031, T-3080, C-650R)]

10.1.4. **MON MACT.** The permittee shall comply with the applicable sections of the general requirements for emission limits, work practice standards and compliance requirements as specified by §63.2450. In accordance with the NOC status report dated October 8, 2008 the permittee identified the following affected sources along with their respective requirements:

- Storage vessel T-3014 shall be operated as Group 2 as defined by the MON Rule.
- Tank truck loading rack (Rack ID L-221) used to load organic liquids containing hazardous air pollutants shall be operated as a Group 2 transfer operation as defined by the MON Rule.

[45CSR34, 40 C.F.R. §63.2450]

10.1.5. **MON MACT.** The permittee shall comply with the applicable general provisions of 40 C.F.R.63 Subpart A as specified by 40 C.F.R. §63.2540 and Table 12 of Subpart FFFF.
[45CSR34, 40 C.F.R. §63.2540; 40 C.F.R. § 63 Table 12 to Subpart FFFF]

10.1.6. **MON MACT.** The permittee shall comply with the applicable continuous process vent standards of the MON MACT as specified by 40 C.F.R. §63.2455.

As indicated within NOC status report dated October 8, 2008, all Group 1 continuous process vents within the Gum Base Plant shall be routed to the island powerhouse, to either boiler B25 or B27 via a closed vent system. In accordance with the exceptions granted within 40 C.F.R. 63, Subpart SS, the permittee shall introduce the process vent gas into the combustion flame zone. It was also noted that because the boilers are greater than 150 MMBtu/hr, heat input, hence, performance testing and continuous monitoring are not required.

Upon issuance of R13-2033C the permittee can now also use Boiler B26 to control these same Group 1 process vents. An updated NOCS will be submitted after commencement of burning vent gases in Boiler B26. In accordance with the MON an update will be sent with the semi-annual report covering the period during which the change is implemented.

[45CSR34, 40 C.F.R. §63.2455, §63.988(b)(2)(ii), §63.988(c), Emission Units (C-501, C-650R, Y-520, Y-525)]

10.1.7. **MON MACT.** The permittee shall comply with the applicable storage tank standards of the MON MACT as specified by 40 C.F.R. §63.2470.
As specified by the permittee's NOC status report dated October 8, 2008 the following surge control vessel requires control to the same level as that for Group 1 storage vessels as specified by 40 C.F.R. §63.2450(r).

Tank (T-3080) Surge Control Vessel
The T-3080 tank vent shall be routed to the island powerhouse, to either boiler B25, B26 or B27 via a closed vent system. In accordance with the exception granted within 40 C.F.R. 63, Subpart SS, the permittee shall introduce the process vent gas into the combustion flame zone. It was also noted that because the boilers are greater than 150 MMBtu/hr heat input, hence, performance testing and continuous monitoring are not required.
[45CSR34, 40 C.F.R. §63.2470, §63.985(b)(2)(i), Emission Units (T-3080)]

10.1.8. **MON MACT.** The permittee shall comply with the standards for control of HAPs from Group 1 Storage Vessels as specified by 40 C.F.R. §63.2470.

Tank (T-9011) Storage Vessel
As indicated within the NOC report the T-9011 tank shall comply with the MON by implementing the requirements of 40 C.F.R. 63, Subpart WW for internal floating roof tanks. In addition to the design requirements of Subpart WW the permittee is required to conduct annual visual inspections through fixed roof openings and conduct an internal inspection each time the tank is completely emptied and degassed or at least once every 10 years.
[45CSR34, 40 C.F.R. §63.2470, §63.1062, Emission Units (T-9011)]

10.1.9. **MON MACT.** The permittee shall comply with the applicable equipment leak standards of the MON MACT as specified by 40 C.F.R. §63.2480(b), subpart H of 40 C.F.R. 63. As a result the permittee has defined the following schedule within their NOC report.

Phase	Planned Schedule for Implementation On or Before
Phase I – Beginning on the compliance date	May 10, 2008
Phase II – Beginning no later than 1 year after the compliance date	May 10, 2009
Phase III – Beginning no later than 2 ½ years after the compliance data	November 8, 2010

[45CSR34, 40 C.F.R. §63.2480]

10.1.10. **MON MACT.** The permittee shall comply with the applicable provisions for wastewater as specified by 40 C.F.R. §63.2485. As a result, the permittee shall develop and maintain a maintenance wastewater plan that is implemented per §63.2485(a) and §63.105, except as specified in §63.2485
[45CSR34, 40 C.F.R. §63.2485]

10.1.11. **MON MACT.** The permittee shall prepare and implement a startup, shutdown, and malfunction (SSM) plan to minimize HAP emissions for the Gum Base Plant. This plan shall include, but may not be limited to malfunctions that cause Boilers 25, 26 or 27 to not be available to control emissions from Group 1 continuous process vents and surge control vessel (T3080).
[45CSR34, 40 C.F.R. §63.6(e)(3)]

10.2. Monitoring Requirements

10.2.1. The Gum Base (PVA) unit shall monitor the number of hours operated when the Island Powerhouse is not available to receive process vent gases.
[45CSR§21-40, CO-R21-98-22, 45CSR§30-5.1.c., Emission Unit ID (B25, B26, B27)]

10.2.2. To demonstrate compliance with Condition 10.1.2, the permittee shall conduct monthly visual emission checks of the baghouse filter vents (E228 and E229) in order to assess whether visible emissions are present. If visible emissions are noted and corrective action is not taken within 72 hours opacity must be quantified within 5 days of the original observation in accordance with 45SCR§7A-2..
[45CSR§7-3.1 & 3.2, 45CSR§30-5.1.c., Emission Point ID (E228, E229)]

10.3. Testing Requirements

N/A

10.4. Recordkeeping Requirements

10.4.1. Production records shall be maintained, kept up to date, and made readily available to verify the type and amount of products produced within the Gum Base (PVA) unit.
[45CSR§30-5.1.c]

10.4.2. Compliance with particulate matter emission limits in Condition 10.1.1 shall be demonstrated by maintaining readily available records of the amount of material collected by particulate filters C-218 and C-219. The permittee shall also keep records of all maintenance activities conducted on this control equipment.
[45CSR§7-4.1, 45CSR§30-5.1.c., Emission Point ID (E228, E229)]

10.4.3. The permittee shall maintain, keep up to date, and make readily available the visual emission checks and/or opacity test results as required by 10.2.2.
[45CSR§7-3.1 & 3.2, 45CSR§30-5.1.c., Emission Point ID (E228, E229)]

10.4.4. The Gum Base (PVA) unit shall maintain an operating record corresponding with 10.2.1 to document all times when the Gum Base (PVA) unit is operating and the Island Powerhouse is not available to receive process vent gases. This documentation shall be summarized into monthly reports, which tabulate the duration of the excess emission scenario on a calendar year basis.
[45CSR§21-40, CO-R21-98-22, 45CSR§30-5.1.c., Emission Unit ID (B25, B26, B27)]

10.4.5. **MON MACT.** The permittee shall maintain the following records to demonstrate compliance with MON requirements and this permit.

- Maintain supporting information used to determine MON initial applicability to process vents, storage vessels, equipment leaks, transfer operations, heat exchangers, process wastewater and in-process aqueous liquid streams.

- Maintain operating scenarios and calculations of uncontrolled hazardous air pollutant emissions for process vents used to prepare the NOCS.

● Maintain records of monitoring and inspections results for equipment component leak detection and repair as required by 40 CFR 63, Subpart H.

● Maintain a record each time a safety device is opened to the air that contains hazardous air pollutants to avoid unsafe conditions.

● Maintain a copy of the following reports and notifications:
- Notice of initial notification
- Notification of compliance status report
- Semiannual compliance reports including information regarding process changes as specified by §63.2520(e)(10).

● Maintain a record of startup, shutdown, and malfunction events.

[45CSR34, 40C.F.R.§63.2525]

10.4.6. **MON MACT**. In order to demonstrate compliance with the internal floating roof requirements specified within Title V permit condition 10.1.8,(Tank 9011) the permittee shall maintain records of tank dimensions and capacity, maintain records of inspection results, and keep records of floating roof landings, when roof refloated and whether refloating was continuous.
[45CSR34, 40 C.F.R. §63.2470, §63.1065, Emission Units (T-9011)]

10.5. Reporting Requirements

10.5.1. M**ON MACT**. The permittee shall submit a semiannual compliance report that includes the information specified by §63.2520(e) and the results of equipment leak monitoring and repair conducted per 40 CFR 63 Subpart H.
[45CSR34, 40 C.F.R. §63.2520]

10.5.3. **MON MACT.** In order to demonstrate compliance with the internal floating roof requirements specified within Title V permit condition 10.1.8 (Tank 9011), the permittee shall notify WVDAQ at least 30 days prior to planned tank internal inspections, provide regulatory notification prior to refilling storage vessel, and report failed inspections in semi-annual compliance reports. If an inspection is unplanned and the permittee could not have known about the inspection 30 days in advance, then the permittee shall notify the Director at least 7 days before the inspection. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, the notification including written documentation may be in writing and so that it is received by the Director at least 7 days before the inspection.
[45CSR34, 40 C.F.R. §63.2470, §63.1066, Emission Units (T-9011)]

10.6 Compliance Plan

N/A

11.0. Source-Specific Requirements for [Groundwater/Soil Remediation Process, Emission Point ID (SVE1)]

11.1. Limitations and Standards

11.1.1. All emissions of regulated pollutants from the Vapor Extractive System (A42VE) shall be routed to the Thermal Oxidizer (A42INC).
[45CSR13, Permit Number R13-2840, Condition 4.1.1, Emission Point ID (SVE1)]

11.1.2 All emissions of regulated pollutants from the Thermal Oxidizer shall be routed to the Packed Bed Scrubber (A42PBS).
[45CSR13, Permit Number R13-2840, Condition 4.1.2, Emission Point ID (SVE1)]

11.1.3 Criteria pollutant emissions vented from the Packed Bed Scrubber A42PBS shall not exceed the following:

	lb/hr	tpy
NO_x	0.10	0.44
CO	0.44	1.92
SO_2	0.01	0.02
PM	0.01	0.01
VOC	3.1	13.5

[45CSR13, Permit Number R13-2840, Condition 4.1.3, Emission Point ID (SVE1)]

11.1.4 Hazardous Air Pollutant emissions vented from the Packed Bed Scrubber A42PBS shall not exceed the following:

	lb/hr	tpy
1,1,2-Trichloroethane	0.20	0.84
Vinylidene Chloride	0.15	0.65
Ethylene Dichloride	1.53	6.67
Trichloroethene	0.39	1.68
HCl	0.35	1.51
Other Organic HAPs	0.18	0.40
Total HAPs	**2.8**	**11.75**

[45CSR13, Permit Number R13-2840, Condition 4.1.4, Emission Point ID (SVE1)]

11.1.5 The regenerative thermal oxidizer shall be designed, operated and maintained so as to reduce emissions of VOCs by at least 98% or to less than 3.1 pounds per hour.

11.1.5.1 The thermal oxidizer shall be operated with a firebox temperature of at least 1400°F at all times when the contaminated vent gas is being combusted. Compliance with this requirement shall be

based on a daily average.
[45CSR13, Permit Number R13-2840, Condition 4.1.5, Emission Point ID (SVE1)]

11.1.6 The packed bed scrubber shall be designed, operated and maintained so as to reduce emissions of HCl by at least 99.5% or to no more than 0.35 pounds per hour.

11.1.6.1 The packed bed scrubber shall be operated with a daily average pH of the inlet liquid of at least 7.0 when the contaminated vent gas is being combusted.
[45CSR13, Permit Number R13-2840, Condition 4.1.6, Emission Point ID (SVE1)]

11.1.7 Visible emissions from the thermal oxidizer (TO-1) shall not exceed twenty percent (20%) opacity except that an opacity level of up to forty percent (40%) is permitted during startup periods during the first eight (8) minutes of operation of the unit.
[45CSR13, Permit Number R13-2840, Condition 4.1.7, Emission Point ID (SVE1)]
[45CSR§6-4.3.] & [45CSR§6-4.4.]

11.1.8. **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 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, Permit Number R13-2840, Condition 4.1.8, Emission Point ID (SVE1)]
[45CSR§13-5.11.]

11.2. Testing Requirements

11.2.1. Within 60 days of the time the Vapor Extractive System begins operation and at least once per 6 months from that point forward the permittee shall perform testing to determine VOC emission rates to the atmosphere. Said testing may be done using a photo ionization detector or other suitable detector or a sample may be collected and sent to a laboratory for analysis. At the time of the aforementioned testing exhaust flow rates shall also be determined in order to calculate hourly VOC emissions.
[45CSR13, Permit Number R13-2840, Condition 4.2.1, Emission Point ID (SVE1)]

11.2.2 At least monthly visual particulate emissions checks of the packed bed scrubber exhaust stack will be conducted. These checks shall be conducted during periods of operation and for a sufficient time interval to determine if the unit has visible emissions using the procedures outlined in 40 CFR 60, Appendix A, Method 22. If no visible emissions are noted during four consecutive monthly observation periods, visual emissions checks will be conducted quarterly commencing with the next calendar quarter. If no visible emissions are noted during four consecutive calendar quarters, visual checks may be conducted semiannually. If sources of visible emissions are identified during the survey or at any other time, the permittee shall conduct a 40 CFR 60, Appendix A, Method 9 evaluation within 24 hours and restart monthly visual emission checks. A Method 9 evaluation shall not be required if the visible emission condition is corrected within 24 hours and the incinerator is operated at normal operating conditions. A record of each visible emission check required above shall be maintained on site. Said record shall include but not be limited to, the date, time, name of emission unit, the applicable visible emissions requirement, the results of the check, what action (s), if any, was/were taken, and the name of the observer.
[45CSR13, Permit Number R13-2840, Condition 4.2.2, Emission Point ID (SVE1)]

11.2.3 At least once per day the pH of the scrubber liquid shall be measured.
[45CSR13, Permit Number R13-2840, Condition 4.2.3, Emission Point ID (SVE1)]

11.3. Monitoring and Recordkeeping Requirements

11.3.1. **Record of Monitoring.** 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.
[45CSR13, Permit Number R13-2840, Condition 4.3.1, Emission Point ID (SVE1)]

11.3.2. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13, Permit Number R13-2840, Condition 4.3.2, Emission Point ID (SVE1)]

11.3.3. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, 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, Permit Number R13-2840, Condition 4.3.3, Emission Point ID (SVE1)]

11.3.4. The permittee shall maintain the following records relating to the RTO.

11.3.4.1 Daily average firebox temperature. Said average shall be determined by monitoring the temperature every 15 minutes to determine an hourly average and then averaging the days 24 hourly averages.

11.3.4.2 Completed maintenance and calibrations.

11.3.4.3 Copy of the testing results required by condition 4.2.1 of this permit.

11.3.4.4 Copy of the site specific monitoring plan. The plan may refer to the manufacturers operation and maintenance manual or other documents for procedures covering operation, maintenance, calibrations and inspections.

11.3.4.5 Records of monitoring equipment downtime and corrective actions taken.
[45CSR13, Permit Number R13-2840, Condition 4.3.4, Emission Point ID (SVE1)]

11.3.5 The permittee shall maintain the following records relating to the packed bed scrubber.

11.3.5.1 Daily average liquid flow rate of the scrubber. Said average shall be determined by monitoring the flow rate every 15 minutes to determine an hourly average and then averaging the day's 24 hourly averages.

11.3.5.2 Daily pH of the scrubber liquid.

11.3.5.3 Completed maintenance and calibrations.

11.3.5.4 Copy of the site specific monitoring plan. The plan may refer to the manufacturers' operation and maintenance manual or other documents for procedures covering operation, maintenance, calibrations and inspections.

11.3.5.5 Records of monitoring equipment downtime and corrective actions taken.
[45CSR13, Permit Number R13-2840, Condition 4.3.5, Emission Point ID (SVE1)]

11.4. Reporting Requirements

11.4.1. Semiannual monitoring reports will be submitted on or before September 15 for the reporting period of 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 the permit requirements will be clearly identified in such reports.
[45CSR13, Permit Number R13-2840, Condition 4.4.1, Emission Point ID (SVE1)]

12.0 Source-Specific Requirements [Chemical Mixing (See Section 1.0 for Equipment List)]

12.1. Limitations and Standards

12.1.1. **MON MACT.** The permittee shall comply with the following emission limits, work practice standards and compliance requirements as specified by §63.2450.

● Rail car loading rack (Rack ID RC050L) and tank truck loading rack (Rack ID TT050L) used to load organic liquids containing hazardous air pollutants shall be operated as Group 2 transfer operations as defined by the MON Rule.

● Storage vessel T9000 shall be operated as Group 2 as defined by the MON Rule.
[45CSR34, 40 C.F.R. §63.2450]

12.1.2. **MON MACT.** The permittee shall comply with the applicable general provisions of 40 C.F.R.63 Subpart A as specified by 40 C.F.R. §63.2540 and Table 12 of Subpart FFFF.
[45CSR34, 40 C.F.R. §63.2540; 40 C.F.R. § 63 Table 12 to Subpart FFFF]

12.1.3. **MON MACT.** The permittee shall comply with the applicable equipment leak standards of the MON MACT as specified by 40 C.F.R. §63.2480(b), subpart H of 40 CFR 63. As a result, the permittee has defined the following schedule within their NOC report.

Phase	Planned Schedule for Implementation On or Before
Phase I – Beginning on the compliance date	May 10, 2008
Phase II – Beginning no later than 1 year after the compliance date	May 10, 2009
Phase III – Beginning no later than 2 ½ years after the compliance data	November 8, 2010

[45CSR34, 40 C.F.R. §63.2480]

12.1.4. **MON MACT.** The permittee shall comply with the following provisions for wastewater streams as specified by 40 C.F.R. §63.2485.

● The permittee shall develop and maintain a maintenance wastewater plan that is implemented per §63.2485(a) and §63.105.
[45CSR34, 40 C.F.R. §63.2485]

12.2. Monitoring Requirements

12.2.1. Reserved

12.3. Testing Requirements

12.3.1. Reserved

12.4. Recordkeeping Requirements

12.4.1. **MON MACT.** The permittee shall maintain the following records to demonstrate compliance with the MON and this permit.

● Maintain supporting information used to determine MON initial applicability to process vents, storage vessels, equipment leaks, transfer operations, heat exchangers, process wastewater and in-process aqueous liquid streams.

● Maintain operating scenarios and calculations of uncontrolled hazardous air pollutant emissions for process vents used to prepare the NOCS.

● Maintain records of monitoring and inspections results for equipment component leak detection and repair as required by 40 CFR 63, Subpart H.

● Maintain a record each time a safety device is opened to the air that contains hazardous air pollutants to avoid unsafe conditions.

● Maintain a copy of the following reports and notifications:
- Notice of initial notification
- Notification of compliance status report
- Semiannual compliance reports including information regarding process changes as specified by §63.2520(e)(10).

[45CSR34, 40C.F.R.§63.2525]

12.5. Reporting Requirements

12.5.1. **MON MACT**. The permittee shall submit a semiannual compliance report that includes the information specified by §63.2520(e) and the results of equipment leak monitoring and repair conducted per 40 CFR 63 Subpart H.
[45CSR34, 40 C.F.R. §63.2520]

12.6 Compliance Plan

N/A

13.0 Source-Specific Requirements [Emergency Engines under 40 C.F.R. 63, Subpart ZZZZ (RICE); Compressors and Fire Water Pumps, Emission Points: (DP01E, DP02E, DP03E)]

13.1. Limitations and Standards

13.1.1. If you have an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations and operating limitations no later than May 3, 2013.
[40 C.F.R. §63.6595(a)(1); 45CSR34, Emission Points (DP01E, DP02E)]

13.1.2. For emergency stationary CI RICE[1], you must meet the following requirements, except during periods of startup:

a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[2]
b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first;
c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]

During periods of startup you must minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.

[1] If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of 40 C.F.R. 63 Subpart ZZZZ, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

[2] Sources have the option to utilize an oil analysis program as described in 40 C.F.R. §63.6625(i) (permit condition 13.1.6.) in order to extend the specified oil change requirement in Table 2c of 40 C.F.R. 63 Subpart ZZZZ.

[3] Sources can petition the Administrator pursuant to the requirements of 40 C.F.R. §63.6(g) for alternative work practices.

[40 C.F.R. §63.6602, Table 2c, Row 1; 40 C.F.R. §63.6625(h); 45CSR34, Emission Points (DP01E, DP02E)] *This condition is subject to the compliance date specified in condition 13.1.1.*

13.1.3. At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.
[40 C.F.R. §63.6605(b); 45CSR34, Emission Points (DP01E, DP02E)] *This condition is subject to the compliance date specified in condition 13.1.1.*

13.1.4. If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
[40 C.F.R. §§63.6625(e) and 63.6625(e)(2); 40 C.F.R. §63.6640(a), Table 6, Row 9; 45CSR34, Emission Points (DP01E, DP02E)] *This condition is subject to the compliance date specified in condition 13.1.1.*

13.1.5. If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.
[40 C.F.R. §63.6625(f); 45CSR34, Emission Points (DP01E, DP02E)] *This condition is subject to the compliance date specified in condition 13.1.1.*

13.1.6. If you own or operate a stationary CI engine that is subject to the work, operation or management practices in item 1 of Table 2c to 40 C.F.R. 63 Subpart ZZZZ (permit condition 13.1.2.), you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c to 40 C.F.R. 63 Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c to 40 C.F.R. 63 Subpart ZZZZ (permit condition 13.1.2.a.). The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine (permit condition 13.1.4.).
[40 C.F.R. §63.6625(i); 45CSR34, Emission Points (DP01E, DP02E)] *This condition is subject to the compliance date specified in condition 13.1.1.*

13.1.7. *Requirements for emergency stationary RICE.* If you own or operate an existing emergency stationary RICE with a site rating of <u>less than or equal to 500 brake HP</u> located at a major source of HAP emissions, you must operate the emergency stationary RICE according to the requirements in paragraphs (i) through (iii) of this permit condition. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (i) through (iii) of this permit condition, is prohibited. If you do not operate the engine according to the requirements in paragraphs (i) through (iii) of this permit condition, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.

(iii) You may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this condition 13.1.7.(iii), as long as the power provided by the financial arrangement is limited to emergency power.

[40 C.F.R. §63.6640(f)(1); 45CSR34, Emission Points (DP01E, DP02E)] *This condition is subject to the compliance date specified in condition 13.1.1*

13.1.7. If you own or operate an emergency stationary RICE with a site rating <u>of more than 500 brake HP</u> located at a major source of HAP emissions that was installed prior to June 12, 2006, you must operate the engine according to the conditions described in paragraphs (f)(2)(i) through (iii) of this section. If you do not operate the engine according to the requirements in paragraphs (f)(2)(i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the manufacturer, the vendor, or the insurance company associated with the engine. Required testing of such units should be minimized, but there is no time limit on the use of emergency stationary RICE in emergency situations and for routine testing and maintenance.

(iii) You may operate your emergency stationary RICE for an additional 50 hours per year in non-emergency situations. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
[40 C.F.R. §63.6640(f)(2); 45CSR34, Emission Points (DP03E)] *This condition is subject to the compliance date specified in condition 13.1.1*

13.2. Monitoring Requirements

13.2.1. Reserved.

13.3. Testing Requirements

13.3.1. Reserved.

13.4. Recordkeeping Requirements

13.4.1. You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan (permit condition 13.1.4.) if you own or operate an existing stationary emergency RICE.
[40 C.F.R. §§63.6655(e) and 63.6655(e)(2); 45CSR34, Emission Points (DP01E, DP02E)] *This condition is subject to the compliance date specified in condition 13.1.1.*

13.4.2. If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation.
[40 C.F.R. §§63.6655(f) and 63.6655(f)(1); 45CSR34, Emission Points (DP01E, DP02E)] *This condition is subject to the compliance date specified in condition 13.1.1.*

13.4.3. **Form and Retention of Records for 40 C.F.R. 63 Subpart ZZZZ**.

(a) Your records must be in a form suitable and readily available for expeditious review according to 40 C.F.R. §63.10(b)(1).

(b) As specified in 40 C.F.R. §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 C.F.R. §63.10(b)(1).

[40 C.F.R. §§63.6660(a), (b), and (c); 45CSR34, Emission Points (DP01E, DP02E)] *This condition is subject to the compliance date specified in condition 13.1.1.*

13.5. Reporting Requirements

13.5.1. You must report each instance in which you did not meet each limitation in Table 2c to 40 C.F.R. 63 Subpart ZZZZ (permit condition 13.1.2.). These instances are deviations from the emission and operating limitations in 40 C.F.R. 63 Subpart ZZZZ. These deviations must be reported according to the requirements in 40 C.F.R. §63.6650 (permit condition 13.5.3.).
[40 C.F.R. §63.6640(b); 45CSR34, Emission Points (DP01E, DP02E)] *This condition is subject to the compliance date specified in condition 13.1.1.*

13.5.2. You must also report each instance in which you did not meet the requirements in Table 8 to 40 C.F.R. 63 Subpart ZZZZ that apply to you.
[40 C.F.R. §63.6640(e); 45CSR34, Emission Points (DP01E, DP02E)] *This condition is subject to the compliance date specified in condition 13.1.1.*

13.5.3. The permittee must report all deviations as defined in 40 C.F.R. 63 Subpart ZZZZ in the semiannual monitoring report required by permit condition 3.5.6.
[40 C.F.R. §63.6650(f); 45CSR34, Emission Points (DP01E, DP02E)] *This condition is subject to the compliance date specified in condition 13.1.1.*

13.6. Compliance Plan

13.6.1. Reserved.

14.0 Source-Specific 40 C.F.R. 64 (CAM) Requirements for [Groundwater/Soil Remediation Process, Emission Point ID (SVE1)]

14.1. Limitations and Standards

14.1.1. In order to demonstrate compliance with the VOC and HCl limitations defined within permit conditions 11.1.3 and 11.1.4, the vapor extraction system (A42VE) and its thermal oxidizer and packed bed scrubber shall comply with the CAM requirements defined within this section.
[40 C.F.R. 64, Emission Point (SVE1)]

14.2. Monitoring Requirements

14.2.1. The permittee shall implement a CAM program for the thermal oxidizer (A42INC) and the packed bed scrubber (A42PBS) based on the following performance indicators:

a. The thermal oxidizer shall be operated in a manner to maintain a daily average combustion temperature of at least 1,400 degrees F. The permittee shall continuously monitor the combustion zone temperature by using a thermocouple or equivalent temperature monitoring device with a minimum accuracy of plus or minus 2%.
b. The packed bed scrubber shall be operated in a manner to ensure the daily pH monitoring value of the recirculated scrubber liquor is maintained to a level of at least 7.0. Additionally, the scrubber shall maintain a daily average liquor flow to the packed bed of at least 30 gpm. Liquid flow rate shall be monitored continuously, which shall mean at least once every 15 minutes. The accuracy of the pH measuring device shall not exceed plus or minus 0.6 and the accuracy of the flow meter shall not exceed 0.4%.

[40 C.F.R. 64, 45CSR§30-5.1.c]

14.2.2. **Proper Maintenance.** The permittee shall maintain monitoring at all times, including maintaining necessary spare parts for routine repairs of the monitoring equipment. All monitoring devices shall be calibrated in accordance with manufacturer's specifications.
[45CSR§30-5.1.c.; 40 C.F.R. §64.7(b)]

14.2.3. **Response to Excursions or Exceedances.** In accordance with the operation of the thermal oxidizer and packed bed scrubber an excursion shall be defined as any daily average outside of the operating limits defined within 14.2.1.

a. Upon detecting an excursion or exceedance, the permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or below the applicable emission limitation or standard, as applicable.
b. Determination of whether the permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.
[40 C.F.R. §64.7(d); 45CSR§30-5.1.c.]

14.2.4. **Documentation of Need for Improved Monitoring** - After approval of monitoring under 40 C.F.R. Part 64, if the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the result of compliance or performance testing/design evaluation document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Director and, if necessary, submit a proposed modification to the permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.
[40 C.F.R. §64.7(e); 45CSR§30-5.1.c.]

14.2.5. **Quality Improvement Plan (QIP)**

a. Based on the results of a determination made under permit condition 14.2.3.b, 14.2.5.b, or 14.2.5.c the Administrator or the Director may require the permittee to develop and implement a QIP. If a QIP is required, it shall be developed, implemented, and modified as required according to 40 C.F.R. §§64.8(b) through (e). Refer to permit condition 14.5.1(b)(iii) for the reporting required when a QIP is implemented.

b. If five (5) percent or greater of the time, is documented as monitoring downtime during a calendar quarter, the permittee shall develop and implement a QIP. The Director may waive this QIP requirement upon a demonstration that the cause(s) of reduced data availability have been corrected.

c. If the permittee observes an excursion of the daily average operating limits defined for each control device for three or more days during a calendar quarter, the permittee shall develop and implement a QIP.

[40 C.F.R. §§ 64.8 and 64.7(d); 45CSR§30-5.1.c.]

14.2.6. **Continued Operation.** Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.
[40 C.F.R. §64.7(c); 45CSR§30-5.1.c.]

14.3. Testing Requirements

14.3.1. In order to verify compliance with the VOC limitations of this permit as well as establish and verify adequate oxidizer temperatures are being maintained, the operator shall conduct VOC stack testing in accordance with 45CSR13 permit number R13-2840 and thus Title V permit condition 11.2.1. Although this CAM testing requirement may correlate with the initial or subsequent testing defined by the overlapping minor source NSR permit, in no case shall the test results be reported to DAQ later than 150 days from permit issuance.
[40 C.F.R. 64, 45CSR§30-5.1.c.]

14.3.2. In order to verify compliance with the HCl limitations of this permit as well as establish and verify adequate scrubber flow and pH are being maintained the operator shall conduct hydrogen halide testing in accordance with 40 C.F.R. 60, Appendix A, Method 26A. The said testing shall be conducted to correlate with VOC testing required by 11.2.1. This testing should be completed and submitted for review to the DAQ within 150 days of permit issuance.
[40 C.F.R. 64, 45CSR§30-5.1.c.]

14.4. Recordkeeping Requirements

14.4.1. As part of the CAM plan the permittee shall keep an up-to-date, readily-accessible record of the following information:

a. Continuous records of thermal oxidizer combustion temperatures; and daily averages. Any minimum temperature determinations made during compliance testing and/or design analysis.

b. Continuous records of the scrubber liquor flow rate; and daily averages. Any min/max flow determinations made during compliance testing and/or design analysis.

c. Daily records of pH monitoring results; and if utilized daily averages. Any min/max pH determinations made during compliance testing and/or design analysis.

[40 C.F.R.§64.9(b), 45CSR§30-5.1.c, Emission Point ID (SVE1)]

14.4.2. The CAM related compliance demonstration and CAM plan implementation shall be conducted according to the following schedule:

a. The permittee shall submit a test protocol for measurement of VOCs and HCl at least 30 days prior to the proposed test date.

b. The permittee shall complete the CAM testing and implement the CAM monitoring within 180 days of the issuance of this permit.

[40 C.F.R.§§ 64.6(d) and 64.7(a), 45CSR§30-5.1.c, Emission Point ID (SVE1)]

14.4.3. **General Recordkeeping Requirements for 40 C.F.R. Part 64 (CAM)**
The permittee shall comply with the recordkeeping requirements specified in permit conditions 3.4.1. and 3.4.2. The permittee shall maintain records of monitoring data, monitoring performance data, corrective actions taken, any written quality improvement plan required pursuant to 40 C.F.R. §64.8 (condition 14.2.5.) and any activities maintained under 40 C.F.R. Part 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions).
[40 C.F.R. §64.9(b); 45CSR§30-5.1.c.]

14.5. Reporting Requirements

14.5.1. **General Reporting Requirements for 40 C.F.R. Part 64 (CAM)**

a. On and after the date specified in 40 C.F.R. §64.7(a) (condition 14.4.2) by which the permittee must use monitoring that meets the requirements of 40 C.F.R. 64, the permittee shall submit monitoring reports to the DAQ in accordance with permit condition 3.5.5.

b. A report for monitoring under 40 C.F.R. 64 shall include, at a minimum, the information required under permit condition 3.5.7. and the following information, as applicable:

i. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;

ii. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitoring downtime incidents (other than downtime associated with zero and

span or other daily calibration checks, if applicable) provided in accordance with 40 C.F.R. Part 75; and

iii. A description of the actions taken to implement QIP during the reporting period as specified in 40 C.F.R. §64.8. Upon completion of a QIP, the permittee shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

[40 C.F.R. §64.9(a); 45CSR§30-5.1.c.]

14.6. Compliance Plan

14.6.1. Reserved.

Attachment A

Sample Record Keeping Format
Union Carbide Corporation: Boiler 27
R13-2141C; Plant ID.: 0390003

Hours of Operation and Natural Gas Usage(1),(2)

Month/Year:

Month	Natural Gas Usage (SCF)		Hours of Operation	Hourly Natural Gas Consumption Rate(4) (SCF/hr)	Initials (5)
	Current Month	Rolling Yearly Total(3)			
January					
February					
March					
April					
May					
June					
July					
August					
September					
October					
November					
December					

Note:
(1) The CERTIFICATION OF DATA ACCURACY statement appearing on the reverse side of this form must be completed upon the written request of the Director or his duly-authorized representative.
(2) This record shall be maintained onsite for a period of five (5) years from the date of certification. It shall be made available upon request to the Director or his (her) authorized representative.
(3) The rolling yearly total for natural gas usage is not to exceed 3.092×10^3 million cubic feet.
(4) Natural gas consumption is not to exceed 353,000 scfm/hr (divide monthly usage by hours of operation for that month).
(5) The Production Leader or EHS Delivery Leader is required to initialize the reporting form within fifteen (15) days from the end of the calendar month.

Attachment B

Reserved

Attachment C

45CSR21 Consent Order - Attachment A "Emission Limitations"

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 (Percent)	Maximum Allowable Hours of Operation (hrs/yr)	Maximum Allowable VOC Emissions (lbs/hr)	Maximum Allowable VOC Emissions (lbs/yr)
031-North Charleston	Tank 9011	nap	T-9011	C-9011	floating roof	95	8,760	0.73	3,844
031-North Charleston	Tank 9015	7.06	T-9015	not applicable	not applicable	0	8,760	10.30	4,819
700-Oxide Adducts System	Reactor System Equipment	3,212.00	multiple point sources	not applicable	Extended reaction	94 (98% for epoxides)	8,760	186.00	9,857
700-Oxide Adducts System	Product Treatment and Product Treatment Beds	39.00	E-709/710/711 (Includes E-720/721/722 from Original CO)	C-709/710/711	Vacuum jet condensers	85	8,760	6.00	33,814
700-Oxide Adducts System	Solvent column vent	22.00	E-717	not applicable	not applicable	0	8,760	22.00	1,300
700-Oxide Adducts System	Solvent Evaporator Vent	22.00	E-718	not applicable	not applicable	0	8,760	22.00	1,300
221 - Gum Base Plant	GBHDR (Header to IPH - includes T3021, T3030, T03031, T3080, E503, Vessel 650R and other small vents)	88.34	E25 or E27	B25 or B27	IPH	99	8,760	0.88	172
1000-Specialty Surfactants	SSHDR (Header to Scrubber) Includes but not limited to Alkox Reactor, Large Cap Reactor, Small Cap Reactor and Tank 8370	880.00	E-1081-3	C-8400/C-8110/C-8130	Scrubbers	90	8,760	88.00	19,760
1000-Specialty Surfactants	Tank 8352	15.00	T-8352	not applicable	not applicable	0	8,760	15.00	4,900
1000-Specialty Surfactants	Tank 8362	10.00	T-8362	not applicable	not applicable	0	8,760	10.00	included with above
1000-Specialty Surfactants	Loading Rack	15.00	L-1004	not applicable	not applicable	0	8,760	15.00	included with above
Control Device Abbreviations:									
Condenser - CON			**Packed Bed Scrubber - PBS**				**Carbon Adsorber - CA**		
Flare - FL			**Venturi Scrubber - VS**				**Refrigeration of Tank - RF**		
Floating Roof Secondary Seal - FS			**Incinerator - INC**				**Other - Description**		
Floating Roof Primary Seal - FP			**Vapor Recovery System - VRS**						

Attachment D

45CSR21 Consent Order - Attachment B "Excess Emissions Scenarios"

Union Carbide Corporation – South Charleston Facility
Attachment B to Regulation 21 Consent Order
Revised **April 2009**

ROUTINE/NORMAL OPERATING & MAINTENANCE SCENARIOS RESULTING IN EXCESS EMISSIONS

Process Area Description and Identification Number	**Emission Point Identification Number**	**Description of Excess Emission Scenario SU - Start-up SD - Shutdown M - Maintenance (Describe Activity)**	Description of Controls and Measures used to Minimize VOC Emissions (During each Scenario)	**Duration of Excess Emission Scenario (Hours) approximate**	**Typical/ Maximum Number of Events per Year approximate /**	**Average/Peak VOC Emissions per Event (Pounds per Hour) approximate /**
NCDT (031)	T-9010	M - Use of this swing tank for NCDT product under emergency situations (i.e. dedicated storage tank develops a leak)	None	1 / 2 months	3 / 5	83 / 90
Gum Base Plant (221)	T3021, T3030, T3031, T3080, E-531 or E-533	SD – Island Powerhouse not available.	Transfers to/from tanks will be discontinued at completion of batch until IPH is available.	24 / 48	2 / 20	12 / 30
Gum Base Plant (221)	E-531 or E-533	SD – Island Powerhouse not available.	Process condenser in operation	24 / 48	2 / 20	12 / 20
Oxide Adducts Plant (700)	E-717	SU - Excess startups due to malfunctions, etc.	Automation prevents startups without condenser fan in service	1 / 2	52 / 150	20 / 40

***VME Plant has been permanently shutdown.**