

10/16/15

To: File
From: John Legg
Date: 10/16/15



Subj: R13-2156W (Class II Administrative Update)
Cytec Industries Inc., Willow Island Plant, Pleasants County, WV
Permit Application R13-2156W; Plant ID No. 073-00003

This update application results in no changes to previous permitted emission limits.

On August 14, 2015, the Division of Air Quality (DAQ) received permit application R13-2156W for a Class I Administrative Update. Please note that a Class I Administrative Update does not require the company to:

- pay a permitting fee or
- run a legal advertisement in a newspaper.

This application updates the current permit (R13-2156V) based on revisions made to the *Polymer Additives Manufacturing Unit (Building 82) in the 1st half of 2015. It is required per Section 4.5.5. of permit R13-2156V:

- 4.5.5. 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, 4.1.6, and 4.1.17, 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.
- * The Polymer Additives Manufacturing Unit (Building 82) manufactures ultraviolet light absorbers, antioxidants, anti-static agents, depressant reagents and phenolic resins.

The changes made to the current permit (R13-2156V) are summarized in Table 1 below (and Appendix 2, Attachment 1 in the permit application).

Cytec provided a detailed draft permit as part of their application (see Appendix 2, Attachment 2 in the permit application). These changes are also given in Attachment 2 to this evaluation.

Table 1: Summary of Changes Made During 1st Half of 2015.

Permit Section	Revisions
1.0	A. Add existing Waste Hold Tank 181X (S-18T1) for the Product/Process Area HALS (UV3346, UV3529, UV4593, UV4611, UV4801, UV4802, UV6435, UV6460). B. ⁽¹⁾ Add the new Product/Process Area: "Aerosol GPG-N" utilizing existing equipment. C. Minor process clarifications and correct a typos.
2.0	- Permit revision level updates to Sections 2.4.1 and 2.5.1.
3.0	- No changes.
4.0	- Section 4.1.6 – Revise vents with Rule 7 applicability due to minor processing changes. - Section 4.1.17 – Minor revision to Intermittent Use Equipment table.
Appendix A	- Minor clarification to show existing scrubber 05KC is utilized for Product/Process Area S10104, XD-5002.
Appendix B	- No changes.

(1) Per R13-2156V, Section 4.1.5, compliance with the emission limits set forth in Section 4.1.1 are 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.). The emission models and other calculation methods are maintained current for all processes, process modifications and new product variants.

The emission/discharge estimation models and calculation methodologies developed in Section 4.1.5, as well as production records for each calendar month are maintained on site for a period of five (5) years.

1.0 B) - Add the new Product/Process Area: "Aerosol GPG-N" utilizing existing equipment (R13-2156W - Attachment G).

Cytec added the new product Aerosol GPG-N to its Polymer Additives manufacturing business with Building 82, utilizing existing process equipment, as follows:

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
21DX	20BE	Reactor with condensers 3-22CD and 3-22CD1A	--	--	NA
	21DE	Industrial hygiene hood over reactor	--	--	NA
22KX	20BE	Splitter Bowl	--	--	NA
20PX	20PE	Split Receiver	--	--	NA
20EX	20EE	Condensate Receiver	--	--	NA
20FX	20DE	Vacuum Jet (3-19VJ1)	--	--	NA
24TX	24FE	Drumming Station	--	--	NA

An MSDS for the product "Aerosol GPG-N" is provided in the permit application, in Attachment H.

Product Name:	AEROSOL GPG-N Surfactant
Synonyms:	Sodium dioctyl sulfosuccinate in mixture of methanol and water
Chemical Family:	Ester
Molecular Formula:	C ₂ OH ₃₇ O ₇ NaS
Molecular Weight:	444
Intended/ Recommended Use:	Surfactant

The new "Aerosol GPG-N" manufacturing process is subject to the Miscellaneous Organic NESHAP (MON MACT) Subpart FFFF for batch process vents, heat exchangers and equipment leaks. The Aerosol GPG-N process has been designated as part of the existing MON MCPU #25.

PM Emissions from Feed Tank 21DE Industrial Hygiene Vent Over Reactor

Given below are the estimated PM and PM₁₀ hourly emission rates for Emission Point ID 21DE that were added to the 45CSR7 requirement in permit section 4.1.6. Also provided are the process weight rates and the 45CSR7-4.1 allowable hourly PM emission rates for the applicable process steps.

Emission Unit ID	Emission Point ID	Emission Unit Description	PM Emitted (lb/hr)	PM10 Emitted (lb/hr)	Process Weight Rate (lb/hr)	Rule 7 Type 'a' Allowable PM Limit (lb/hr)
21DX	21DE	Charge Sodium Metabisulfite to Reactor	0.0026	0.0012	1.240	1.49

Calculating PM emissions

The closest unit operation to adding/dropping raw materials or dry products was determined to be AP-42 Chapter 11.12 Concrete Batching (rev. 10/01).

Specifically, Table 11.12-2 EMISSION FACTORS FOR CONCRETE BATCHING (English Units), operations for sand transfer and cement unloading to elevated storage silo (pneumatic) were chosen for adaption to the materials handling activities at Cytec.

It was determined from an Internet search that nearly all Portland cement passes through a standard No. 200 mesh (75 micron) sieve screen.

Footnote "a" to Table 11.12-2 provides a breakout of materials included in "concrete," with approximately 15% of the materials in concrete being fine powders (cement and cement supplement).

Thus for purposes of simplification it was decided to classify dry raw materials and dry products into one of two categories for emission factor purposes:

- Coarse particle material – a material in which less than 15% of a representative sample passes through a standard No. 200 mesh sieve would be considered as a coarse material; Cytec considers sand as representative of coarse materials.
- Fine particle material – a material which 15% or greater of a representative sample passes through a standard No. 200 mesh sieve would be considered as a fine material; Cytec considered cement as representative of fine materials.

Therefore, the emission factors from AP-42, Table 11.12-2 (rev. 10/01) are as follows:

Material	Uncontrolled PM Emissions (lb/ton)	Uncontrolled PM10 Emissions (lb/ton)
Coarse particle material (Sand transfer)	0.0021	0.00099
Fine particle material (Cement unloading to elevated storage silo (pneumatic))	0.72	0.46

When converted to percent by weight the factors became:

Material	Uncontrolled PM Emissions (% by wt)	Uncontrolled PM10 Emissions (% by wt)
Coarse particle material (Sand transfer)	0.000105	0.0000495
Fine particle material (Cement unloading to elevated storage silo (pneumatic))	0.036	0.023

In order to be conservative with these PM emission factors, it was decided that the factors would be doubled to account for the assumptions used in this emission estimation methodology:

Material	Uncontrolled PM Emissions (% by wt)	Uncontrolled PM10 Emissions (% by wt)
Coarse particle material (Sand transfer)	0.00021	0.0001
Fine particle material (Cement unloading to elevated storage silo (pneumatic))	0.072	0.046

Below are the worst-case PM and PM₁₀ emission calculations for Emission Point ID 20BE for the dry raw material charging process steps:

Charge dry material

3,100 lb material x 0.0000021 (coarse factor PM) = 0.0065 lb/hr PM Charge time is 2.5 hr.

3,100 lb material x 0.000001 (coarse factor PM10) = 0.0031 PM10 Charge time is 2.5 hr.

Sulfur Dioxide Emissions from Vent 20BE

The new "Aerosol GPG-N" product does emit from vent 20BE a small quantity of sulfur dioxide (SO₂) at the rate of 4.20 lb/batch, with maximum annual potential emissions of 210 lb/yr. However, this source operation is exempt from 40 CSR 10-4.1, per the exemption contained in 40SCR10-4.1.e:

Any owner or operator of a manufacturing process source operation(s) which has the potential to emit less than 500 pounds per year of sulfur oxides.

Below are the estimated SO₂ maximum emission rates for Emission Point ID 20BE.

Product/ Process Area Emission Group	Emission Unit ID	Emission Point ID	Emission Unit Description	Maximum Emissions SO ₂ (lb/batch)	Maximum Emissions SO ₂ Conc. (ppm)	Rule 10-4.1. Allowable SO ₂ Conc. Limit (ppm)
Aerosol GPG-N	21DX	20BE	The SO ₂ evolution during SMBS stir.	4.20	NA/Exempt	NA/Exempt

Calculating Sulfur Dioxide Emissions

Using Emission Master emission modeling software and other appropriate calculation methodologies, the maximum mass emission rates (lb/hr) are calculated for sulfur dioxide emitted during each process step. For SO₂ emissions that are not exempt from Rule 10, the mass emission rates are converted to concentrations of SO₂ (in ppm), utilizing the vent flow rate, temperature and moisture content for the process step with SO₂ emissions. The calculated SO₂ maximum concentration is then compared to the Rule 10 allowable SO₂ concentration of 2,000 ppm at each vent point with SO₂ emissions to ensure compliance with Rule 10-4.1.

Supporting Emission Calculations (see Appendix 1, Attachment N of Permit Application R13-2156W)

The maximum emission estimates for every product and associated process in the polymer Additives Manufacturing Unit were calculated using either Emission Master TM emission modeling software, or other appropriate emission estimation models and calculations methodologies, as required by R13-2156V, Section 4.1.5.

Cytec determined the maximum potential annual emissions of the new "Aerosol GPG-N" product to be the following based upon forecasted maximum annual production:

Pollutant	CAS No.	HAP?	Maximum Emission Rate	
			Hourly (lb/hr)	Annual (lb/hr)
Methanol	67-56-1	Yes	1.15	136.6
Sulfur Dioxide	7446-09-5	No	1.68	210
Total PM	-	-	0.0026	0.33
Total VOC	-	-	1.16	140.6

REGULATORY APPLICABILITY

Also see Attachment 1 to this engineering evaluation.

State Regulations:

45CSR7 To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations

This rule applies to the facility. The new Aerosol GPG-N process emits a small quantity of particulate matter (PM) from vent 21DE. See the above discussion on changes made to Section 1.0 B. of the permit.

45CSR13 Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, Permission to Commence Construction, and Procedures for Evaluation.

Cytec submitted an application for a Class I Administrative Update. Class I Administrative Updates do not required the company to pay a permitting fee or to ran a legal advertisement.

40CSR30 Requirements for Operating Permits

Cytec Industries is a Title V source. The Company submitted a combined permit application for a minor modification to their Title V permit [R30-07300003-2010 (MM09); (Part 4 of 4)] at the same time this Rule 13 permit application was submitted.

See Attachment S in the permit application for the form entitled: "Title V Permit Revision Information."

45CSR34 Emission Standards for Hazardous Air Pollutants for Source Categories Pursuant to 40 CFR, Part 63.

Cytec is subject to WV State Rule 34 because their facility is subject to MACT regulations.

Federal Regulations:

40CFR63,
Subpart FFFF National Emission Standards for Hazardous Air Pollutions:
Miscellaneous Organic Chemical Manufacturing (MON)

For more information, see Attachment 1 to this evaluation.

Site Inspection

No site inspection was conducted for this update. The facility's location is known to the Enforcement Section of the DAQ who conducts periodic inspections. The last targeted full onsite inspection of the Polymers Additives Unit was conducted in July 25, 2013 by Dan Bauerle. That inspection found the facility in compliance.

Attachment 1 – Regulatory Discussion

(This information is given as Appendix 1, Attachment D in permit application R13-2156W.)

Regulatory Citation	Emission Source Affected	Description of Applicability	Compliance Demonstration
Presumed Applicable CAA Requirements			
45CSR7-4.1.	Aerosol GPG-N product	The new Aerosol GPG-N process emits a small quantity of particulate matter (PM) from vent 21DE.	See Attachment G Process Description for the demonstration of compliance with the 45CSR7-4.1. process weight rate PM emission limits.
40CFR63 Subpart FFFF	Aerosol GPG-N product	<p>The MON MACT Subpart FFFF (National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing (MON)) is applicable to the new Aerosol GPG-N product</p> <p>The Aerosol GPG-N product is designated as new MCPU 25 (GPGn-PA).</p>	<ul style="list-style-type: none"> - MCPU 25 has been determined by Cytec to be a Group 2 Batch Process Vent unit. - MCPU 25 has been determined by Cytec not utilize a new Storage Tank that is subject to the MON MACT. - MCPU 25 has been determined by Cytec to not utilize any Surge Control Vessel and Bottoms Receivers that are subject to the MON MACT. - MCPU 25 has been determined by Cytec to utilize heat exchange systems/cooling water condensers that are subject to the MON MACT. - MCPU 25 has been determined by Cytec to not utilize any Transfer Rack that is subject to the MON MACT. - MCPU 25 has been determined by Cytec to contain equipment components in OHAP service (>5% OHAP). The facility will comply with MON requirements for Equipment Leaks through its existing Subpart H monitoring program as required.

Attachment 2

**Changes Make to Permit R13-2156V
to Arrive at Permit R13-2156W**

*West Virginia Department of Environmental Protection
Division of Air Quality*

*Earl Ray Tomblin
Governor*

*Randy C. Huffman
Cabinet Secretary*

Class III Administrative Update



R13- ~~2156V~~2156W

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§22-5-1 et seq.) and 45 C.S.R. 13 – Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation. The permittee identified at the above-referenced facility is authorized to construct the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Issued to:
Cytec Industries, Inc.
Willow Island, WV
073-00003

*William F. Durham
Director*

Issued: ~~April 24~~October 16, 2015 • Effective: ~~April 24~~October 16, 2015

This permit will supersede and replace Permit R13-~~2156U~~2156V approved ~~September 25, 2014~~ April 24, 2015.

Facility Location: Willow Island, Pleasants County, West Virginia
Mailing Address: #1 Heilman Avenue, Willow Island, WV 26134
Facility Description: Building 82 Manufacturing Unit
SIC Codes: 2869: Chemicals and Allied Products – Industrial Organic Chemicals, NEC
2899: Chemicals and Allied Products – Chemical Preparations, NEC
2843: Surface Active Agents, Finishing Agents, Sulfonated Oils, and Assistants
UTM Coordinates: 473.4 km Easting • 4,356.2 km Northing • Zone 17
Permit Type: Class II Administrative Update
Description of Change: Revisions made in the Polymer Additives manufacturing unit during the ~~second~~first half of ~~2014~~2015 and updated per semiannual reporting requirement of Section 4.5.5.

- Add existing ~~Splitter Bowl 06EY~~ and new ~~Vacuum Blower 09BX~~ Waste Hold Tank 181X (S-18T1) for the Product/Process Area HALS (UV3346, UV3529, UV4593, UV4611, UV4801, UV4802, UV6435, UV6460).
- Add the new ~~Knock-out pot (Source ID# 20RX)~~ to Product/Process ~~Areas Triazines Solids (UV1164), A425, A1790, CA150, UV3638 and UV3638IA. Replace the existing 076X Formic Acid Storage Tank (S-7T4), installed 11/1992~~ Area Aerosol GPG-N with a new 10,000 gallon tank installed 9/2014. Changes to usage of utilizes existing equipment items within the following Product/Process Areas: HALS (UV3346, UV3529, UV4593, UV4611, UV4801, UV4802, UV6435, UV6460), Triazines Solids (UV1164), Triazine Liquids (UV1164A, UV1164D, UV1164G, UV1164L), Depressants (ACCO-PHOS 950, Aero 7260HFP, Aero 8860GL), AY-55 DMAC, A425, A1846,
- ~~§15106, §15108, A1790, CA150, UV416, UV2126, UV2908, UV3638, UV-3638 IA Purification, Batch Column, Hazardous Waste Storage Tank and Raw Material Storage Tanks. Make minor clarifications and correct typos.~~

Forma

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.

The source is subject to 45 C.S.R. 30. The permittee has the duty to update the facility's Title V (45 C.S.R. 30) permit application to reflect the changes permitted herein.

1.0. 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 <u>(S-7T4)</u>	9/2014	10,000 gal	NA
06CX	06EE	Step II Reactor; <u>(2-6K3)</u> ; Condenser (3-6CD3); Condenser 06EC (3-6CD3A)	--	--	NA
	06FE	Industrial hygiene vent for Step II Reactor	--	--	NA
06EY	06EE	Splitter Bowl	--	--	NA
07AX	07AE	Step I Reactor; <u>(3-7K4)</u> ; Condenser (3-7CD4); Condenser (3-7CD4A)	--	--	NA
	07CE	Industrial hygiene vent for Step I Reactor	--	--	07CC
07BX	07BE	Waste Hold Tank <u>(1-7T5)</u>	--	--	NA
07DX	09CE	Toluene Receiver <u>(1-7T4)</u>	--	--	075C
07GX	07GE	Toluene Receiver Tank (3-7K2)	--	--	075C
07KX	07NE	Filter Feed Kettle (<u>normal operations 2-7K8</u>); Condenser (3-7CD8); Condenser (3-7CD8A)	--	--	NA
07KX	07FE	Industrial hygiene vent for PTS Station	--	--	NA
07NY	07NE	Splitter Bowl	--	--	NA
08AX	08BE	Filter; <u>(2-8F2)</u> ; Condenser (3-8CD8); Condenser (3-8CD8A)	--	--	08VC
	<u>07EF05KE</u>	Filter (Industrial hygiene vent to atmosphere)	--	--	NA
08BX	08BE	Filter Aid Tank; <u>(2-8K8)</u> ; Condenser (3-8CD8); Condenser (3-8CD8A)	--	--	08VC
	05KE	Industrial hygiene vent for Filter Aid Tank	--	--	NA
08FX	08BE	Filter (N-8F1); Condenser (3-8CD8); Condenser (3-8CD8A)	--	--	08VC
	05KE	Filter (N-8F1) (Industrial hygiene vent to atmosphere)	--	--	NA
08RX	08RE	Pastillator <u>(2-10RTF1)</u>	--	--	08RC
09AX	09AE	Strip Receiver (3-9K3) Condenser (3-9CD3)	--	--	NA
09CX	09CE	Filtrate Receiver; <u>(2-9K4)</u> ; Condenser (RF-8CD1); Condenser (RF-8CD2)	--	--	NA
	09FE	Industrial hygiene vent for Filtrate Receiver	--	--	NA
09TX	<u>NA09CE</u>	Knock Out Pot (3-9T4)	--	--	NA
09DX	09CE	Splitter Bowl (2-9SB4)	--	--	075C
09FX	NA	Mott Filter (3-9F3)	--	--	NA
09KX	09NE	Strip Kettle; <u>(3-9K2)</u> ; Condenser (3-9CD2); Condenser (3-9CD2A)	--	--	NA
09PY	09PE	Condensate Receiver; <u>(3-9T7)</u> ; Vacuum Pump (09PX); Vacuum Blower (09BX); Condenser (3-9CD5); Condenser (3-9CD5A)	--	--	NA

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Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
09RX	NA	Electric Oil Heater with Hot Oil Surge Tank (3-9T1)	--	--	NA
10CX	10CE	Step II Reactor; (2-10K3); Condenser (3-10CD1); Condenser 10CC (3-10CD2)	--	--	NA
	10IE	Industrial hygiene vent for Step II Reactor	--	--	NA
10IX	10CE	Splitter Bowl	--	--	NA
10PX	10PE	Melt Tank (3-10K2)	--	--	NA
10RX	NA	Electric Oil Heater with Hot Oil Surge Tank (3-10T8)	--	--	NA
10SX	NA	Product Bin (1-10BN1)	--	--	NA
10TX	08RE	Screener (1-10SCR1)	--	--	08RC
11AX	12DE	2-11K1 industrial hygiene vent	--	--	NA
	11AE	Step II Reactor; (2-11K1); Condenser (3-12CD1); Condenser 12CC (3-12CD2)	--	--	NA
12CX	11AE	Splitter Bowl (3-12SB1)	--	--	NA
181X	181E	Waste Hold Tank (S-18T1)	--	--	NA
DRUM08	08RE	Drumming Station	--	--	08RC

Forma

Forma

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, 07GX	09CE	Vapor Return	NA
08VC	08AX, 08BX, 08FX	08BE	Vapor Return	NA
08RC	08RX, 10TX	08RE	Dust Collector	NA

Product/Process Area – Triazines Solids (UV1164)

20BX	22BE	Condensate Receiver	--	--	NA
20KX	20KE	2-19K1 Reactor with condenser 3-19CD1	--	--	NA
20LX	20AE	Splitter Bowl	--	--	NA
20PX	20PE	Split Receiver	--	--	NA
20RX	20KE	Knock-out pot	2014	--	NA
21WX	22QE	Industrial hygiene hood over 1164 packaging station	--	--	22QC
21AX	21AE	Centrifuge	--	--	NA
21AY	22QE	Industrial hygiene hood over Wet Bin	--	--	22QC
	NA	Wet Bin	--	--	NA
20NX	21DE	Industrial hygiene hood over UV-1164 Reactor & Strip Kettle	--	--	NA
	20AE	Reactor with Condenser 3-20CD1 and 3-20CD1A	--	--	NA
22BX	22QE	Industrial hygiene hood over Vacuum Tumble Dryer (1-21D1)	--	--	22QC

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
22QC	21AY, 21WX, 22BX, 22DX, 23AX, 25EX	22QE		Dust Collector (RF-22DC1)	NA
26GX	26HX	26GE		Dust Collector	NA
Product/Process Area – A1846					
05LX	05LE	A-1846 Reactor (2-5K8) with Condenser Condensers (3-5CD8 & 3-5CD8A)	--	--	05KC
05LX	05ME	Industrial hygiene vent on A-1846 Reactor	--	--	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 (3-6K2)	--	--	NA
06SX	06SE	A-1846 Wash/Dehydration Reactor (N06K1) with Condensers (N-6CD1 & N-6CD1A)	--	--	NA
15NX	15NE	A-1846 Storage Tank (Product Accumulation Tank 3-15T3)	--	--	NA
05KC	05LX	05LE		Scrubber	NA
Product/Process Area – S10104, XD-5002					
06NX	05LE	Split Tank (2-6K8) with Condenser (3-6CD8)	--	--	05KC
05LX	05ME 05LE	A-1846 Reactor (2-5K8)	--	--	NA 05KC
05LX	05ME	Industrial hygiene vent on A-1846 Reactor	--	--	NA
Product/Process Area – A1790					
102X	11ME	Mother Liquor Tank (S-10T2)	--	--	10VC, 15VC
111X	11ME	Mother Liquor Tank (S-11T1)	--	--	10VC, 15VC
112X	11ME	Mother Liquor Tank (S-11T2)	--	--	10VC, 15VC
1-21CV1	NA	Conveyor	--	--	NA
12LX	12CE	Centrifuge Feed Tank (2-12K2) with Condenser (3-13CD1)	--	--	18VC, 11VC
12LX	12DE	Industrial hygiene vent on Centrifuge Feed Tank	--	--	NA
13BY	13GE	Condensate Receiver and Vacuum Pump (13GX(1-13T2))	--	--	NA
13HX	13HE	Centrifuge (3-13W1)	--	--	NA
13JX	13JE	Industrial hygiene vent on Dryer (1-13D1)	--	--	13JC
13JX	13GE	Dryer (1-13D1) and Condenser (1-13CD1)	--	--	NA

Forma

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
13KX	NA	Dry Bin (1-13BN1)	--	--	NA
13LX	NA	Screener (1-13SCR1)	--	--	NA
13MX	NA	Conveyor (1-13SCV1)	--	--	NA
13NX	13JE	Industrial hygiene vent on Bagger (1-13BAG1)	--	--	13JC
13HY	NA	Wet Bin (2-13BN1)	--	--	NA
14CX	14CE	Wash Tank (3-14T1)	--	--	NA
14FX	14BE	Reactor (2-14K2) and Condensers (3-14CD2 & 3-14CD4)	--	--	NA
14FX	14EE	Industrial hygiene vent on Reactor (14FX)	--	--	NA
14GY	14GE	Condensate Receiver (1-14T2) and Condenser (1-14CD1) and Vacuum Pump (15CX)	--	--	NA
14HX	14DE	Reactor (2-14K2) and Condensers (3-14CD1 & 3-14CD3)	--	--	NA
14HX	14EE	Industrial hygiene vent on Reactor (14HX)	--	--	NA
15BX	13JE	Industrial hygiene vent on Dryer (1-15D1)	--	--	13JC
15BX	14GE	Vacuum Dryer (1-15D1)	--	--	NA
15EX	15EE	Centrifuge (3-15W1)	--	--	NA
15EY	NA	Wet Bin (2-15BN1)	--	--	NA
	13JE	Industrial hygiene hood over Wet Bin	--	--	13JC
15FX	15FE	Wash Tank (3-15T1)	--	--	NA
15PX	NA	Dry Bin (1-15BN1)	--	--	NA
15QX	NA	Screener (1-15SCR1)	--	--	NA
16JX	16JE	Reactor (3-16K1)	--	--	NA
16JX	18JE 17QE	Industrial hygiene vent on Split Recycle (16JX)	--	--	NA
16UX	16CE	Reactor (2-16K1) with Condenser (3-16CD1 & 3-16CD5)	--	--	NA
16UX	18JE	Industrial hygiene vent on Reactor (16UX)	--	--	NA
16WX	16BE	Vacuum Strip Crystallizer (2-16K2) with Condenser (3-16CD2)	--	--	NA
16WX	18JE	Industrial hygiene vent on Reactor (16WX)	--	--	NA
16YX	NA	Conveyor (1-16SCV1)	--	--	NA
16ZX	13JE	Industrial hygiene vent on Bagger (1-16BAG1)	--	--	13JC
17AX	17AE	Methanol Drown Tank (3-17T1)	--	--	NA
17GX	17QE	Split Tank (2-17K1)	--	--	17VC
17JX	17QE	Mix Tank (2-17K2)	--	--	17VC
17PX	17QE	Condensate Receiver	--	--	17VC
17PX	17QE	Condensate Receiver (3-17T2) 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 (2-18K1) with Condenser (3-18CD1)	--	--	18VC, 11VC

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Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
20BX	22BE	Condensate Receiver (2-21T3) and Condenser (2-21CD1) and Vacuum Pump (22 PX)	--	--	NA
20KX	20KE	Reactor (2-19K1) with condenser 3-19CD1	--	--	NA
20KX	21DE	Industrial hygiene vent on Reactor (2-19K1)	--	--	NA
20RX	20KE	Knock-out Pot	--	--	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
22CX	22BE	Condensate receiver from 2-22CD1 and 22PX	--	--	NA
24BX	24BE	Wash Tank	--	--	NA
21WX	22QE	Industrial hygiene vent on Bagger	--	--	22QC
24JX	24GE	Splitter Bowl	--	--	NA
24MX	24ME	Strip Kettle (2-24K1) with condenser 3-25CD2	--	--	NA
24QX	24RE	Reactor (2-24K2) with condenser 3-25CD1	--	--	NA
24MX 24QX	24FE	Industrial hygiene hoods over Strip Kettle (2-24K1), Reactor (2-24K2)	--	--	NA
24NX	24ME	Condensate Receiver	--	--	NA
24RX	24RE	Condensate Receiver	--	--	NA
26FX	22BE	Agitated Filter Dryer (2-26F1)	--	--	NA
26HX	26GE	Packaging Unit (1-26BAG1)	--	--	26GX

Control Device ID	Emission Units Controlled	Emission Point	Control Device Description	Next Control Device in Series
10VC, 15VC	102X, 103X, 111X, 112X	11ME	Vapor Return	11MV
13JC	13NX, 13HY, 15BX, 15EY, 16ZX	13JE	Dust Collector	NA
18VC, 11VC	12LX, 18SX	12CE, 18ME	Vapor Return	NA
17VC	17GX, 17JX, 17PX	17QE 17PE	Vapor Return	NA
22QC	15EY, 21AY, 21WX, 22BX	22QE	Dust Collector	NA
26GX	26HX	26GE	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

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Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
24PX	24PE	Vacuum Jets & Hot Well	--	--	NA
24QX	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 – UV2908					
05 LX	05LE	Reactor (2-5K8) with Condenser (3-5CD8 & 3-5CD8A)	--	--	05KC
05LX	05ME	Industrial hygiene vent on Reactor	--	--	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 (S-10T2)	--	--	10VC, 15VC
103X	11ME	Mother Liquor Tank (S-10T3)	--	--	10VC, 15VC
111X	11ME	Mother Liquor Tank (S-11T1)	--	--	10VC, 15VC
112X	11ME	Mother Liquor Tank (S-11T2)	--	--	10VC, 15VC
144X	11ME	Mother Liquor Tank (S-14T4)	--	--	14VC, 15VC
153X	11ME	Mother Liquor Tank (S-15T2)	--	--	14VC, 15VC
1-21CV1	NA	Conveyor	--	--	NA
12LX	12CE	Centrifuge Feed Tank (2-12K2) with Condenser (3-13CD1)	--	--	18VC, 11VC
12LX	12DE	Industrial hygiene vent on Centrifuge Feed Tank	--	--	NA
13BY	13GE	Condensate Receiver (1-13T2)	--	--	NA
13GX	13GE	Vacuum Pump (1-13P1)	--	--	NA
13HX	13HE	Centrifuge (3-13W1)	--	--	NA
13JX	13GE	Dryer (1-13D1) and Condenser (1-13CD1)	--	--	NA
13JX	13JE	Industrial hygiene vent on Dryer	--	--	13JC
13KX	NA	Dry Bin (1-13BN1)	--	--	NA
13LX	NA	Screener (1-13SCR1)	--	--	NA

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Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
13MX	NA	Conveyor (1-13SCV1)	--	--	NA
13NX	13JE	Industrial hygiene vent on Bagger (1-13BAG1)	--	--	13JC
13HY	NA	Wet Bin (2-13BN1)	--	--	NA
14CX	14CE	Wash Tank (3-14T1)	--	--	NA
14FX	14BE	Reactor (2-14K2) and Condensers (3-14CD2 & 3-14CD4)	--	--	NA
14FX	14EE	Industrial hygiene vent on Reactor (14FX2-14K2)	--	--	NA
14GY	14GE	Condensate Receiver and Condenser (1-14CD1)	--	--	NA
14HX	14DE	Tank and Condensers (3-14CD1 & 3-14CD3)	--	--	NA
14JX	14EE 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
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	--	--	18VC, 11VC
17JX	17QE	Mix Tank	--	--	17VC
17PX	17QE	Condensate Receiver	--	--	17VC
17PX	17QE	Condensate Receiver and Condensers (3-16CD3 & 3-16CD4)	--	--	17VC 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	20KE	Reactor (2-19K1)	--	--	NA
20KX	21DE	Industrial hygiene vent on Reactor (2-19K1)	--	--	NA
20KX	20KE	Centrifuge Feed Tank	--	--	NA
20KX	21DE	Industrial hygiene vent on Centrifuge Feed Tank	--	--	NA
20PX	20PE	Split Receiver	--	--	NA

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Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
05KC	05LX	05LE			Scrubber
10VC, 15VC	102X, 103X, 111X, 112X	11ME			Vapor Return
13JC	13NX, 15BX, 16ZX	13JE			Dust Collector
14VC, 15VC	144X, 153X	11ME			Vapor Return
17VC	17GX, 17JX, 17PX	17QE 17PE			Vapor Return
18VC, 11VC	12LX, 18SX	12CE, 18ME			Vapor Return
22QC	21AY, 22BX, DRUM22, 21WX, 22DX, DRUM23, 23AX, 25EX	22QE			Dust Collector
23AC	DRUM23	23AE			Dust Collector
26GX	26HX	26GE			Dust Collector

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Product/Process Area – UV3638					
Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
05LX	05LE	Reactor with Condenser (3-5CD8, <u>3-5CD8A</u>)	--	--	05KC
05LX	05ME	Industrial hygiene vent on Reactor	--	--	NA
06SX	06SE	Wash/Dehydration Reactor with Condensers (N-6CD1 & N-6CD1A)	--	--	NA
102X	11ME	Mother Liquor Tank	--	--	10VC, 15VC
103X	11ME	Mother Liquor Tank	--	--	10VC, 15VC
111X	11ME	Mother Liquor Tank	--	--	10VC, 15VC
112X	11ME	Mother Liquor Tank	--	--	10VC, 15VC
1-21CV1	NA	Conveyor	--	--	NA
12LX	12CE	Centrifuge Feed Tank with Condenser (3-13CD1)	--	--	18VC, 11VC
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, 15VC
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, 15VC
15EX	15EE	Centrifuge	--	--	NA
15EY	NA	Wet Bin	--	--	NA

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
24NX	24ME	Condensate Receiver	--	--	NA
24PX	24PE	Condensate Receiver	--	--	NA
24QX	24GE	UV-1164 Reactor	--	--	NA
24RX	24RE	Condensate Receiver	--	--	NA
24JX	24GE	Splitter Bowl	--	--	NA
25CX	25AE	Centrifuge #5	--	--	NA
25EX	25AE	Wet Bin #5	--	--	NA
25HX	23NE	MIBK Storage	--	--	23HC
26FX	22BE	Agitated Filter Dryer (2-26F1)	--	--	NA
26HX	26GE	Packaging Unit (1-26BAG1)	--	--	26GX
DRUM13	13JE	Industrial hygiene vent on drumming station below Wet Bin (13HY)	--	--	13JC

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Control Device ID	Emission Units Controlled	Emission Point	Control Device Description	Next Control Device in Series
05KC	05LX	05LE	Scrubber	NA
10VC, 15VC	102X, 103X, 111X, 112X	11ME	Vapor Return	11MV
14VC, 15VC	144X, 153X	11ME	Vapor Return	11MV
17VC	17GX, 17JX, 17PX	17QE 17PE	Vapor Return	NA
18VC, 11VC	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
26GX	26HX	26GE	Dust Collector	NA

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Product/Process Area – UV-3638 IA Purification

20KX	20KE	Reactor 2-19K1 with condenser 3-19CD1	--	--	NA
20RX	20KE	Knock-out Pot	--	--	NA
22CX	22BE	Condensate Receiver	--	--	NA
24BX	24BE	Wash Tank	--	--	NA
24JX	24GE	Splitter Bowl	--	--	NA
24MX	24ME	Strip Kettle	--	--	NA
24NX	24ME	Condensate Receiver	--	--	NA
24PX	24PE	Vacuum Jet (LR-24VJ1)	--	--	NA
24QX	24GE	Charge & Heat Up Kettle with Condenser 3-25CD1	--	--	NA
24RX	24RE	Condensate Receiver	--	--	NA
25CX	25AE	Centrifuge	--	--	NA

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
25EX	22QE	Industrial hygiene hood over Wet Bin	--	--	22QC
26FX	22BE	Agitated Filter Dryer (2-26F1)	--	--	NA
26HX	26GE	Packaging Unit (1-26BAG1)	--	--	26GX
Control Device Summary					
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
26GX	26HX	26GE	Dust Collector		NA
Product/Process Area – Aerosol GPG-N					
<u>21DX</u>	<u>20BE</u>	<u>Reactor with condensers 3-22CD1 and 3-22CD1A</u>	<u>--</u>	<u>--</u>	<u>NA</u>
	<u>21DE</u>	<u>Industrial hygiene hood over reactor</u>	<u>--</u>	<u>--</u>	<u>NA</u>
<u>22KX</u>	<u>20BE</u>	<u>Splitter Bowl</u>	<u>--</u>	<u>--</u>	<u>NA</u>
<u>20PX</u>	<u>20PE</u>	<u>Split Receiver</u>	<u>--</u>	<u>--</u>	<u>NA</u>
<u>20EX</u>	<u>20EE</u>	<u>Condensate Receiver</u>	<u>--</u>	<u>--</u>	<u>NA</u>
<u>20FX</u>	<u>20DE</u>	<u>Vacuum Jet (3-19VJ1)</u>	<u>--</u>	<u>--</u>	<u>NA</u>
<u>24TX</u>	<u>24FE</u>	<u>Drumming Station</u>	<u>--</u>	<u>--</u>	<u>NA</u>
Product/Process Area – Batch Column					
141X	NA	Still Pot	--	--	NA
142X	NA	Batch Column with Condenser (S-14CD1)	--	--	NA
154X	11ME	Reflux Drum with Condenser (S-14CD1)	--	--	11MV
162X	11ME	Recovered Solvent Receiver	--	--	16VC, 11VC
163X	11ME	Wet Solvent Receiver	--	--	16VC, 11VC
S-15EX1	NA	Reboiler	--	--	NA
Control Device Summary					
Control Device ID	Emission Units Controlled	Emission Point	Control Device Description		Next Control Device in Series
11MV	154X, 162X, 163X	11ME	Water Scrubber		NA
16VC, 11VC	162X, 163X	11ME	Vapor Return		11MV
Product/Process Area – Methanol Column					
074X	11ME	Intermediate Methanol Storage Tank	3/1998	12,000 gal	11VC, 15VC
121A	11ME	Bulk Methanol Storage Tank	1/1988	39,780 gal	11VC, 15VC
112X	11ME	Mother Liquor Storage Tank	--	--	10VC, 15VC
144X	11ME	Mother Liquor Storage Tank	--	--	14VC, 15VC

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2.3. Authority

This permit is issued in accordance with West Virginia air pollution control law W.Va. Code §§ 22-5-1. et seq. and the following Legislative Rules promulgated thereunder:

- 2.3.1. 45CSR13 – *Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits and Procedures for Evaluation;*

2.4. Term and Renewal

- 2.4.1. This permit supersedes and replaces previously issued Permit R13-~~2156U~~2156V. This Permit shall remain valid, continuous and in effect unless it is revised, suspended, revoked or otherwise changed under an applicable provision of 45CSR13 or any other applicable legislative rule;

2.5. Duty to Comply

- 2.5.1. The permitted facility shall be constructed and operated in accordance with the plans and specifications filed in Permit Applications R13-0190, R13-0671, R13-0794, R13-1006, R13-1018, R13-1082B, R13-1114C, R13-1535C, R13-1735, R13-2156, R13-2156A, R13-2156B, R13-2156C, R13-2156D, R13-2156E, R13-2156F, R13-2156G, R13-2156H, R13-2156I, R13-2156J, R13-2156K, R13-2156L, R13-2156M, R13-2156N, R13-2156O, R13-2156P, R13-2156Q, R13-2156R, R13-2156S, R13-2156T, R13-2156U, R13-2156V, R13-2156W and any modifications, administrative updates, or amendments thereto. The Secretary may suspend or revoke a permit if the plans and specifications upon which the approval was based are not adhered to; [45CSR§§13-5.11 and -10.3.]
- 2.5.2. 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;
- 2.5.3. Violations of any of the conditions contained in this permit, or incorporated herein by reference, may subject the permittee to civil and/or criminal penalties for each violation and further action or remedies as provided by West Virginia Code 22-5-6 and 22-5-7;
- 2.5.4. Approval of this permit does not relieve the permittee herein of the responsibility to apply for and obtain all other permits, licenses, and/or approvals from other agencies; i.e., local, state, and federal, which may have jurisdiction over the construction and/or operation of the source(s) and/or facility herein permitted.

2.6. Duty to Provide Information

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 administratively updating, modifying, revoking, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Secretary copies of records 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.

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 45CSR§27

- 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.

[45CSR§13-5.11]

- 4.1.3. [Reserved]

- 4.1.4. [Reserved]

- 4.1.5. 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 it appropriate and necessary.

[45CSR§13-5.11]

- 4.1.6. Emissions to the atmosphere from the following emission sources subject to 45CSR§7 – “To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations” shall not exceed the emission limitations set forth in Sections 4.1.13 and 4.1.14.

Table 4.1.6. 45CSR§7 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, S10104, XD-5002	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	08AX, 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
<u>UV3346, UV3529, UV4593, UV4611, UV4801, UV4802, UV6435, UV6460</u>	<u>08RE</u>	<u>10TX</u>	<u>PM₁₀ Opacity</u>
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, S-10333	21DE	20KX (2-19K1)	PM ₁₀ Opacity
<u>Aerosol GPG-N</u>	<u>21DE</u>	<u>21DX(2-20K1)</u>	<u>PM₁₀ Opacity</u>
A1790, A2777, UV416	22QE	22BX (1-21D1)	PM ₁₀ Opacity
Triazines Solids (UV1164), A425, A1790, A2777, UV416, UV1164, UV2126, UV2908, UV3638	22QE	21WX, 23AX, DRUM22	PM ₁₀ Opacity
CA-150, UV2908	23AE	DRUM23	PM ₁₀ Opacity
A1790, CIP200, UV2908	24FE	24MX (2-24K1)	PM ₁₀ Opacity
A425, A1790, CIP200, UV1164, UV3638, UV416, UV2908	24FE	24QX (2-24K2)	PM ₁₀ Opacity
UV2126	24GE	LIQUI-PAK	PM ₁₀ Opacity
Aero 7260HFP, Aero 8860GL, ACCO-PHOS 950, S-10333	23ME	23LX (3-23K2)	PM ₁₀ Opacity
CA-150	25BE	25BX(2-25D1)	PM ₁₀ Opacity
A425, A1790, CA-150, UV1164, UV2908, UV3638, UV36381A	26GE	26GX	PM ₁₀ Opacity
A1846, UV2908, UV3638	05LE	05LX (2-5K8)	HCl Opacity
Waste Trailer	0T2E	0T2X (T/T)	H ₃ PO ₄ Opacity
A1790	12CE	12LX (2-12K2)	H ₃ PO ₄ Opacity

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4.1.17. The following equipment, listed in Table 4.1.17, 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 2.14, but remains subject to Section 3.1.5. Written notification shall be provided to the Director in the event of permanent shutdown of this equipment.

Table 4.1.17. Intermittent Use Equipment

Equipment ID	Source Description
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
23BX	Tank
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)
N-21EX1	Reboiler
N-21-EX2	Preheater
N-22EX5	Rototherm
N-22EX7	Cooler
281X	Storage Tank
303X	Storage Tank

[45CSR§13-5.11]

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.
- 4.2.2. For the purpose of determining compliance with the opacity limits of 45CSR§§7-3.1 and -3.2, the permittee shall conduct visible emission checks or opacity monitoring and recordkeeping for all

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 (HCl Storage)	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 (HCl Storage)	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, S1010A, XD-5002	Inlet water (liquor) flowrate	≥ 3 gpm	15 minutes ¹	Calendar daily	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
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
14VC	Vapor return line	NA	Batch Column, Methanol Column, Raw Material Storage Tanks	NA	NA	NA	NA	Annual
15VC	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

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