West Virginia Department of Environmental Protection
Division of Air Quality

Joe Manchin, III
Governor

Randy C. Huffman
Cabinet Secretary

Permit to Operate

Pursuant to

Title V

of the Clean Air Act

Issued to:

CYTEC Industries Inc.
Willow Island Plant
Polymer Additives (Part 4 of 4)
R30-07300003-2010

John A. Benedict
Director

Issued: August 31, 2010 • Effective: September 14, 2010
Expiration: August 31, 2015 • Renewal Application Due: February 28, 2015

Permit Number: **R30-07300003-2010**
Permittee: **CYTEC Industries Inc.**
Facility Name: **Willow Island Plant**
Manufacturing Unit: **Polymer Additives (Part 4 of 4)**
Permittee Mailing Address: **1 Heilman Avenue, Willow Island, WV 26134-9801**

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:	Willow Island, Pleasants County, West Virginia
Telephone Number:	(304) 665-3485
Type of Business Entity:	Corporation
Facility Description:	Polymer Additives Manufacturing
SIC Codes:	2869 (primary), 2843 (secondary), 2819 and 2899 (tertiary)
UTM Coordinates:	474.00 km Easting • 4,356.00 km Northing • Zone 17

Permit Writer: Carrie McCumbers

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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APPENDIX B – Hazardous Air Pollutants

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
Product/Process Area – HALS (UV3346, UV3529, UV4593, UV4611, UV4801, UV4802, UV6435, UV6460)					
076X	076E	Formic Acid Storage Tank	11/1992	12,000 gal	NA
06CX	06EE	Step II Reactor; Condenser (3-6CD3); Condenser (3-6CD3A)	--	--	NA
	06FE	Industrial hygiene vent for Step II Reactor	--	--	NA
~~06EY~~	~~06EE~~	~~Splitter Bowl~~	~~—~~	~~—~~	~~NA~~
07AX	07AE	Step I Reactor; Condenser (3-7CD4); Condenser (3-7CD4A)	--	--	NA
	07CE	Industrial hygiene vent for Step I Reactor	--	--	07CC
07BX	07BE	Waste Hold Tank	--	--	NA
07DX	09CE	Toluene Receiver	--	--	075C
~~07GX~~	~~07GE~~	~~Morpholine Head Tank~~	~~—~~	~~—~~	~~NA~~
07KX	07NE	Filter Feed Kettle (normal operations); Condenser (3-7CD8); Condenser (3-7CD8A)	--	--	NA
	07QE	Filter Feed Kettle (emergency by-pass)			
07KX	07FE	Industrial hygiene vent for PTS Station	--	--	NA
07NY	07NE	Splitter Bowl	--	--	NA
08AX	08BE	Filter; Condenser (3-8CD8); Condenser (3-8CD8A)	--	--	08VC
	05KE	Filter (Industrial hygiene vent to atmosphere)	--	--	NA
08BX	08BE	Filter Aid Tank; Condenser (3-8CD8); Condenser (3-8CD8A)	--	--	08VC
	05KE	Industrial hygiene vent for Filter Aid Tank	--	--	NA
08RX	08RE	Pastillator	--	--	08RC
09AX	09AE	Strip Receiver (3-9K3) Condenser (3-9CD3)	--	--	NA

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
09CX	09CE	Filtrate Receiver; Condenser (3-9CD4); Condenser (3-9CD4A)	--	--	NA
	09FE	Industrial hygiene vent for Filtrate Receiver	--	--	NA
09DX	09CE	Splitter Bowl (2-9SB4)	--	--	075C
09FX	NA	Mott Filter (3-9F3)	--	--	NA
09KX	09NE	Strip Kettle; Condenser (3-9CD2); Condenser (3-9CD2A)	--	--	NA
09PY	09PE	Condensate Receiver; Vacuum Pump (09PX); Condenser (3-9CD5); Condenser (3-9CD5A)	--	--	NA
09RX	NA	Electric Oil Heater with Hot Oil Surge Tank	--	--	NA
10CX	10CE	Step II Reactor; Condenser (3-10CD1); Condenser (3-10CD2)	--	--	NA
	10IE	Industrial hygiene vent for Step II Reactor	--	--	NA
10IX	10CE	Splitter Bowl	--	--	NA
10PX	10PE	Melt Tank	--	--	NA
10RX	NA	Electric Oil Heater with Hot Oil Surge Tank	--	--	NA
10SX	NA	Product Bin	--	--	NA
10TX	08RE	Screener	--	--	08RC
11AX	12DE	2-11K1 Industrial Hygiene Vent	--	--	NA
	11AE	Step II Reactor; Condenser (3-12CD1); Condenser (3-12CD2)	--	--	NA
12CX	12AE	Splitter Bowl (3-12SB1)	--	--	NA
DRUM08	08RE	Drumming Station	--	--	08RC

Control Device ID	Emission Units Controlled	Emission Point	Control Device Description	Next Control Device in Series
07CC	07AX	07CE	Scrubber	NA
075C	07DX, 09DX, 075X	09CE	Vapor Return	NA
08VC	08AX, 08BX	08BE	Vapor Return	NA
08RC	08RX	08RE	Dust Collector	NA

Product/Process Area – Triazines (UV1164, UV1164A, UV1164D, UV1164G, UV1164L)

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
20KX	~~24NE~~ 20KE	Centrifuge Tank/Drumming Tank	--	--	~~20KC~~ NA
	21DE	Industrial hygiene hood over Centrifuge Tank (2-19K1)	--	--	NA
20EX	20EE	Condensate Receiver	--	--	NA
20FX	20DE	Vacuum Jet (3-19VJ1)	--	--	NA
20LX	~~20LE~~ 20AE	Splitter Bowl	--	--	NA
~~20NX~~	~~21DE~~	~~Industrial hygiene hood over UV-1164 Reactor & Strip Kettle~~	~~--~~	~~--~~	~~NA~~
20NX	20AE	UV-1164 Reactor with Condenser 3-20CD1	--	--	--
21DX	21DE	Industrial hygiene hood over UV-1164 Reactor & Strip Kettle	--	--	NA
	~~24NE~~ 20B	Strip Kettle With Condenser 3-22CD1	--	--	NA
22BX	22QE	Industrial hygiene hood over Vacuum Tumble Dryer (1-21D1)	--	--	22QC
	22BE	Vacuum Tumble Dryer	--	--	NA
~~2-21CD1~~	~~22BE~~	~~Condenser~~	~~--~~	~~--~~	~~NA~~
20BX	22BE	Condensate Receiver	--	--	NA
20CX	NA	Sparkler Filter	--	--	NA
20PX	20PE	Split Receiver	--	--	NA
21AX	21AE	Centrifuge	--	--	NA
21AY	NA	Wet Bin	--	--	NA
	22QE	Industrial hygiene hood over Wet Bin	--	--	22QC
21WX	22QE	Industrial hygiene hood over UV-1164 Packer & Drumming Station	--	--	22QC
~~22BX~~	~~22QE~~	~~Industrial Hood over Vacuum Tumble Dryer(1-21D1)~~	~~--~~	~~--~~	~~22QC~~
22DX	22QE	Industrial hygiene hood over Vacuum Tumble Dryer (1-22D1)	--	--	22QC
	22BE	Vacuum Tumble Dryer	--	--	NA
~~2-22CD1~~	~~22BE~~	~~Condenser~~	~~--~~	~~--~~	~~NA~~
22CX	22BE	Condensate Receiver	--	--	NA
22MX	22ME	Solvent Storage	9/1979	2,000 gal	NA
22PX	22BE	Vacuum Pump	--	--	NA
23AX	22QE	Industrial hygiene hood over UV-1164 Packer & Drumming Station	--	--	22QC

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
24BX	24BE	Wash Tank	--	--	NA
24MX 24QX 24YX 24TX	24FE	Industrial hygiene hood over UV-1164 Reactor (2-24K2), Strip Kettle (2-24K1), Sparkler Filter (3-25SF1), and Drumming Station (24TX)	--	--	NA
24JX	24GE	Splitter Bowl	--	--	NA
24NX	24ME	Condensate Receiver	--	--	NA
24MX	~~24NE~~ 24ME	Strip Kettle with Condenser 3-25CD2	--	--	NA
~~24NX~~	~~24PE~~	~~Condensate Receiver~~	~~--~~	~~--~~	~~NA~~
24PX	24PE	Vacuum Jet (LR-24VJ1)	--	--	NA
24QX	24QE	UV-1164 Reactor with Condenser 3-25CD1	--	--	NA
~~24RX~~	~~24RE~~	~~Condensate Receiver~~	~~--~~	~~--~~	~~NA~~
25EX	NA	Wet Bin	--	--	NA
	22QE	Industrial hygiene hood over Wet Bin	--	--	22QC
25CX	25AE	Centrifuge	--	--	NA

Control Device ID	Emission Units Controlled	Emission Point	Control Device Description	Next Control Device in Series
~~20KC~~	~~20KX~~	~~24NE~~	~~Vapor Return~~	~~NA~~
22QC	21AY, 22BX, 21WX, 22DX, 23AX, 25EX	22QE	Dust Collector (RF-22DC1)	NA

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
Product/Process Area – PHENODUR PR285, PR612					
20CX	NA	Sparkler Filter	--	--	NA
20EX	20EE	Condensate Receiver	--	--	NA
20FX	20DE	Vacuum Jet (3-19VJ1)	--	--	NA
20LX	20AE	Splitter Bowl	--	--	NA
20NX	20AE	UV-1164 Reactor with Condenser 3-20CD1	--	--	NA
20PX	20PE	Split Receiver	--	--	NA
21DX	21DE	Industrial hygiene hood over UV – 1164 Reactor & Strip Kettle	--	--	NA
	20BE	Strip Kettle with Condenser 3- 22CD1			
22KX	20BE	Splitter Bowl	--	--	NA
22MX	22ME	Solvent Storage	9/1979	2,000 Gal	NA
24TX	24FE	Drumming Station	--	--	NA
Product/Process Area – A425, A2246					
20BX	22BE	Condensate Receiver	--	--	NA
21AX	21AE	Centrifuge	--	--	NA
21AY	NA	Wet Bin	--	--	NA
	22QE	Industrial hygiene hood over Wet Bin	--	--	22QC
21WX	22QE	Industrial hygiene vent on Packer	--	--	22QC
22BX	22QE	Industrial hygiene vent on Dryer	--	--	22QC
	22BE	Dryer with Condenser (2-21CD1)	--	--	NA
22CX	22BE	Condensate Receiver	--	--	NA
22DX	22QE	Industrial hygiene vent on Dryer	--	--	22QC
	22BE	Dryer with Condenser (2-22CD1)	--	--	NA
22PX	22BE	Vacuum Pump	--	--	NA
23AX	22QE	Industrial hygiene vent on Packer	--	--	22QC
24BX	24BE	Wash Tank	--	--	NA
24JX	24GE	Splitter Bowl	--	--	NA
24MX	24FE	Industrial hygiene hood over Centrifuge Feed Kettle	--	--	NA
	~~24NE~~ 24ME	Centrifuge Feed Kettle	--	--	NA

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
24NX	24ME	Condensate Receiver from Condenser (3-25CD2)	--	--	NA
24QX	24FE	Industrial hygiene hood over A425, A2246 Reactor	--	--	NA
	~~24QE~~ 24RE	Reactor	--	--	NA
~~24RX~~	~~24RE~~	~~Condensate Receiver from Condenser (3-25CD1)~~	~~--~~	~~--~~	~~NA~~
25CX	25AE	Centrifuge	--	--	NA
25EX	NA	Wet Bin	--	--	NA
	22QE	Industrial hygiene hood over Wet Bin	--	--	22QC

Control Device ID	Emission Units Controlled	Emission Point	Control Device Description	Next Control Device in Series
22QC	21AY, 21WX, 22BX, 22DX, 23AX, 25EX	22QE	Dust Collector (RF-22DC1)	NA

Product/Process Area – A1846

05LX	05LE	A-1846 Reactor with Condenser (3-5CD8)	--	--	05KC
05LX	05ME	Industrial hygiene vent on A-1846 Reactor	--	--	~~05MC~~ NA
05NX	05NE	Condensate Receiver (05NX); Vacuum Jet (3-6VJ7)	--	--	NA
06BX	05NE	Hot Well for Vacuum Jets (3-6VJ7)	--	--	NA
06NX	05LE	Split Tank with Condenser (3-6CD8)	--	--	06VC, 05KC
06QX	06QE	Salt Wash Tank	--	--	NA
06SX	06SE	A-1846 Wash/Dehydration Reactor with Condensers (N-6CD1 & N-6CD1A)	--	--	NA
15NX	15NE	A-1846 Storage Tank (Product Accumulation Tank)	--	--	NA

Control Device ID	Emission Units Controlled	Emission Point	Control Device Description	Next Control Device in Series
05KC	05LX	05LE	Scrubber	NA
~~05MC~~	~~05LX~~	~~05ME~~	~~Venturi Scrubber~~	~~NA~~
06VC	06NX	05LE	Vapor Return	05KC

Product/Process Area – A1790

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
102X	11ME	Mother Liquor Tank	--	--	10VC
111X	11ME	Mother Liquor Tank	--	--	10VC
112X	11ME	Mother Liquor Tank	--	--	10VC
12LX	12CE	Centrifuge Feed Tank with Condenser (3-13CD1)	--	--	18VC
12LX	12DE	Industrial hygiene vent on Centrifuge Feed Tank	--	--	NA
13BY	13GE	Condensate Receiver and Vacuum Pump (13GX)	--	--	NA
13HX	13HE	Centrifuge	--	--	NA
13JX	13JE	Industrial hygiene vent on Dryer	--	--	13JC
13JX	13GE	Dryer and Condenser (1-13CD1)	--	--	NA
13KX	NA	Dry Bin	--	--	NA
13LX	NA	Screener	--	--	NA
13MX	NA	Conveyor	--	--	NA
13NX	13JE	Industrial hygiene vent on Bagger	--	--	13JC
13HY	13JE	Wet Bin	--	--	13JC
14CX	14CE	Wash Tank	--	--	NA
14FX	14BE	Reactor and Condensers (3-14CD2 & 3-14CD4)	--	--	NA
14FX	14EE	Industrial hygiene vent on Reactor (14FX)	--	--	NA
14GY	14GE	Condensate Receiver and Condenser (1-14CD1) and Vacuum Pump (15CX)	--	--	NA
14HX	14DE	Reactor and Condensers (3-14CD1 & 3-14CD3)	--	--	NA
14HX	14EE	Industrial hygiene vent on Reactor (14HX)	--	--	NA
15BX	13JE	Industrial hygiene vent on Dryer	--	--	13JC
15BX	14GE	Vacuum Dryer	--	--	NA
15EX	15EE	Centrifuge	--	--	NA
15EY	NA	Wet Bin	--	--	13JC
	22QE	Industrial hygiene hood over Wet Bin	--	--	22QC
15FX	15FE	Wash Tank	--	--	NA
15PX	NA	Dry Bin	--	--	NA

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
15QX	NA	Screener	--	--	NA
16JX	16JE	Reactor	--	--	NA
16JX	18JE	Industrial hygiene vent on Split Recycle (16JX)	--	--	NA
16UX	16CE	Reactor with Condenser (3-16CD1 & 3-16CD5)	--	--	NA
16UX	18JE	Industrial hygiene vent on Reactor (16UX)	--	--	NA
16WX	16BE	Vacuum Strip Crystallizer with Condenser (3-16CD2)	--	--	NA
16WX	18JE	Industrial hygiene vent on Reactor (16WX)	--	--	NA
16YX	NA	Conveyor	--	--	NA
16ZX	13JE	Industrial hygiene vent on Bagger	--	--	13JC
17AX	17AE	Methanol Drown Tank	--	--	NA
17GX	17PE	Split Tank	--	--	17VC
17JX	17PE	Mix Tank	--	--	17VC
17PX	17PE	Condensate Receiver	--	--	17VC
17PX	17QE	Condensate Receiver and Condensers (3-16CD3 & 3-16CD4) and Vacuum Pump (17QX)	--	--	NA
17PX	18JE	Industrial hygiene vent on Condensate Receiver (17PX)	--	--	NA
18SX	18ME	Hold Tank with Condenser (3-18CD1)	--	--	18VC
20BX	22BE	Condensate Receiver and Condenser (2-21CD1) and Vacuum Pump (22PX)	--	--	NA
21AX	21AE	Centrifuge	--	--	NA
21AY	NA	Wet Bin	--	--	NA
	22QE	Industrial hygiene hood over Wet Bin	--	--	22QC
22BX	22QE	Industrial hygiene vent on Dryer	--	--	22QC
22BX	22BE	Dryer with Condensate Receiver (20BX) and Condenser (2-21CD1)	--	--	NA
22EX	22EE	Wash Tank	--	--	NA
21WX	22QE	Industrial hygiene vent on Bagger	--	--	22QC

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device

Control Device ID	Emission Units Controlled	Emission Point	Control Device Description	Next Control Device in Series
10VC	102X, 103X, 111X, 112X	11ME	Vapor Return	11MV
13JC	13NX, 13HY, 15BX, 15EY, 16ZX	13JE	Dust Collector	NA
18VC	12LX, 18SX	12CE, 18ME	Vapor Return	NA
17VC	17GX, 17JX, 17PX	17PE	Vapor Return	NA
22QC	15EY, 21AY, 21WX, 22BX	22QE	Dust Collector	NA

Product/Process Area – A2777

13JX	13JE	Industrial hygiene vent on Dryer	--	--	13JC
13JX	13GE	Dryer and Vacuum Pump (13GX)	--	--	NA
13KX	NA	Dry Bin	--	--	NA
13LX	NA	Screener	--	--	NA
13MX	NA	Conveyor	--	--	NA
13NX	13JE	Industrial hygiene vent on Bagger	--	--	13JC
15BX	13JE	Industrial hygiene vent on Dryer	--	--	13JC
15BX	14GE	Vacuum Dryer and Vacuum Pump (15CX)	--	--	NA
15PX	NA	Dry Bin	--	--	NA
15QX	NA	Screener	--	--	NA
16YX	NA	Conveyor	--	--	NA
16ZX	13JE	Industrial hygiene vent on Bagger	--	--	13JC
21WX	22QE	Industrial hygiene vent on Packer	--	--	22QC
22BX	22QE	Industrial hygiene vent on Blender	--	--	22QC
22DX	22QE	Industrial hygiene vent on Blender	--	--	22QC
23AX	22QE	Industrial hygiene vent on Packer	--	--	22QC

Control Device ID	Emission Units Controlled	Emission Point	Control Device Description	Next Control Device in Series
13JC	13JX, 13NX, 15BX, 16ZX	13JE	Dust Collector	NA
22QC	21WX, 22BX, 22DX, 23AX	22QE	Dust Collector	NA

Product/Process Area – CA150

21AX	21AE	Centrifuge	--	--	NA
21AY	22QE	Wet Bin	--	--	22QC

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
24BX	24BE	Wash Tank	--	--	NA
24HX	24HE	TDI Head Tank	--	--	NA
24JX	24GE	Splitter Bowl	--	--	NA
24MX	24FE	Industrial hygiene hood over Centrifuge Feed Kettle	--	--	NA
	~~24NE~~ 24ME	Centrifuge Feed Kettle	--	--	NA
24NX	24ME	Condensate Receiver from Condenser (3-25CD2)	--	--	NA
24PX	24PE	Vacuum Jets & Hot Well	--	--	NA
24QX	24FE	Industrial hygiene hood over CA150 Reactor	--	--	NA
	~~24QE~~ 24GE	Reactor	--	--	NA
~~24RX~~	~~24RE~~	~~Condensate Receiver from Condenser (3-25CD1)~~	~~—~~	~~—~~	~~NA~~
25BX	25BE	Fluid Bed Dryer	--	--	NA
25CX	25AE	Centrifuge	--	--	NA
24CX	25TE	Vac-U-Max	--	--	NA
25EX	22QE	Wet Bin	--	--	22QC
25TX	NA	Dry Bin	--	--	NA
DRUM23	23AE	Industrial hygiene hood over drums	--	--	23AC

Control Device ID	Emission Units Controlled	Emission Point	Control Device Description	Next Control Device in Series
22QC	25EX	22QE	Dust Collector	NA
23AC	DRUM23	23AE	Dust Collector	NA

Product/Process Area – CIP200

~~102X~~	~~11ME~~	~~Mother Liquor Tank~~	~~—~~	~~—~~	~~10VC~~
~~111X~~	~~11ME~~	~~Mother Liquor Tank~~	~~—~~	~~—~~	~~10VC~~
~~112X~~	~~11ME~~	~~Mother Liquor Tank~~	~~—~~	~~—~~	~~10VC~~
~~20PX~~	~~20PE~~	~~Split Receiver~~	~~—~~	~~—~~	~~NA~~
21AX	21AE	Centrifuge	--	--	NA
21AY	22QE	Wet Bin	--	--	22QC
22GX	22QE	Industrial hygiene vent on Tray Dryer	--	--	22QC

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
	22GE	Tray Dryer	--	--	NA
24BX	24BE	Methanol Tank	--	--	NA
24JX	24GE	Splitter Bowl	--	--	NA
24MX	24FE	Industrial hygiene hood over Crystallizer Strip Kettle	--	--	NA
	~~24NE~~ 24ME	Crystallizer Strip Kettle	--	--	NA
24NX	24ME	Condensate Receiver from Condenser (3-25CD2)	--	--	NA
24PX	24PE	Vacuum Jets & Hot Well	--	--	NA
24QX	24FE	Industrial hygiene hood over CIP-200 Reactor	--	--	NA
	~~24QE~~ 24GE	Reactor	--	--	NA
24RX	24RE	Condensate Receiver from Condenser (3-25CD1)	--	--	NA
24YX	24FE	Industrial hygiene hood over Sparkler Filter	--	--	NA
25CX	25AE	Centrifuge	--	--	NA
25EX	~~NA~~ 22QE	Wet Bin	--	--	~~NA~~ 22QC
DRUM22	22QE	Industrial hygiene vent on drumming station	--	--	22QC

Control Device ID	Emission Units Controlled	Emission Point	Control Device Description	Next Control Device in Series
10VC	102X, 103X, 111X, 112X	11ME	Vapor Return	11MV
22QC	22GX, DRUM22	22QE	Dust Collector	NA

Product/Process Area – UV416

21AX	21AE	Centrifuge	--	--	NA
21AY	22QE	Industrial hygiene vent on Wet Bin	--	--	22QC
21WX	22QE	Industrial hygiene vent on Packer & Drumming Station	--	--	22QC
22GX	22QE	Industrial hygiene vent on Tray Dryer	--	--	22QC
	22GE	Tray Dryer	--	--	NA
24BX	24BE	Wash Tank	--	--	NA
24JX	24GE	Splitter Bowl	--	--	NA

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
24MX	24FE	Industrial hygiene hood over Crystallizer Kettle	--	--	NA
	~~24NE~~ 24ME	Crystallizer Kettle	--	--	NA
24NX	24ME	Condensate Receiver from Condenser (3-25CD2)	--	--	NA
~~24PX~~	~~24PE~~	~~Vacuum Jets & Hot Well~~	~~--~~	~~--~~	~~NA~~
24QX	24FE	Industrial hygiene hood over UV416 Reactor	--	--	NA
	~~24QE~~ 24RE	Reactor	--	--	NA
~~24RX~~	~~24RE~~	~~Condensate Receiver from Condenser (3-25CD1)~~	~~--~~	~~--~~	~~NA~~
25CX	25AE	Centrifuge	--	--	NA
25EX	22QE	Industrial hygiene vent on Wet Bin	--	--	22QC
~~DRUM24~~ DRUM22	24FE	Industrial hygiene hood over drumming station	--	--	NA

Control Device ID	Emission Units Controlled	Emission Point	Control Device Description	Next Control Device in Series
22QC	21AY, 21WX, 22GX, 23AX, 25EX	22QE	Dust Collector	NA

Product/Process Area - UV2126

21AX	21AE	Centrifuge	--	--	NA
21AY	~~23AE~~ 23QE	Industrial hygiene vent on Wet Bin	--	--	~~23AC~~ 22QC
21WX	22QE	Industrial hygiene vent on Packer & Drumming Station	--	--	22QC
~~23AX~~	~~22QE~~	~~Industrial hygiene vent on Packer & Drumming Station~~	~~--~~	~~--~~	~~22QC~~
22GX	22GE	Tray Dryer	--	--	NA
	22QE	Industrial hygiene vent on Tray Dryer	--	--	22QC
24BX	24BE	Wash Tank	--	--	NA
24MX	24FE	Industrial hygiene hood over Crystallizer Strip Kettle	--	--	NA
	~~24NE~~ 24ME	Crystallizer Strip Kettle	--	--	NA

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
24NX	24ME	Condensate Receiver from Condenser (3-25CD2)	--	--	NA
24PX	24PE	Vacuum Jets & Hot Well	--	--	NA
24QX	~~24QE~~ 24RE	UV2126 Reactor	--	--	NA
	24FE	Industrial hygiene hood over UV2126 Reactor	--	--	NA
24RX	24RE	Condensate Receiver from Condenser (3-25CD1)	--	--	NA
25CX	25AE	Centrifuge	--	--	NA
25EX	22QE	Industrial hygiene vent on Wet Bin	--	--	22QC
DRUM22	22QE	Industrial hygiene vent on drumming station	--	--	22QC

Control Device ID	Emission Units Controlled	Emission Point	Control Device Description	Next Control Device in Series
22QC	21AY, 21WX, 22GX, 23AX, 25CX, DRUM22	22QE	Dust Collector	NA

Product/Process Area – UV 2908

05LX	05LE	Reactor with Condenser (3-5CD8 & 3-5CD8A)	--	--	05KC
05LX	05ME	Industrial hygiene vent on Reactor	--	--	~~05MC~~ NA
05NX	05NE	Condensate Receiver (05NX); Vacuum Jet (3-6VJ7)	--	--	NA
06BX	05NE	Hot Well for Vacuum Jets (3-6VJ7)	--	--	NA
06NX	05LE	Split Tank with Condenser (3-6CD8)	--	--	05KC
06QX	06QE	Salt Wash Tank	--	--	NA
06SX	06SE	Wash/Dehydration Reactor with Condensers (N-6CD1 & N-6CD1A)	--	--	NA
102X	11ME	Mother Liquor Tank	--	--	10VC
103X	11ME	Mother Liquor Tank	--	--	10VC
111X	11ME	Mother Liquor Tank	--	--	10VC
112X	11ME	Mother Liquor Tank	--	--	10VC
144X	11ME	Mother Liquor Tank	--	--	14VC
153X	11ME	Mother Liquor Tank	--	--	14VC
1-21VC1	NA	Conveyor	--	--	NA

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
12LX	12CE	Centrifuge Feed Tank with Condenser (3-13CD1)	--	--	18VC
12LX	12DE	Industrial hygiene vent on Centrifuge Feed Tank	--	--	NA
13BY	13GE	Condensate Receiver	--	--	NA
13GX	13GE	Vacuum Pump	--	--	NA
13HX	13HE	Centrifuge	--	--	NA
13JX	13GE	Dryer and Condenser (1-13CD1)	--	--	NA
13JX	13JE	Industrial hygiene vent on Dryer	--	--	13JC
13KX	NA	Dry Bin	--	--	NA
13LX	NA	Screener	--	--	NA
13MX	NA	Conveyor	--	--	NA
13NX	13JE	Industrial hygiene vent on Bagger	--	--	13JC
13HY	NA	Wet Bin	--	--	NA
14CX	14CE	Wash Tank	--	--	NA
14FX	14BE	Reactor and Condensers (3-14CD2 & 3-14CD4)	--	--	NA
14FX	14EE	Industrial hygiene vent on Reactor (14FX)	--	--	NA
14GY	14GE	Condensate Receiver and Condenser (1-14CD1)	--	--	NA
14HX	14DE	Tank and Condensers (3-14CD1 & 3-14CD3)	--	--	NA
14JX	15EE	Industrial hygiene vent on Sparkler Filter	--	--	NA
15BX	13JE	Industrial hygiene vent on Dryer	--	--	13JC
15BX	14GE	Vacuum Dryer	--	--	NA
15CX	14GE	Vacuum Pump	--	--	NA
15EX	15EE	Centrifuge	--	--	NA
15EY	NA	Wet Bin	--	--	NA
15FX	15FE	Wash Tank	--	--	NA
15PX	NA	Dry Bin	--	--	NA
15QX	NA	Screener	--	--	NA
16UX	16CE	Reactor with Condenser (3-16CD1 & 3-16CD5)	--	--	NA

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
16UX	18JE	Industrial hygiene vent on Reactor (16UX)	--	--	NA
16WX	16BE	Vacuum Strip Crystallizer with Condenser (3-16CD2)	--	--	NA
16WX	18JE	Industrial hygiene vent on Vacuum Strip Crystallizer	--	--	NA
16YX	NA	Conveyor	--	--	NA
16ZX	13JE	Industrial hygiene vent on Bagger	--	--	13JC
17AX	17AE	Methanol Drown Tank	--	--	NA
17JX	17PE	Mix Tank	--	--	17VC
17PX	17PE	Condensate Receiver	--	--	17VC
17PX	17QE	Condensate Receiver and Condensers (3-16CD3 & 3-16CD4)	--	--	NA
17PX	18JE	Industrial hygiene vent on Condensate Receiver (17PX)	--	--	NA
17QX	17QE	Vacuum Pump	--	--	NA
18SX	18ME	Hold Tank with Condenser (3-18CD1)	--	--	18VC
20BX	22BE	Condensate Receiver	--	--	NA
20KX	~~24NE~~ 20KE	Centrifuge Feed Tank	--	--	~~20KC~~ NA
	21DE	Industrial hygiene vent on Centrifuge Feed Tank	--	--	NA
20PX	20PE	Split Receiver	--	--	NA
21AX	21AE	Centrifuge	--	--	NA
21AY	22QE	Industrial hygiene vent on Wet Bin	--	--	22QC
21WX	22QE	Industrial hygiene vent on Bagger	--	--	22QC
22BX	22BE	Dryer with Condensate Receiver (20BX) and Condenser (2-21CD1)	--	--	NA
22BX	22QE	Industrial hygiene vent on Dryer	--	--	22QC
22CX	22BE	Condensate Receiver	--	--	NA
22DX	22BE	Dryer with Condenser (2-22CD1)	--	--	NA
22DX	22QE	Industrial hygiene vent on Dryer	--	--	22QC
24BX	24BE	Wash Tank (3-24T1)	--	--	NA
24BX	24BE	Methanol Tank	--	--	NA
24JX	24GE	Splitter Bowl	--	--	NA

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
24MX	24FE	Industrial hygiene hood over Crystallizer Strip Kettle	--	--	NA
24MX	24NE	Crystallizer Strip Kettle	--	--	NA
24NX	24ME	Condensate Receiver from Condenser (3-25CD2)	--	--	NA
24PX	24PE	Vacuum Jets & Hot Well	--	--	NA
24QX	24QE	UV2908 Reactor	--	--	NA
24QX	24FE	Industrial hygiene hood over UV2908 Reactor	--	--	NA
24RX	24RE	Condensate Receiver from Condenser (3-25CD1)	--	--	NA
24YX	24FE	Industrial hygiene hood over Sparkler Filter	--	--	NA
25CX	25AE	Centrifuge	--	--	NA
25EX	22QE	Industrial hygiene vent on Wet Bin	--	--	22QC
DRUM22	22QE	Industrial hygiene vent on Packer (21WX) drumming station	--	--	22QC
DRUM23	23AE	Industrial hygiene vent on Packer (23AX) drumming station	--	--	23AC

Control Device ID	Emission Units Controlled	Emission Point	Control Device Description	Next Control Device in Series
05KC	05LX	05LE	Scrubber	NA
~~05MC~~	~~05LX~~	~~05ME~~	~~Venturi Scrubber~~	~~NA~~
10VC	102X, 103X, 111X, 112X	11ME	Vapor Return	11MV
13JC	13NX, 15BX, 16ZX	13JE	Dust Collector	NA
14VC	144X, 153X	11ME	Vapor Return	11MV
17VC	17GX, 17JX, 17PX	17PE	Vapor Return	NA
18VC	12LX, 18SX	12CE, 18ME	Vapor Return	NA
~~20KC~~	~~20KX~~	~~24NE~~	~~Vapor Return~~	~~NA~~
22QC	21AY, 22BX, DRUM22, 21WX, 22DX, DRUM23, 23AX, 25EX	22QE	Dust Collector	NA
23AC	DRUM23	23AE	Dust Collector	NA

Product/Process Area – UV3638

05LX	05LE	Reactor with Condenser (3-5CD8)	--	--	05KC

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
05LX	05ME	Industrial hygiene vent on Reactor	--	--	~~05MC~~ NA
06SX	06SE	Wash/Dehydration Reactor with Condensers (N-6CD1 & N-6CD1A)	--	--	NA
102X	11ME	Mother Liquor Tank	--	--	10VC
103X	11ME	Mother Liquor Tank	--	--	10VC
111X	11ME	Mother Liquor Tank	--	--	10VC
112X	11ME	Mother Liquor Tank	--	--	10VC
1-21CV1	NA	Conveyor	--	--	NA
12LX	12CE	Centrifuge Feed Tank with Condenser (3-13CD1)	--	--	18VC
12LX	12DE	Industrial hygiene vent on Centrifuge Feed Tank	--	--	NA
13HX	13HE	Centrifuge	--	--	NA
13HY	NA	Wet Bin	--	--	NA
144X	11ME	Mother Liquor Storage Tank	--	--	14VC
14CX	14CE	Wash Tank	--	--	NA
14FX	14BE	Reactor and Condensers (3-14CD2 & 3-14CD4)	--	--	NA
14FX	14EE	Industrial hygiene vent on Reactor (14FX)	--	--	NA
14HX	14DE	Reactor and Condensers (3-14CD1 & 3-14CD3)	--	--	NA
14HX	14EE	Industrial hygiene vent on Reactor (14HX)	--	--	NA
153X	11ME	Mother Liquor Storage Tank	--	--	14VC
15EX	15EE	Centrifuge	--	--	NA
15EY	NA	Wet Bin	--	--	NA
15FX	15FE	Wash Tank	--	--	NA
16JX	16JE	TLC Mix Tank	--	--	NA
16JX	18JE	Industrial hygiene vent on Split Recycle (16JX)	--	--	NA
16UX	16CE	Reactor with Condenser (3-16CD1 & 3-16CD5)	--	--	NA
16UX	18JE	Industrial hygiene vent on Reactor (16UX)	--	--	NA
16WX	16BE	Vacuum Strip Crystallizer with Condenser (3-16CD2)	--	--	NA

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
16WX	18JE	Industrial hygiene vent on Reactor (16WX)	--	--	NA
17GX	17PE	Split Tank	--	--	17VC
17JX	17PE	Split Tank	--	--	17VC
17PX	17PE	Condensate Receiver	--	--	17VC
17PX	17QE	Condensate Receiver and Condensers (3-16CD3 & 3-16CD4)	--	--	NA
17PX	18JE	Industrial hygiene vent on Condensate Receiver	--	--	NA
18SX	18ME	Centrifuge Tank with Condenser (3-18CD1)	--	--	18VC
18SX	18SE	Industrial hygiene vent on Centrifuge Tank	--	--	NA
20BX	22BE	Condensate Receiver	--	--	NA
20KX	21DE	Industrial hygiene hood over Centrifuge Tank (2-19K1)	--	--	NA
	20KE	Centrifuge Tank/Drumming Tank	--	--	NA
21AX	21AE	Centrifuge #4	--	--	NA
21AY	22QE	Wet Bin #4	--	--	22QC
21WX	22QE	Industrial hygiene hood over UV-1164 Packer & Drumming Station	--	--	22QC
~~2-21CD1~~	~~22BE~~	~~Condenser~~	~~--~~	~~--~~	~~NA~~
~~2-22CD1~~	~~22BE~~	~~Condenser~~	~~--~~	~~--~~	~~NA~~
22BX	22BE	Dryer with Condensate Receiver (20BX) and Condenser (2-21CD1)	--	--	NA
	22QE	Industrial hygiene vent on Dryer	--	--	22QC
22CX	22BE	Condensate Receiver	--	--	NA
22DX	22BE	Vacuum Tumble Dryer (1-22D1)	--	--	NA
	22QE	Industrial hygiene hood over Vacuum Tumble Dryer (1-22D1)	--	--	22QC
22EX	22EE	Wash Tank	--	--	NA
22MX	22ME	MIBK Hold Tank	--	--	NA
22PX	22BE	Vacuum Pump	--	--	NA
23AX	22QE	Industrial hygiene hood over UV-1164 Packer & Drumming Station	--	--	22QC
23PX	23DE	Mix Tank (3-23T8)	--	--	23HC

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
24BX	24BE	Wash Tank (3-24T1)	--	--	NA
24MX	~~24NE~~ 24ME	Crystallizer Strip Kettle with Condenser (3-24CD2)	--	--	NA
24MX 24QX	24FE	Industrial hygiene hood over UV-1164 Reactor (2-24K2), Strip Kettle (2-24K1)	--	--	NA
24NX	24ME	Condensate Receiver	--	--	NA
~~24NX~~ 24PX	24PE	Condensate Receiver	--	--	NA
24QX	~~24QE~~ 24GE	UV-1164 Reactor	--	--	NA
24RX	24RE	Condensate Receiver	--	--	NA
24TX	24GE	Splitter Bowl	--	--	NA
25CX	25AE	Centrifuge #5	--	--	NA
25EX	25AE	Wet Bin #5	--	--	NA
25HX	23NE	MIBK Storage	--	--	23HC
DRUM13	13JE	Industrial hygiene vent on drumming station below Wet Bin (13HY)	--	--	13JC
~~DRUM22~~	~~22QE~~	~~Industrial hygiene vent on Bagger (21WX)~~	~~--~~	~~--~~	~~22QC~~
~~LR-24VJ1~~	~~24PE~~	~~Vacuum Jet (24PX)~~	~~--~~	~~--~~	~~NA~~

Control Device ID	Emission Units Controlled	Emission Point	Control Device Description	Next Control Device in Series
05KC	05LX	05LE	Scrubber	NA
~~05MC~~	~~05LX~~	~~05ME~~	~~Venturi Scrubber~~	~~NA~~
10VC	102X, 103X, 111X, 112X	11ME	Vapor Return	11MV
14VC	144X, 153X	11ME	Vapor Return	11MV
17VC	17GX, 17JX, 17PX	17PE	Vapor Return	NA
18VC	12LX, 18SX	12CE, 18ME	Vapor Return	NA
13JC	DRUM13	13JE	Dust Collector	NA
22QC	DRUM22, 21WX, 22BX, 22DX, 23AX	22QE	Dust Collector	NA
23HC	23PX, 25HX	23DE	Vapor Return	NA

Product/Process Area – UV-3638IA Purification

20CX	NA	Sparkler Filter	--	--	NA
20EX	20EE	Condensate Receiver	--	--	NA

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
20FX	20DE	Vacuum Jet (3-19VJ1)	--	--	NA
20KX	~~24NE~~ 20KE	Mother Liquor Recycle	--	--	~~20KC~~ NA
	21DE	Industrial hygiene hood over Centrifuge Tank (2-19K1)	--	--	NA
20LX	~~20LE~~ 20AE	Splitter Bowl	--	--	NA
~~20NX~~	~~21DE~~	~~Industrial hygiene hood over UV-1164 Reactor & Strip Kettle~~	~~--~~	~~--~~	~~NA~~
20NX	20AE	UV-1164 Reactor with Condenser 3-20CD1	--	--	NA
~~20PX~~	~~20PE~~	~~Split Receiver~~	~~--~~	~~--~~	~~NA~~
21AX	21AE	Centrifuge	--	--	NA
21AY	NA	Wet Bin	--	--	NA
	22QE	Industrial hygiene hood over Wet Bin	--	--	22QC
21DX	21DE	Industrial hygiene hood over UV-1164 Reactor & Strip Kettle	--	--	NA
	~~24NE~~ 20EE	Strip Kettle with Condenser 3-22CD1	--	--	NA
22MX	22ME	Solvent Storage	9/1979	2,000 gal	NA
24BX	24BE	Wash Tank	--	--	NA
24JX	24GE	Splitter Bowl	--	--	NA
~~24MX~~ ~~24QX~~	~~24FE~~	~~Industrial hygiene hood over Charge & Heat up Kettle (2-24K2) and Strip Kettle (2-24K1)~~	~~--~~	~~--~~	~~NA~~
24MX	~~24NE~~ 24ME	Strip Kettle ~~with Condenser 3-25CD2~~	--	--	NA
24NX	24ME	Condensate Receiver	--	--	NA
24PX	24PE	Vacuum Jet (LR-24VJ1)	--	--	NA
24QX	~~24QE~~ 24GE	Charge & Heat Up Kettle with Condenser 3-25CD1	--	--	NA
25CX	25AE	Centrifuge	--	--	NA
25EX	22QE	Industrial hygiene hood over Wet Bin	--	--	~~22OC~~ 22QC
	~~NA~~	~~Wet Bin~~	~~--~~	~~--~~	~~NA~~

Control Device ID	Emission Units Controlled	Emission Point	Control Device Description	Next Control Device in Series
22QC	21AY, 22BX, 21WX, 22DX, 23AX, 25EX	22QE	Dust Collector (RF-22DC1)	NA
~~20KC~~	~~20KX~~	~~24NE~~	~~Vapor Return~~	~~NA~~

Product/Process Area – Batch Column

141X	NA	Still Pot	--	--	NA
142X	NA	Batch Column with Condenser (S-14CD1)	--	--	NA
154X	11ME	Reflux Drum with Condensers (S-14CD1)	--	--	11MV

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
162X	11ME	Recovered Solvent Receiver	--	--	16VC
163X	11ME	Wet Solvent Receiver	--	--	16VC
S-15EX1	NA	Reboiler	--	--	NA

Control Device ID	Emission Units Controlled	Emission Point	Control Device Description	Next Control Device in Series
11MV	154X, 162X, 163X	11ME	Water Scrubber	11MW
16VC	162X, 163X	11ME	Vapor Return	11MV

Product/Process Area – Methanol Column

074X	11ME	Intermediate Methanol Storage Tank	3/1998	12,000 gal	11VC
121A	11ME	Bulk Methanol Storage Tank	1/1988	39,780 gal	11VC
144X	11ME	Mother Liquor Storage Tank	--	--	14VC
153X	11ME	Mother Liquor Storage Tank	--	--	14VC
193X	193E	Methanol Column with Condenser (S-20CD1)	--	--	NA
203X	193E	Reflux Drum	--	--	NA

Control Device ID	Emission Units Controlled	Emission Point	Control Device Description	Next Control Device in Series
11VC	074X, 121A, 163X	11ME	Vapor Return	11MV
14VC	144X, 153X	11ME	Vapor Return	11MV

Product/Process Area – Hazardous Waste Storage Tank

0T2X	0T2E	Waste Trailer	--	--	NA
173X	173E	Hazardous Waste Tank (S-17T2) with Condenser (S-17EX1)	7/1991	17,208 gal	NA

Product/Process Area – Raw Material Storage Tanks

021X	021E	Morpholine Storage Tank (S-~~2T2~~ 2T1)	2/2007	15,000 gal	NA
25HX	251E	MIBK Storage Tank (N-25T1)	11/1994	18,000 gal	23HC
063X	063E	TBX Bulk Storage Tank (S-4T3)	5/1987	14,400 gal	NA
075X	075E	Toluene Storage Tank (S-7T3)	5/1989	16,800 gal	075C
121A	11ME	Bulk Methanol Storage Tank (S-10T1)	1/1988	39,780 gal	11VC
231X	231E	MIBK Storage Tank (S-23T1)	8/1967	14,400 gal	NA
225X	225E	Brine Storage Tank (S-22T6)	9/2000	21,000 gal	NA
241X	241E	DMF Storage Tank (S-24T1)	9/1967	9,000 gal	NA
243X	243E	ISONOX Storage Tank (S-24T2)	10/1966	12,000 gal	NA

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
233X	233E	Brine Storage Tank (S-22T6)	7/2001	20,000 gal	NA
271X	271E	Brine Storage Tank (S-27T1)	7/1969	10,000 gal	NA
041X 051X	041E	36% Hydrochloric Acid Bulk Storage Tanks (S-4T1/5T1)	--	--	05VC, 041C, 041S

Control Device ID	Emission Units Controlled	Emission Point	Control Device Description	Next Control Device in Series
05VC	041X, 051X	041E	Vapor Return	NA
041C	041X, 051X	041E	Water Scrubber	041S
041S	041X, 051X	041E	Venturi Scrubber	NA
075C	07DX, 09DX, 075X	075E	Vapor Return	NA
11VC	074X, 121A, 163X	11ME	Vapor Return	11MV

Product/Process Area – Intermediates & Products Storage Tanks

074X	11ME	Intermediate Methanol Storage Tank (S-4T4)	3/1998	12,000 gal	11VC
076X	076E	Formic Acid Storage Tank (S-7T4)	11/1992	12,000 gal	NA
184X	184E	Toluene Storage Tank (N-18T2)	7/1953	17,000 gal	NA
22MX	22ME	Solvent Storage (2-22K1)	9/1979	2,000 gal	NA

Control Device ID	Emission Units Controlled	Emission Point	Control Device Description	Next Control Device in Series
11VC	074X, 121A, 163X	11ME	Vapor Return	11MV

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device

Control Device ID	Emission Units Controlled	Emission Point	Control Device Description	Next Control Device in Series
11MV	074X, 102X, 103X, 111X, 112X, 121A, 144X, 153X, 154X, 162X, 163X	11ME	Water Scrubber	11MW
11MW	074X, 102X, 103X, 111X, 112X, 121A, 144X, 153X, 154X, 162X, 163X	11ME	Water Scrubber	11MX
11MX	074X, 102X, 103X, 111X, 112X, 121A, 144X, 153X, 154X, 162X, 163X	11ME	Water Scrubber	11MY
11MY	074X, 102X, 103X, 111X, 112X, 121A, 144X, 153X, 154X, 162X, 163X	11ME	Water Scrubber	11MZ
11MZ**	074X, 102X, 103X, 111X, 112X, 121A, 144X, 153X, 154X, 162X, 163X	11ME	Water Scrubber	NA

* The facility utilizes a flexible process. Some vessels and equipment may have multiple uses and subsequently multiple control devices/emission points. These have been listed multiple times on the equipment list.
**Scrubber 11MZ is an installed spare scrubber, to be used only if one of these scrubbers is non-operational: 11MV, 11MW, 11MX, or 11MY.

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
R13-2156~~O~~P	~~August 12, 2011~~ April 4, 2012

2.0 General Conditions

2.1. Definitions

2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.

2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.

2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.

2.1.4. Unless otherwise specified in a permit condition or underlying rule or regulation, all references to a "rolling yearly total" shall mean the sum of the monthly data, values or parameters being measured, monitored, or recorded, at any given time for the previous twelve (12) consecutive calendar months.

2.2. Acronyms

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 not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 45CSR§§30-6.6.a.1.A. or B.

b. Additional requirements (including excess emissions requirements) become applicable to an affected source under Title IV of the Clean Air Act (Acid Deposition Control) or other legislative rules of the Secretary. Upon approval by U.S. EPA, excess emissions offset plans shall be incorporated into the permit.

c. The Secretary or U.S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

d. The Secretary or U.S. EPA determines that the permit must be revised or revoked and reissued to assure compliance with the applicable requirements.

[45CSR§30-6.6.a.]

2.6. Administrative Permit Amendments

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

2.7. Minor Permit Modifications

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

2.8. Significant Permit Modification

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

2.9. Emissions Trading

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

2.10. Off-Permit Changes

2.10.1. Except as provided below, a facility may make any change in its operations or emissions that is not addressed nor prohibited in its permit and which is not considered to be construction nor modification under any rule promulgated by the Secretary without obtaining an amendment or modification of its permit. Such changes shall be subject to the following requirements and restrictions:

a. The change must meet all applicable requirements and may not violate any existing permit term or condition.

b. The permittee must provide a written notice of the change to the Secretary and to U.S. EPA within two (2) business days following the date of the change. Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.

c. The change shall not qualify for the permit shield.

d. The permittee shall keep records describing all changes made at the source that result in emissions of regulated air pollutants, but not otherwise regulated under the permit, and the emissions resulting from those changes.

e. No permittee may make any change subject to any requirement under Title IV of the Clean Air Act (Acid Deposition Control) pursuant to the provisions of 45CSR§30-5.9.

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

[45CSR§30-5.9.]

2.11. Operational Flexibility

2.11.1. The permittee may make changes within the facility as provided by § 502(b)(10) of the Clean Air Act. Such operational flexibility shall be provided in the permit in conformance with the permit application and applicable requirements. No such changes shall be a modification under any rule or any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) promulgated by the Secretary in accordance with Title I of the Clean Air Act and the change shall not result in a level of emissions exceeding the emissions allowable under the permit.
[45CSR§30-5.8]

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

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

a. If subsequent changes cause the facility's operations and emissions to revert to those authorized in the permit and the permittee resumes compliance with the terms and conditions of the permit, or

b. If the permittee obtains final approval of a significant modification to the permit to incorporate the change in the permit.

[45CSR§30-5.8.c.]

2.11.4. "Section 502(b)(10) changes" are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
[45CSR§30-2.39]

2.12. Reasonably Anticipated Operating Scenarios

2.12.1. The following are terms and conditions for reasonably anticipated operating scenarios identified in this permit.

a. Contemporaneously with making a change from one operating scenario to another, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating and to document the change in reports submitted pursuant to the terms of this permit and 45CSR30.

b. The permit shield shall extend to all terms and conditions under each such operating scenario; and

c. The terms and conditions of each such alternative scenario shall meet all applicable requirements and the requirements of 45CSR30.

[45CSR§30-5.1.i.]

2.13. Duty to Comply

2.13.1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.
[45CSR§30-5.1.f.1.]

2.14. Inspection and Entry

2.14.1. The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

c. Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;

d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.

[45CSR§30-5.3.b.]

2.15. Schedule of Compliance

2.15.1. For sources subject to a compliance schedule, certified progress reports shall be submitted consistent with the applicable schedule of compliance set forth in this permit and 45CSR§30-4.3.h., but at least every six (6) months, and no greater than once a month, and shall include the following:

a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and

b. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measure adopted.

[45CSR§30-5.3.d.]

2.16. Need to Halt or Reduce Activity not a Defense

2.16.1. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.
[45CSR§30-5.1.f.2.]

2.17. Emergency

2.17.1. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.
[45CSR§30-5.7.a.]

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

2.17.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;

b. The permitted facility was at the time being properly operated;

c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and

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

[45CSR§30-5.7.c.]

2.17.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
[45CSR§30-5.7.d.]

2.17.5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.
[45CSR§30-5.7.e.]

2.18. Federally-Enforceable Requirements

2.18.1. All terms and conditions in this permit, including any provisions designed to limit a source's potential to emit and excepting those provisions that are specifically designated in the permit as "State-enforceable only", are enforceable by the Secretary, USEPA, and citizens under the Clean Air Act.
[45CSR§30-5.2.a.]

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

2.19. Duty to Provide Information

2.19.1. The permittee shall furnish to the Secretary within a reasonable time any information the Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records required to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.
[45CSR§30-5.1.f.5.]

2.20. Duty to Supplement and Correct Information

2.20.1. Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.
[45CSR§30-4.2.]

2.21. Permit Shield

2.21.1. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance provided that such applicable requirements are included and are specifically identified in this permit or the Secretary has determined that other requirements specifically identified are not applicable to the source and this permit includes such a determination or a concise summary thereof.
[45CSR§30-5.6.a.]

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

a. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance; or

b. The applicable requirements of the Code of West Virginia and Title IV of the Clean Air Act (Acid Deposition Control), consistent with § 408 (a) of the Clean Air Act.

c. The authority of the Administrator of U.S. EPA to require information under § 114 of the Clean Air Act or to issue emergency orders under § 303 of the Clean Air Act.

[45CSR§30-5.6.c.]

2.22. Credible Evidence

2.22.1. Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee including but not limited to any challenge to the credible evidence rule in the context of any future proceeding.
[45CSR§30-5.3.e.3.B. and 45CSR38]

2.23. Severability

2.23.1. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid by a court of competent jurisdiction, the remaining permit terms and conditions or their application to other circumstances shall remain in full force and effect.
[45CSR§30-5.1.e.]

2.24. Property Rights

2.24.1. This permit does not convey any property rights of any sort or any exclusive privilege.
[45CSR§30-5.1.f.4]

2.25. Acid Deposition Control

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

a. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid deposition control program, provided that such increases do not require a permit revision under any other applicable requirement.

b. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.

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

[45CSR§30-5.1.d.]

2.25.2. Where applicable requirements of the Clean Air Act are more stringent than any applicable requirement of regulations promulgated under Title IV of the Clean Air Act (Acid Deposition Control), both provisions shall be incorporated into the permit and shall be enforceable by the Secretary and U. S. EPA.
[45CSR§30-5.1.a.2.]

3.0 Facility-Wide Requirements

3.1. Limitations and Standards

3.1.1. **Open burning.** The open burning of refuse by any person is prohibited except as noted in 45CSR§6-3.1.
[45CSR§6-3.1.]

3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause or allow any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]

3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.
[40 C.F.R. §61.145(b) and 45CSR34]

3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.
[45CSR§4-3.1 State-Enforceable only.]

3.1.5. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.
[45CSR§11-5.2]

3.1.6. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality.
[W.Va. Code § 22-5-4(a)(14)]

3.1.7. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.

b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.

[40 C.F.R. 82, Subpart F]

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

3.1.9. When emissions on an annual basis of one or more of the greenhouse gases listed below are greater than the *de minimis* amounts listed below, all greenhouse gases emitted above the *de minimis* amounts shall be reported to the Secretary under 45CSR§42-4. (see Section 3.5.):

Greenhouse Gas Compound	tons/year
carbon dioxide	10,000
methane	476
nitrous oxide	32.6
hydrofluorocarbons	0.855
perfluorocarbons	1.09
sulfur hexafluoride	0.42

[45CSR§42-3.1., State-Enforceable only.]

3.1.10. **Permanent shutdown.** A source which has not operated at least 500 hours in one 12-month period within the previous five (5) year time period may be considered permanently shutdown, unless such source can provide to the Secretary, with reasonable specificity, information to the contrary. All permits may be modified or revoked and/or reapplication or application for new permits may be required for any source determined to be permanently shutdown.
[45CSR§13-10.5.]

3.2. Monitoring Requirements

3.2.1. None.

3.3. Testing Requirements

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

a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable.

b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit.

c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.

d. The permittee shall submit a report of the results of the stack test within 60 days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:

1. The permit or rule evaluated, with the citation number and language.

2. The result of the test for each permit or rule condition.

3. A statement of compliance or non-compliance with each permit or rule condition.

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

3.4. Recordkeeping Requirements

3.4.1. **Monitoring information.** The permittee shall keep records of monitoring information that include the following:

a. The date, place as defined in this permit and time of sampling or measurements;

b. The date(s) analyses were performed;

c. The company or entity that performed the analyses;

d. The analytical techniques or methods used;

e. The results of the analyses; and

f. The operating conditions existing at the time of sampling or measurement.

[45CSR§30-5.1.c.2.A.; 45CSR13, R13-2156; 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.]

3.4.4. **Mandatory Greenhouse Gas Reporting.** An owner or operator that is required to report GHGs under 40 C.F.R. 98 must keep records as specified in 40 C.F.R. §98.3(g). All required records shall be retained for at least 3 years. The records shall be kept in an electronic or hard-copy format (as appropriate) and recorded in a form that is suitable for expeditious inspection and review. Upon request by the Administrator, the records required under 40 C.F.R. §98.3(g) must be made available to EPA. Records may be retained off site if the records are readily available for expeditious inspection and review. For records that are electronically generated or maintained, the equipment or software necessary to read the records shall be made available, or, if requested by EPA, electronic records shall be converted to paper documents. The permittee shall retain the records specified in 40 C.F.R. §98.3(g), in addition to those records prescribed in each applicable subpart of 40 C.F.R. 98. **[40 C.F.R. §98.3(g)]**

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 ~~Permits Review (3AP12)~~ 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.]

3.5.10. **Greenhouse Gas Reporting Requirements**. When applicable, as determined in permit section 3.1., greenhouse gas emissions shall be reported pursuant to 45CSR§42-4. as follows:

a. In accordance with a reporting cycle provided by the Director, affected sources shall report to the Director the quantity of all greenhouse gases emitted above *de minimis* amounts in the years specified by the Director.

b. Affected sources shall only be required to report annual quantities of anthropogenic non-mobile source greenhouse gases emitted at the stationary source, and shall not be required to report biogenic emissions of greenhouse gases.

c. The Director shall determine the form and format of the information reported by affected sources under permit condition 3.5.10.a to ensure that the information is consistent as possible with developing regional, national, or international greenhouse gas emissions programs.

d. Notwithstanding the provisions of permit condition 3.5.10.c, to satisfy the greenhouse gas emission reporting requirements under this section, affected sources may submit greenhouse gas emissions inventory information from documented greenhouse gas inventories such as those provided to the Environmental Protection Agency's Climate Leaders Program, Chicago Climate Exchange Registry, the International Organization for Standardization and the SF_6 Emissions Reduction Partnership for Electric Power Systems. Greenhouse gas emissions inventory information from other widely recognized and verified greenhouse gas emissions inventory programs may be submitted by affected sources under this subsection, but shall be subject to approval by the Director on a case-by-case basis.

e. Reports of greenhouse gas emissions submitted to the Director under this permit condition shall be signed by a responsible official and shall include the following certification statement: "I, the undersigned, hereby certify that the data transmitted to the West Virginia Department of Environmental Protection is true, accurate, and complete, based upon information and belief formed after reasonable inquiry."

f. Greenhouse gases reported under this section are not subject to fees under 45CSR30, unless the greenhouse gases are otherwise regulated by the Director.

[45CSR§§42-4.1 through 4.6, State-Enforceable only.]

3.5.11. In the event the permittee should deem it necessary to suspend, for a period in excess of sixty (60) consecutive calendar days, the operations authorized by this permit, the permittee shall notify the Secretary, in writing, within two (2) calendar weeks of the passing of the sixtieth (60) day of the suspension period. **[45CSR13, R13-2156, 2.14]**

3.5.12. **Mandatory Greenhouse Gas Reporting.** The owner or operator of a facility or supplier that is subject to the requirements of 40 C.F.R. 98 must submit GHG reports to the Administrator, as specified in 40 C.F.R. §98.3. The annual GHG report must be submitted no later than March 31 of each calendar year for GHG emissions in the previous calendar year. **[40 C.F.R. §98.3]**

3.6. Compliance Plan

3.6.1. None.

3.7. Permit Shield

3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.

3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.

a. 40 C.F.R. 60, Subpart K – "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978." There are no petroleum liquid storage tanks in the Polymer Additives manufacturing unit.

b. 40 C.F.R. 60, Subpart Ka – "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 19, 1978, and Prior to July 23, 1984." There are no petroleum liquid storage tanks in the Polymer Additives manufacturing unit.

c. 40 C.F.R. 60, Subparts VV, III, NNN, and RRR – "Standards of Performance for Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Processes." The equipment subject to this permit is not a SOCMI "affected facility," because such equipment is not assembled to produce any chemical defined as a SOCMI chemical.

d. 40 C.F.R. 60, Subpart DDD – "Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry." The Polymer Additives manufacturing unit does not manufacture polypropylene, polyethylene, polystyrene, or poly(ethylene terephthalate) for which this rule applies.

e. 40 C.F.R. 61, Subpart V – "National Emission Standards for Equipment Leaks (Fugitive Emissions Sources)." Applies to sources in VHAP service as defined in 40 C.F.R. §61.241. VHAP service involves chemicals that are not used in a manner that qualifies them under the rule in the Polymer Additives manufacturing unit.

f. 40 C.F.R. 63, Subpart D, F, and G – "National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry (HON)." The equipment subject to this permit is not an "affected facility," because such equipment does not manufacture as a primary product any chemical listed in Table 1 of Subpart F.

g. 40 C.F.R. 63, Subpart DD – "National Emission Standards for Hazardous Air Pollutants From Off-Site Waste and Recovery Operations." The Polymer Additives manufacturing unit does not receive off-site materials as specified in paragraph 40 C.F.R. §63.680(b) and the operations are not one of the waste management operations or recovery operations as specified in 40 C.F.R. §§63.680(a)(2)(i) through (a)(2)(vi).

h. 40 C.F.R. 63, Subpart JJJ – "National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resins." The Polymer Additives manufacturing unit does not produce the materials listed in 40 C.F.R. §63.1310.

i. 40 C.F.R. 63, Subpart PPPP – "National Emission Standards for Hazardous Air Pollutants: Surface Coating of Plastic Parts and Products." The Polymer Additives manufacturing unit does not produce an intermediate or final product that meets the definition of "surface coated" plastic part.

j. 40 C.F.R. 63, Subpart WWWW – "National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production." The Polymer Additives manufacturing unit does not engage in reinforced plastics composites production as defined in 40 C.F.R. §63.5785 and does not manufacture composite material as defined in 40 C.F.R. §63.5935.

k. 40 C.F.R. 63, Subpart DDDDD – "National Emission Standards for Hazardous Air Pollutants: Industrial/Commercial/Institutional Boilers and Process Heaters." The Polymer Additives manufacturing unit does not own or operate an industrial, commercial, or institutional boiler or process heater as defined in 40 C.F.R. §63.7575 (for both the standard that was vacated and remanded on June 19, 2007 and the standard proposed on June 4, 2010).

l. 40 C.F.R. 64 – "Compliance Assurance Monitoring." The Polymer Additives manufacturing unit is not subject to the requirements of 40 C.F.R. 64 because the potential pre-control device emissions for each pollutant-specific emissions unit are less than major source levels; or the pollutant-specific emissions unit is subject to an exempt emission limitation or standard per 40 C.F.R. §64.2(b)(1)(i); or the Title V permit already specified a continuous compliance determination method per 40 C.F.R. §64.1(b)(1)(vi) for the emission limitation or standard. Note that vapor return lines are a passive control measure, and therefore are not a control device as defined in the CAM rule under 40 C.F.R. §64.1.

m. 45CSR2 – "To Prevent and Control Particulate Air Pollution from Combustion of Fuel in Indirect Heat Exchangers." The Polymer Additives manufacturing unit does not contain any fuel burning units.

n. 45CSR10 – "To Prevent and Control Air Pollution from the Emission of Sulfur Oxides." The Polymer Additives manufacturing unit does not have emission sources of sulfur oxides subject to this rule.

o. 45CSR17 – To Prevent and Control Particulate Matter Air Pollution from Materials Handling, Preparation, Storage and Other Sources of Fugitive Particulate Matter." Per 45CSR§17-6.1, the Polymer Additives manufacturing unit is not subject to 45CSR17 because it is subject to the fugitive particulate matter emission requirements of 45CSR7.

p. 40 C.F.R. 60, Subpart Kb – "Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984." 40 C.F.R. 60, Subpart Kb applies to each storage vessel with a capacity greater than or equal to 75 m^3 that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984. Tanks 021X, 074X, 075X, 076X, and 173X store volatile organic liquids and were constructed after July 23, 1984, but are not subject to 40 C.F.R. 60, Subpart Kb because they have a capacity of less than 75 m^3. Storage tanks 063X, 225X and 233X were constructed after July 23, 1984, but do not store volatile organic liquids.

q. 45CSR27 – "To Prevent and Control the Emissions of Toxic Air Pollutants." Since the potential emissions of formaldehyde to the atmosphere from all sources (point, fugitive, and secondary) at CYTEC's Willow Island Plant are now less than 1,000 lb/year of formaldehyde, the emission units are no longer subject to the BAT requirements under 45CSR27, per section 45CSR§27-3.1. Also, per 45CSR§27-3.1, emission units within the Polymer Additives Manufacturing Unit that emit formaldehyde would no longer be subject to the BAT requirements of 45CSR27 because they are now subject to the requirements of 40 C.F.R. 63, Subpart FFFF. The potential air emissions from all sources (point, fugitive, and secondary) at CYTEC's Willow Island Plant, of all toxic air pollutants listed in Table A of 45CSR27 are less than the amounts shown in Table A.

4.0. Source-Specific Requirements

4.1. Limitations and Standards

4.1.1. Vent emissions to the atmosphere from the Building 82 Manufacturing Unit, which consists of the equipment listed in Section 1.0, shall not exceed the emission limitations set forth in Table 4.1.1.

Table 4.1.1. Emission Limits for Building 82 Manufacturing Unit

Pollutant	Emission Limit (TPY)
PM_{10}	6.03
VOC	114.33
THAP	96.73
Formaldehyde*	0.219

*Toxic Air Pollutant (TAP) regulated under 45CSR27

[45CSR13, R13-2156, 4.1.1]

4.1.2. During all periods of normal operations, process vent air emissions from the emission sources and equipment listed in Section 1.0 shall be routed to and controlled by the associated control devices listed in Section 1.0 prior to venting emissions to the atmosphere. However, the control devices listed in Section 1.0 may be bypassed to perform maintenance and/or repair activities for periods up to 72 hours per calendar year per control device, with the bypass hours counted only when the listed emission group(s) in Appendix A are operating and venting to the respective control device during a bypass event. **[45CSR13, R13-2156, 4.1.2]**

4.1.3. Compliance with the emission limits set forth in Section 4.1.1, shall be demonstrated by calculating emissions for every product in the Building 82 Manufacturing Unit using Emission Master®, emission modeling software, or other appropriate emission/discharge estimation models or calculation methodologies (e.g., ChemCAD®, PlantWare®, USEPA's TANKS 4.0, etc.). When these emissions are calculated, each emission point listed in Section 1.0 with emissions of regulated air pollutants listed in Section 4.1.1 shall be included in the calculations and accounted for in the emission estimates. The emission models and other calculation methods shall be maintained current for all processes, process modifications and new product variants. The Director of the Division of Air Quality may specify or may approve other valid methods for compliance determination when he or she deems is appropriate and necessary. **[45CSR13, R13-2156, 4.1.5]**

4.1.4. Emissions to the atmosphere from the following emission sources subject to 45CSR7 – "To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations" shall not exceed the emission limitations set forth in Sections 4.1.10 and 4.1.11.

Table 4.1.4. 45CSR7 Sources Emission Limits

Product or Process Name	Emission Point ID	Source ID	Pollutant
UV3346, UV3529, UV4593, UV4611, UV4801, UV4802, UV6435, UV6460	05KE	08BX (2-8K8)	PM_{10} Opacity
A1846, UV2908, UV3638	05ME	05LX (2-5K8)	PM_{10} Opacity
UV3346, UV3529, UV4593, UV4611, UV4801, UV4802, UV6435, UV6460	06FE	06CX (2-6K3)	PM_{10} Opacity

Product or Process Name	Emission Point ID	Source ID	Pollutant
UV3346, UV3529, UV4593, UV4611, UV4801, UV4802, UV6435, UV6460	10IE	10CX (2-10K3)	PM_{10} Opacity
UV3346, UV3529, UV4593, UV4611, UV4801, UV4802, UV6435, UV6460	07CE	07AX (3-7K4)	PM_{10} Opacity
UV3346, UV3529, UV4593, UV4611, UV4801, UV4802, UV6435, UV6460	07FE	07KX (2-7K8)	PM_{10} Opacity
UV3346, UV3529, UV4593, UV4611, UV4801, UV4802, UV6435, UV6460	08RE	09CX (2-9K4)	PM_{10} Opacity
UV3346, UV3529, UV4593, UV4611, UV4801, UV4802, UV6435, UV6460	08RE	DRUM08	PM_{10} Opacity
UV3346, UV3529, UV4593, UV4611, UV4801, UV4802, UV6435, UV6460	12DE	11AX (2-11K1)	PM_{10} Opacity
A1790, A2777, UV3638, UV2908	13JE	DRUM13	PM_{10} Opacity
A1790, UV2908	14EE	14HX (2-14K1)	PM_{10} Opacity
A1790, UV2908	14EE	14FX (2-14K2)	PM_{10} Opacity
A1790, UV2908, UV3638	18JE	16UX (2-16K1)	PM_{10} Opacity
UV3638	18JE	16WX (2-16K2)	PM_{10} Opacity
UV3638	18JE	16JX (3-16K1)	PM_{10} Opacity
UV2908, UV3638	21DE	20KX (2-19K1)	PM_{10} Opacity
A1790, A2777, UV416	22QE	22BX (1-21D1)	PM_{10} Opacity
A425, A1790, A2246, A2777, UV416, UV1164, UV2126, UV2908, UV3638	22QE	21WX, 23AX, DRUM22	PM_{10} Opacity
CA150, UV2908	23AE	DRUM23	PM_{10} Opacity
CIP200, UV1164A, UV1164D, UV1164G, UV1164L, UV2908	24FE	24MX (2-24K1)	PM_{10} Opacity
A425, A2246, CIP200, UV1164, UV1164A, UV1164D, UV1164G, UV1164L, UV416, UV2908, UV3638	24FE	24QX (2-24K2)	PM_{10} Opacity
UV2126	24GE	LIQUI-PAK	PM_{10} Opacity
~~CA150~~	~~25TE~~	~~DRUM24~~	~~PM_{10} Opacity~~
A1846, UV2908, UV3638	05LE	05LX (2-5K8)	HCl Opacity

Product or Process Name	Emission Point ID	Source ID	Pollutant
Waste Trailer	0T2E	0T2X (T/T)	H_3PO_4 Opacity
A1790	12CE	12LX (2-12K2)	H_3PO_4 Opacity
A1790	13HE	13HX (3-13W1)	H_3PO_4 Opacity
BATCHCOL	154E	141X (S-14T1)	H_3PO_4 Opacity
A1790	15EE	13EX (3-15W1)	H_3PO_4 Opacity
A1790	18ME	18SX (2-18K1)	H_3PO_4 Opacity
A1790	21AE	21AX (3-21W1)	H_3PO_4 Opacity
UV2126	22QE	22GX (3-22D1)	H_3PO_4 Opacity
UV2126	24BE	24MX (2-24K1)	H_3PO_4 Opacity
UV2126	24ME	24MX (2-24K1)	H_3PO_4 Opacity
UV2126	25AE	25CX (3-25W1)	H_3PO_4 Opacity
~~UV2126~~	~~25BE~~	~~24MX (2-24K1)~~	~~H_3PO_4~~ ~~Opacity~~
Storage Tanks	041E	041X/051X (S-4T1/S-5T1)	HCl Opacity
Storage Tanks	173E	173X (S-17T2)	H_3PO_4 Opacity
Storage Tanks	076E	076X (S-7T4)	H_2SO_4 Opacity

[45CSR13, R13-2156, 4.1.6]

4.1.5. *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, R13-2156, 4.1.7]**

4.1.6. The control devices listed in Appendix A shall be operated in accordance with the required monitoring parameters and inspected and maintained in accordance with the Inspection & Preventative Maintenance schedules listed in Appendix A. Missed readings for each scrubber monitoring parameter data element specified in Appendix A shall not exceed 5% of the total required readings in a rolling twelve (12) month period.

4.1.6.1. The following scrubber control devices shall not recirculate or reuse scrubber liquor; these scrubbers shall use once through water as their scrubbing liquor:

Table 4.1.6.1. Scrubbers Requiring Once Through Water

Control Device ID	Control Device Description
041C	Packed Bed Scrubber
041S	Venturi Scrubber

[45CSR13, R13-2156, 4.1.8]

4.1.7. **40 C.F.R. 63, Subpart FFFF.** The Polymer additives Manufacturing Unit has been determined to be subject to the following requirements of 40 C.F.R. 63, Subpart FFFF – "National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing."

4.1.7.1. **General Requirements.** The permittee shall comply with all applicable general requirements specified in Table 12 to 40 C.F.R. 63, Subpart FFFF and 40 C.F.R. §§63.2450 and 63.2540. **[45CSR34; 40 C.F.R. §§63.2450 and 63.2540; Table 12 to 40 C.F.R. 63, Subpart FFFF; 45CSR13, R13-2156, 4.1.9]**

4.1.7.2. **Continuous Process Vents.** The permittee shall comply with each emission limit in Table 1 to 40 C.F.R. 63, Subpart FFFF and each applicable requirement specified in 40 C.F.R. §63.2445 for the continuous process vents.

a. **Group 1 Continuous Process Vents.** For Group 1 continuous process vents, the permittee has chosen to reduce emissions of total organic HAP by ≥ 98 percent by weight or to an outlet process concentration ≤ 20 ppm_v as organic HAP or TOC by venting emissions through a closed-vent system to any combination of control devices (except a flare). *(MCPU 13- Emission Unit ID Nos. 154X, 162X, 163X)*

[45CSR34; 40 C.F.R. §63.2455; Table 1 to 40 C.F.R. 63, Subpart FFFF; 45CSR13, R13-2156, 4.1.9]

4.1.7.3. **Batch Process Vents.** The permittee shall comply with each emission limit in Table 2 to 40 C.F.R. 63, Subpart FFFF and each applicable requirement specified in 40 C.F.R. §63.2460 for the batch process vents.

a. **Group 1 Batch Process Vents.** For Group 1 batch process vents, the permittee has chosen to reduce collective uncontrolled organic HAP emissions from the sum of all batch process vents within the process by ≥ 95 percent by weight by venting emissions from a sufficient number of the vents through one or more closed-vent systems to any combination of control devices (except a flare). *(MCPU 3 and 4 – Emission Point ID Nos. 05KE, 06EE, 06FE, 07AE, 07BE, 07CE, 07NE, 08BE, 08RE, 09AE, 09CE, 09NE, 09PE, 07GE, 10GE, 07FE, 10PE)*

[45CSR34; 40 C.F.R. §63.2460; Table 2 to 40 C.F.R. 63, Subpart FFFF; 45CSR13, R13-2156, 4.1.9]

4.1.7.4. **Storage Tanks.** The permittee shall comply with either the vapor balancing alternative of 40 C.F.R. §63.2470(e) or the emission limits of Table 4 to 40 C.F.R. 63, Subpart FFFF for each applicable Polymer Additives Group 1 storage tank in accordance with the applicable requirements of 40 C.F.R. §63.2470.

a. **Group 1 Storage Tanks.** For Group 1 storage tanks that do not have a halogenated vent stream, the permittee has chosen to comply with the requirements for a Group 1 continuous process vent as specified in 4.1.7.2.a. *(MCPU 1 – Emission Unit ID Nos. 144X, 153X; MCPU 2 – Emission Unit ID Nos. 112X, 111X, 103X, 102X, 074X, 121A)*

b. **Halogenated Vent Stream from a Group 1 Storage Tank.** For a halogenated vent stream from a Group 1 storage tank, the permittee has chosen to reduce total HAP emissions by ≥95 percent by weight or to ≤ 20 ppm_v of TOC or organic HAP and ≤ 20 ppm_v of hydrogen halide and halogen HAP by venting emissions through a closed vent system to any combination of control devices (excluding a flare). *(MCPU 2 – Emission Units 041X and 051X)*

[45CSR34; 40 C.F.R. §§63.2450(c)(2) and 63.2470; Table 4 to 40 C.F.R. 63, Subpart FFFF; 45CSR13, R13-2156, 4.1.9]

4.1.7.5. **Surge Control Vessels and Bottoms Receivers.** The permittee shall comply with the emission limits and work practice standards of Table 4 to 40 C.F.R. 63, Subpart FFFF for each applicable Polymer Additives surge control vessel or bottoms receiver that meets the capacity and vapor thresholds for a Group 1 storage tank in accordance with the applicable requirements of 40 C.F. R. §63.2450(r).

a. **Surge Control Vessels and Bottoms Receivers Meeting Group 1 Criteria.** For their Group 1 surge control vessels and bottoms receivers, the permittee has chosen to comply with the requirements for a Group 1 continuous process vent as specified in 4.1.7.2.a. *(MCPU 13 – Equipment ID Nos. 144X and 153X)*

[45CSR34; 40 C.F.R. §§63.2450(c)(2) and 63.2450(r) ; 45CSR13, R13-2156, 4.1.9]

4.1.7.6. **Transfer Racks.** The permittee shall comply with either the vapor balancing alternative or the emission limits of 40 C.F.R. §63.2475 and Table 5 to 40 C.F.R. 63, Subpart FFFF for each applicable Polymer Additives Group 1 transfer racks in accordance with the applicable requirements of 40 C.F.R. §63.2475.

a. **Group 1 Transfer Racks.** For their Group 1 transfer racks, the permittee has chosen to use a vapor balancing system designed and operated to collect organic HAP vapors displaced from tank trucks and railcars during loading and route the collected HAP vapors to the storage tank from which the liquid being loaded originated or to another storage tank connected by a common header.

(MCPU 3 and MCPU 4– hazardous waste loading from the S-17T2 hazardous waste storage tank)

[45CSR34; 40 C.F.R. §63.2475; Table 5 to 40 C.F.R. 63, Subpart FFFF; 45CSR13, R13-2156, 4.1.9]

4.1.7.7. **Equipment Leaks.** The permittee shall comply with each applicable requirement of 40 C.F.R. §63.2480 and Table 6 of 40 C.F.R. 63, Subpart FFFF, and either 40 C.F.R. 63, Subpart H, 40 C.F.R. 63, Subpart UU, or 40 C.F.R. 65, Subpart F for the applicable Polymers Additives equipment components that are in organic HAP service. **[45CSR34; 40 C.F.R. §63.2480; Table 6 to 40 C.F.R. 63, Subpart FFFF; 45CSR13, R13-2156, 4.1.9]**

4.1.7.8. **Wastewater Streams.** The permittee shall comply with the applicable requirements of 40 C.F.R. §§63.105, 63.132 through 63.148, 63.2485, and Table 7 to 40 C.F.R. 63, Subpart FFFF for the Polymer Additives wastewater streams. **[45CSR34; 40 C.F.R. §63.2485; Table 7 to 40 C.F.R. 63, Subpart FFFF; 45CSR13, R13-2156, 4.1.9]**

4.1.7.9. **Heat Exchange Systems.** The permittee shall comply with the applicable requirements of 40 C.F.R. §63.104, 40 C.F.R. §63.2490, and Table 10 to 40 C.F.R. 63, Subpart FFFF for the Polymer Additives cooling/heat exchange systems. **[45CSR34; 40 C.F.R. §63.2490; Table 10 to 40 C.F.R. 63, Subpart FFFF; 45CSR13, R13-2156, 4.1.9]**

4.1.8. 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 Section 4.1.9. Process source operations subject to the opacity limitation are indicated in Section 4.1.4. **[45CSR13, R13-2156, 4.1.11; 45CSR§7-3.1]**

4.1.9. The opacity provisions of Section 4.1.8 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. **[45CSR13, R13-2156, 4.1.12; 45CSR§7-3.2]**

4.1.10. The permittee shall not cause, suffer, allow or permit particulate matter to be vented into the open air from any type of source operation or duplicate source operation, or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantity specified under type 'a' source operation in Table 45-7A found at the end of 45CSR7. Process source operations subject to the particulate weight limitation are indicated in Section 4.1.4. [**45CSR13, R13-2156, 4.1.13; 45CSR§7-4.1]**

4.1.11. Mineral acids shall not be released from any type source operation or duplicate source operation or from all pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantity given in Table 4.1.11. Process source operations subject to the mineral acid concentration limitation are indicated in Section 4.1.4.

Table 4.1.11. Mineral Acid Stack Gas Concentration Limitations

Mineral Acid	Allowable Stack Gas Concentration (mg/dscm)
Sulfuric Acid Mist (H_2SO_4)	35
Nitric Acid Mist and/or Vapor (HNO_3)	70
Hydrochloric Acid Mist and/or Vapor (HCl)	210
Phosphoric Acid Mist and/or Vapor (H_3PO_4)	3

[45CSR13, R13-2156, 4.1.14; 45CSR§7-4.2]

4.1.12. Due to unavoidable malfunction of equipment, emissions exceeding those set forth in Section 4.1.10 and 4.1.11 may be permitted by the Director for periods not to exceed ten (10) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the permittee and approved by the Director. **[45CSR13, R13-2156, 4.1.15; 45CSR§7-9.1]**

4.1.13. Maintenance operations shall be exempt from the provisions of 45CSR§7-4, and the emission limitations set forth in Sections 4.1.10 and 4.1.11, provided that, at all times the owner or operator conducts maintenance operations 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 not limited to, monitoring results, opacity observations, review of operating and maintenance procedures and inspection of the source.
[45CSR13, R13-2156, 4.1.16; 45CSR§7-10.3]

4.1.14. The following equipment, listed in Table 4.1.14, in the Building 82 Manufacturing Unit is used on an as-needed basis and may not be operated for extended periods of time. This equipment is exempt from Section 3.5.11, but remains subject to Section 3.1.10. Written notification shall be provided to the Director in the event of permanent shutdown of this equipment.

Table 4.1.14. Intermittent Use Equipment

Equipment ID	Source Description
07GX	Tank
0T3X	Anhydrous HCl Bulk Tube Trailer
181X	Tank
23NC	Venturi Scrubber
11NX (N-11T1)	Tank
11HX (2-11K3)	Still Pot (11HX)/Condenser (3-11CD1)/Mist Eliminator (3-11ME1)
11EX (3-11K1)	Tank
26DX (2-26K1)	Tank
27FX	Tank
27KX	Tank
3-27EX-5	Condenser
23LX	Tank
23BX	Tank
23SX	Tank
~~20CX~~	~~Sparkler Filter~~
215X	Column with Condensers (N-21CD3, N-21CD4, & 3-21EX1)
21FX	Tank
21GX	Tank
21QX	Tank
227X	Tank with Condenser (N-22CD1)
228X	Stage 2 Column with Condensers (N-22CD6, N-22CD8, & 3-21EX1)
~~22KX~~	~~Splitter Bowl~~
N-21EX1	Reboiler
N-21-EX2	Preheater
N-22EX5	Rototherm
N-22EX7	Cooler

Equipment ID	Source Description
281X	Storage Tank
303X	Storage Tank
261X	Storage Tank

[45CSR13, R13-2156, 4.1.17]

4.1.15. Any stack serving any process source operation or air pollution control equipment 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]**

4.1.16. **Fugitives.** No person shall 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]**

4.1.17. **Fugitives.** The owner or operator of a plant shall maintain particulate matter control of the plant premises, and plant owned, leased or controlled access roads, by paving, application of asphalt, chemical dust suppressants or other suitable dust control measures. Good operating practices shall be implemented and when necessary particulate matter suppressants shall be applied in relation to stockpiling and general material handling to minimize particulate matter generation and atmospheric entrainment. **[45CSR§7-5.2]**

4.2. Monitoring Requirements

4.2.1. The permittee shall perform monitoring of all equipment parameters listed in Appendix A per the minimum data collection frequency and per the data averaging period as indicated. **[45CSR13, R13-2156, 4.2.1]**

4.2.2. For the purpose of determining compliance with the opacity limits of 4.1.8 and 4.1.9 (45CSR§§7-3.1 and 3.2), the permittee shall conduct visible emission checks or opacity monitoring and recordkeeping for all emission points and equipment subject to an opacity limit, including those emission sources listed in Table 4.1.4.

Monitoring shall be conducted initially at least once per month with a maximum of forty-five (45) days between consecutive readings. After three consecutive monthly readings in which no visible emissions are observed from any of the subject emission points, those emission points will be allowed to conduct visible emission checks or opacity monitoring once per calendar quarter. If visible emissions or opacity are observed during a quarterly monitoring from an emission point(s), then that emission point(s) with observed emissions or opacity shall be required to revert to monthly monitoring. Any emission point that has reverted to monthly monitoring shall be allowed to again conduct quarterly visible emission checks or opacity monitoring only after three consecutive monthly readings in which no visible emissions are observed from the subject emission point.

These checks shall be conducted by personnel trained in the practices and limitations of 40 C.F.R. 60, Appendix A, Method 9 or Method 22, or 45CSR7A, during periods of normal operation of emission sources that vent from the referenced emission points for a sufficient time interval to determine if there is a visible emission. For observations of visible emissions from any emission point(s) which follows a water scrubber, when condensed water vapor is present in the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which condensed water vapor is no longer visible; the observer shall record the

approximate distance from the emission outlet to the point in the plume at which the observations are made.

If visible emissions are identified during the visible emission check, or at any other time regardless of operations, the permittee shall conduct an opacity reading using the procedures and requirements of 45CSR7A within seventy-two (72) hours of the first signs of visible emissions. A 45CSR7A evaluation shall not be required if the visible emission condition is corrected within seventy-two (72) hours after the visible emission and the sources are operating at normal conditions.
[45CSR13, R13-2156, 4.2.2]

4.2.3. The permittee shall monitor and record monthly the following data pertaining to any control device bypass events per Section 4.1.2: Identification of the control device bypassed, the date and the duration of the bypass, the nature of the repair or maintenance conducted, and the quantity of regulated air pollutants emitted during the bypass time period. **[45CSR13, R13-2156, 4.2.3]**

4.2.4. **40 C.F.R. 63, Subpart FFFF.** The permittee shall perform all required monitoring in compliance with the applicable general provisions of 40 C.F.R. 63, Subpart FFFF, per: 40 C.F.R. §§63.2450 and 63.2540; Table 12 to 40 C.F.R. 63, Subpart FFFF; and 40 C.F.R. 63, Subpart A. **[45CSR34; 40 C.F.R. §§63.2450 and 63.2540; Table 12 to 40 C.F.R. 63, Subpart FFFF; 40 C.F.R. 63, Subpart A; 45CSR13, R13-2156, 4.1.9]**

4.2.5. **40 C.F.R. 63, Subpart FFFF.** The permittee shall demonstrate compliance with the Group 1 continuous process vent standards listed in 4.1.7.2.a, the Group 1 storage tank standards listed in 4.1.7.4.a, and the standards for surge control vessels and bottoms receivers listed in 4.1.7.5.a, by maintaining the minimum scrubber liquid flow rate to the scrubber system S-11SC1 (11MV, 11MW, 11MX, 11MY, and 11MZ {spare}) at or above 10.7 gallons per minute for Stage 1 (11MV), and at or above 7.8 gallons per minute for States 2 through 5 (11MW, 11MX, 11MY, and 11MZ) as established in the Notification of Compliance Status (NOCS) Report dated October 3, 2008. *(Control Device S-11SC1 {11MV, 11MW, 11MX, 11MY, and spare 11MZ})* **[45CSR34; 40 C.F.R. §§63.1257(a)(1)(vi), 63.1258(b)(1)(ii), and 63.2450(h); 45CSR13, R13-2156, 4.1.9]**

4.2.6. **40 C.F.R. 63, Subpart FFFF.** The permittee shall demonstrate compliance with the Group 1 batch process vent standards listed in 4.1.7.3.a by maintaining the maximum condenser outlet gas temperature for Condensers 06EC and 10CC at or below -0.2 °C as established in the Notification of Compliance Status (NOCS) Report dated October 3, 2008. *(Control Devices 06EC and 10CC)* **[45CSR34; 40 C.F.R. §§63.1257(a)(1)(iii), 63.1258(b)(1)(iii), and 63.2450(h); 45CSR13, R13-2156, 4.1.9]**

4.2.7. **40 C.F.R. 63, Subpart FFFF.** The permittee shall demonstrate compliance with the emission standards of 4.1.7.4.b for a halogenated vent stream from a Group 1 storage tank by maintaining the influent water (liquor) flow rate of the packed bed water scrubber 041C at a minimum of 1.2 gpm and by using once-through water as established in the Notification of Compliance Status (NOCS) Report dated October 3, 2008. *(Control Device 041C)* **[40 C.F.R. §§63.8(f)(4)(i), 63.999(d)(1), 63.994(c), 63.1257(a)(1)(vi), 63.1258(b)(1)(ii), and 63.2450(h); Letter from Bernard E. Turlinski of EPA Region III to Robert W. Porter of CYTEC, dated January 31, 2008; 45CSR13, R13-2156, 4.1.9]**

4.3. Testing Requirements

4.3.1. At such reasonable times as the Director may designate, the operator of any manufacturing process source operation may be required to conduct or have conducted stack tests to determine the particulate matter loading in exhaust gases. Such tests shall be conducted in such manner as the Director may specify and be filed on forms and in a manner acceptable to the Director. The Director, or his duly authorized representative, may at

his option witness or conduct such stack tests. Should the Director exercise his option to conduct such tests, the operator will provide all necessary sampling connections and sampling ports to be located in such manner as the Director may require, power for test equipment and the required safety equipment such as scaffolding, railings and ladders to comply with generally accepted good safety practices. **[45CSR§7-8.1]**

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

4.4. Recordkeeping Requirements

4.4.1. *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, R13-2156, 4.4.2]**

4.4.2. *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, R13-2156, 4.4.3]

4.4.3. The emission/discharge estimation models and calculation methodologies developed in Section 4.1.3, as well as production records for each calendar month shall be maintained on site for a period of five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request. **[45CSR13, R13-2156, 4.4.4]**

4.4.4. The permittee shall maintain on site for a period of five (5) years a tabulation of actual emissions/discharges generated using those methods specified in Section 4.1.3, over the most recent continuous rolling twelve (12) calendar month period, showing emission/discharge totals for the regulated air pollutants listed in Section 4.1.1. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request. **[45CSR13, R13-2156, 4.4.5]**

4.4.5. Records of all monitoring data required by Section 4.2.1 shall be maintained on site as follows:

a. All monitoring data required by Section 4.2.1, as specified in Appendix A, shall be maintained on site for a period of no less than five (5) years. Such records may include strip charts, electronic data system records, and hand-written data forms. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

b. For each out-of-range occurrence of a monitoring parameter value for the averaging period specified in Appendix A, records stating the starting date/time and duration of the control device's out-of range alarm or reading, the cause of the out-of-range parameter, and any corrective actions taken, shall be maintained on site for a period of no less than five (5) years from the date of monitoring, sampling, or measurement. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

c. Missed readings for each scrubber monitoring parameter data element specified in Appendix A shall be recorded and compared to the maximum allowable missed readings limitation in Section 4.1.6. A rolling consecutive twelve (12) month tabulation of missing readings for each scrubber monitoring parameter element shall be maintained on site for a period of no less than five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

d. In the event that an applicable rule or regulation (such as the MON MACT) requires monitoring more stringent than that required by Section 4.2.1, the more stringent provisions shall apply. Any such required monitoring data shall be maintained on site for a period of no less than five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

[45CSR13, R13-2156, 4.4.6; 45CSR§27-3.5]

4.4.6. Per the monitoring required by Section 4.2.2, records shall be maintained documenting the date and time of each visible emission check, the name of the responsible observer, the results of the check, and, if necessary, all corrective actions taken. Should an opacity reading be required per 45CSR7A, records shall be maintained per the procedures of 45CSR§7A-2. **[45CSR13, R13-2156, 4.4.7]**

4.4.7. Compliance with Sections 4.4.1 and 4.4.2 may be shown by keeping similar records required by the requirements of the Startup, Shutdown, and Malfunction Plan as contained in 40 C.F.R. 63, Subpart A and as may be amended by specific MACT subpart requirements. **[45CSR13, R13-2156, 4.4.8]**

4.4.8. **40 C.F.R. 60, Subpart Kb.** The permittee shall keep readily accessible records showing the dimension of the Bulk Methanol Storage Tank (121A) and an analysis showing the capacity of the storage vessel. This record shall be maintained for the life of the storage vessel. The permittee shall also maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period, as pertains to the Bulk Methanol Storage Tank (121A). **[45CSR13, R13-2156, 4.4.9; 40 C.F.R. §§60.116b(a) through(c); 45CSR16]**

4.4.9. **40 C.F.R. 63, Subpart EEEE.** The Polymer Additives Manufacturing Unit has been determined to be subject to only the following recordkeeping requirements of 40 C.F.R. 63, Subpart EEEE – "National Emission

Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)" (OLD MACT).

4.4.9.1. For each storage tank subject to 40 C.F.R. 63, Subpart EEEE having a capacity of less than 18.9 cubic meters (5,000 gallons) and for each transfer rack subject to this subpart that only unloads organic liquids (i.e., no organic liquids are loaded at any of the transfer racks), you must keep documentation that verifies that each storage tank and transfer rack identified in 40 C.F.R. §63.2343(a) is not required to be controlled. The documentation must be kept up-to-date (i.e., all such emission sources at a facility are identified in the documentation regardless of when the documentation was last compiled) and must be in a form suitable and readily available for expeditious inspection and review according to 40 C.F.R. §63.10(b)(1), including records stored in electronic form in a separate location. The documentation may consist of identification of the tanks and transfer racks identified in 40 C.F.R. §63.2343(a) on a plant site plan or process and instrumentation diagram (P&ID).

4.4.9.2. You must keep records of the total actual annual facility-level organic liquid loading volume as defined in 40 C.F.R. §63.2406 through transfer racks to document the applicability, or lack thereof, of the emission limitations in Table 2 to 40 C.F.R. 63, Subpart EEEE, items 7 through 10.

[45CSR13, R13-2156, 4.4.10; 45CSR34; 40 C.F.R. §§63.2343(a), 63.2390(a), 63.2390(d)]

4.4.10. **40 C.F.R. 63, Subpart FFFF.** The permittee shall maintain records in accordance with 40 C.F.R. §§63.2450, 63.2525, and 63.2540; Table 12 to 40 C.F.R. 63, Subpart FFFF; any records required by 40 C.F.R. 63, Subpart A, and as applicable in referenced 40 C.F.R. 63, Subparts F, G, H, SS, UU, WW, and GGG, and 40 C.F.R. 65, Subpart F. **[45CSR34; 40 C.F.R. §§63.2450, 63.2525, 63.2540; Table 12 to 40 C.F.R. 63, Subpart FFFF; 40 C.F.R. 63, Subparts A, F, G, H, SS, UU, WW, and GGG; 40 C.F.R. 65, Subpart F; 45CSR13, R13-2156, 4.1.9]**

4.4.11. The permittee shall monitor all fugitive particulate emission sources as required by 4.1.16 to ensure that a system to minimize fugitive emissions has been installed or implemented. Records shall be maintained on site stating the types of fugitive particulate capture and/or suppression systems used, the times these systems were inoperable, and the corrective actions taken to repair these systems. **[45CSR§30-5.1.c]**

4.4.12. The permittee shall maintain records indicating the use of any dust suppressants or any other suitable dust control measures as required by 4.1.17 applied at the facility. **[45CSR§30-5.1.c]**

4.5. Reporting Requirements

4.5.1. If the permittee emits any HAPs or TAPs other than those listed in Appendix B from the Building 82 Manufacturing Unit, at an estimated annual emission rate of 50 lb/yr or greater, the permittee shall provide written notification to the Director of the Division of Air Quality within thirty (30) days of knowledge of such emission. This written notification shall include the potential to emit (in pph and tpy) for each new HAP or TAP species from each of the newly identified emission points or existing emission points listed in Section 1.0 that emit that HAP or TAP species. This condition in no way limits or restricts the reporting requirements of section 4.5.2.

If the potential to emit for the TAP is greater than the threshold levels of Table 45CSR§27-A, the permittee shall either employ BAT at all chemical process units emitting the toxic air pollutant or shall bring the TAP emissions below threshold levels. A proposed compliance program for the control or reduction of the TAP emissions shall be submitted to the Director within sixty (60) days of the notification required by this section, provided that any source or equipment specifically subject to a federal regulation or standards shall not be

required to comply with provisions more stringent than such regulation or standard.

Upon approval by the Director of the proposed compliance program, the permittee shall apply for a modification of this permit to include the proposed compliance program. This condition 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 permittee.

[45CSR13, R13-2156, 4.5.1; 45CSR§27-3.1 State-Enforceable only.]

4.5.2. The emission to the air of any TAP resulting from an abnormal release or spill in excess of the following amounts shall be reported to the Director or his authorized representative not later than 24-hours after the permittee has knowledge of such emission:

- For ethylene oxide and vinyl chloride, one (1) pound;
- For acrylonitrile and butadiene, ten (10) pounds;
- 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. **[45CSR13, R13-2156, 4.5.3; 45CSR§27-10.4 State-Enforceable only.]**

4.5.3. **40 C.F.R. 60, Subpart Kb.** The permittee shall notify the USEPA Administrator and the Director of the Division of Air Quality within thirty (30) days when the maximum true vapor pressure of the VOL stored in the Bulk Methanol Storage Tank (121A) exceeds a maximum true vapor pressure of 27.6 kPa. **[45CSR13, R13-2156, 4.5.4; 40 C.F.R. §60.116b(d); 45CSR16]**

4.5.4. Written notification of any revisions of the Building 82 Manufacturing Unit equipment/emission units, control devices, or emissions points as listed in Sections 1.0, 4.1.4, and 4.1.14, or Appendix A of this permit, shall be submitted to the Director of the Division of Air Quality by August 15th for the calendar semi-annual time period of January 1st through June 30th, and by February 15th for the calendar semi-annual time period of July 1st through December 31st in which the revision occurred. This section does not limit the permittee's ability to request a permit administrative update or modification pursuant to Sections 2.8 (Administrative Permit Update), 2.9 (Permit Modification), or 2.10 (Major Permit Modification) of R13-2156, and in no way limits the permittee's responsibility to obtain a modification of Permit R13-2156 pursuant to 45CSR§13-5 prior to activities that would constitute a modification or major modification as defined under 45CSR13, 45CSR14, or 45CSR19 (whichever is appropriate). **[45CSR13, R13-2156, 4.5.5]**

4.5.5. **40 C.F.R. 63, Subpart FFFF.** The permittee shall submit all required applicable reports and notifications per the requirements of 40 C.F.R. §§63.2450, 63.2515, 63.2520, 63.2540; Tables 11 and 12 to 40 C.F.R. 63, Subpart FFFF; and 40 C.F.R. 63, Subpart A. **[45CSR34; 40 C.F.R. §§63.2450, 63.2515, 63.2520, 63.2540; Tables 11 and 12 to 40 C.F.R. 63, Subpart FFFF; 40 C.F.R. 63, Subpart A; 45CSR13, R13-2156, 4.1.9]**

4.6. Compliance Plan

4.6.1. None.

APPENDIX A (Parametric Monitoring)

Control Device ID	Description	Applicable Regulations	Emission Group(s)*	Monitoring Parameter	Parameter Value	Data Collection Frequency	Data Averaging Period	Inspection/Preventative Maintenance Frequency
041C	Packed Bed Scrubber	40 C.F.R. 63, Subpart FFFF – HAP; 45CSR7-Mineral Acids	A1846	Inlet water (liquor) flowrate	≥ 1.2 gpm	15 minutes[1]	Calendar daily	Annual
041S	Venturi Scrubber	40 C.F.R. 63, Subpart FFFF – HAP; 45CSR7-Mineral Acids	A1846	Inlet water (liquor) flowrate	≥ 3 gpm	15 minutes[1]	Calendar daily	Annual
05VC	Vapor return line	45CSR7 – Mineral Acids	A1846	NA	NA	NA	NA	Annual
05KC	Scrubber	45CSR7 – Mineral Acids	A1846, UV2908, UV3638	Inlet water (liquor) flowrate	≥ 3 gpm	15 minutes[1]	Calendar daily	Annual
~~05MC~~	~~Venturi Scrubber~~	~~45CSR7 – PM~~	~~A1846, UV2908, UV3638~~	~~Inlet water (liquor) flowrate~~	~~≥ 60 gpm~~	~~15 minutes[1]~~	~~Calendar daily~~	~~Annual~~
06VC	Vapor return line	45CSR7 – Mineral Acids	A1846	NA	NA	NA	NA	Annual
07CC	Scrubber	45CSR7 – PM	UV3346, UV3529, UV4593, UV4611, UV4801, UV4802, UV6435, UV6460	Inlet water (liquor) flowrate	≥ 12 gpm	15 minutes[1]	Calendar daily	Annual
075C	Vapor return line	NA	UV3346, UV3529, UV4593, UV4611, UV4801, UV4802, UV6435, UV6460	NA	NA	NA	NA	Annual
08RC	Dust Collector	45CSR7 – PM	UV3346, UV3529, UV4593, UV4611, UV4801, UV4802, UV6435, UV6460	Section 4.2.2[2]	≤ 20 %	Monthly[2]	NA	Annual
08VC	Vapor return line	NA	UV3346, UV3529, UV4593, UV4611, UV4801, UV4802, UV6435, UV6460	NA	NA	NA	NA	Annual

Control Device ID	Description	Applicable Regulations	Emission Group(s)*	Monitoring Parameter	Parameter Value	Data Collection Frequency	Data Averaging Period	Inspection/Preventative Maintenance Frequency
11MV	Scrubber	40 C.F.R. 63, Subpart FFFF – HAP	Batch Column, Methanol Column, Raw Material Storage Tanks	Inlet water (liquor) flowrate	≥ 10.7 gpm	15 minutes[1]	Calendar daily	Annual
11MW	Scrubber	40 C.F.R. 63, Subpart FFFF – HAP	Batch Column, Methanol Column, Raw Material Storage Tanks	Inlet water (liquor) flowrate	≥ 7.8 gpm	15 minutes[1]	Calendar daily	Annual
11MX	Scrubber	40 C.F.R. 63, Subpart FFFF – HAP	Batch Column, Methanol Column, Raw Material Storage Tanks	Inlet water (liquor) flowrate	≥ 7.8 gpm	15 minutes[1]	Calendar daily	Annual
11MY	Scrubber	40 C.F.R. 63, Subpart FFFF – HAP	Batch Column, Methanol Column, Raw Material Storage Tanks	Inlet water (liquor) flowrate	≥ 7.8 gpm	15 minutes[1]	Calendar daily	Annual
11MZ[3]	Scrubber	40 C.F.R. 63, Subpart FFFF – HAP	Batch Column, Methanol Column, Raw Material Storage Tanks	Inlet water (liquor) flowrate	≥ 7.8 gpm	15 minutes[1]	Calendar daily	Annual
10VC	Vapor return line	NA	Batch Column, Methanol Column, Raw Material Storage Tanks	NA	NA	NA	NA	Annual
11VC	Vapor return line	NA	Batch Column, Methanol Column, Raw Material Storage Tanks	NA	NA	NA	NA	Annual

Control Device ID	Description	Applicable Regulations	Emission Group(s)*	Monitoring Parameter	Parameter Value	Data Collection Frequency	Data Averaging Period	Inspection/Preventative Maintenance Frequency
14VC	Vapor return line	NA	Batch Column, Methanol Column, Raw Material Storage Tanks	NA	NA	NA	NA	Annual
16VC	Vapor return line	NA	Batch Column, Methanol Column, Raw Material Storage Tanks	NA	NA	NA	NA	Annual
13JC	Dust Collector	45CSR7 – PM	A1790, A2777, UV2908, UV3638	Section 4.2.2[2]	≤ 20 %	Monthly[2]	NA	Annual
17VC	Vapor return line	NA	A1790, UV3638	NA	NA	NA	NA	Annual
18VC	Vapor return line	NA	A1790, UV2908, UV3638	NA	NA	NA	NA	Annual
~~20KC~~	~~Vapor return line~~	~~NA~~	~~UV1164, UV1164A, UV1164D, UV1164G, UV1164L, UV2908, UV-3638 1A~~	~~NA~~	~~NA~~	~~NA~~	~~NA~~	~~Annual~~
22QC	Dust Collector	45CSR7 – PM	A425, A1790, A2246, A2777, CA150, CIP200, UV416, UV1164, UV2126, UV2908, UV3638, UV-3638 1A	Section 4.2.2[2]	≤ 20 %	Monthly[2]	NA	Annual
23AC	Dust Collector	45CSR7 – PM	CA-150, UV2908	Section 4.2.2[2]	≤ 20 %	Monthly[2]	NA	Annual
23HC	Vapor Return Line	NA	UV3638	NA	NA	NA	NA	Annual

* The control device requirements apply when the listed emission group(s) are operating and venting to the control device.
[1] Data logging of flow rate at least once every fifteen (15) minutes.
[2] Visual observations/Method 9 opacity reading per the conditions and requirements of and at the frequency specified in Section 4.2.2.
[3] Scrubber 11MZ is an installed spare scrubber, to be used only if one of these scrubbers is non-operational: 11MV, 11MW, 11MX, or 11MY.

APPENDIX B (Hazardous Air Pollutants)

CAS No.	Name	Table 45-13A/Rule 27 Toxic Air Pollutant?	Exceeds 45-13A/Rule 27 Threshold?
75-07-0	Acetaldehyde	No	--
79-10-7	Acrylic Acid	No	--
98-07-7	Benzotrichloride	No	--
542-88-1	Bis (Chloromethyl) Ether	No	--
95-48-7	o-Cresol	No	--
68-12-2	Dimethyl Formamide	No	--
77-78-1	Dimethyl Sulfate	No	--
100-41-4	Ethylbenzene	No	--
50-00-0	Formaldehyde	Yes	No
7647-01-0	Hydrochloric Acid	No	--
123-31-9	Hydroquinone	No	--
67-56-1	Methanol	No	--
108-88-3	Methyl Isobutyl Ketone	No	--
108-88-3	Toluene	No	--
584-84-9	2, 4 – Toluene Diisocyanate	No	--
121-44-8	Triethylamine	No	--
1330-20-7	Xylenes (isomers & mixtures)	No	--