WEST VIRGINIA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY
601 57th Street, SE
Charleston, WV 25304
(304) 926-0475
www.wvdep.org/daq

APPLICATION FOR NSR PERMIT AND TITLE V PERMIT REVISION (OPTIONAL)

PLEASE CHECK ALL THAT APPLY TO **NSR (45CSR13)** (IF KNOWN):

☐ **CONSTRUCTION** ☐ **MODIFICATION** ☐ **RELOCATION**
☐ **CLASS I ADMINISTRATIVE UPDATE** ☐ **TEMPORARY**
☒ **CLASS II ADMINISTRATIVE UPDATE** ☐ **AFTER-THE-FACT**

PLEASE CHECK TYPE OF **45CSR30 (TITLE V)** REVISION (IF ANY):

☐ **ADMINISTRATIVE AMENDMENT** ☒ **MINOR MODIFICATION**
☐ **SIGNIFICANT MODIFICATION**

IF ANY BOX ABOVE IS CHECKED, INCLUDE TITLE V REVISION INFORMATION AS **ATTACHMENT S** TO THIS APPLICATION

For Title V facilities only: Please refer to "Title V Revision Guidance" in order to determine your Title V Permit Revision options (Appendix A, "Title V Permit Revision Flowchart") and ability to operate with the changes requested in this Permit Application.

Section I. General

1. Name of applicant *(as registered with the WV Secretary of State's Office):*
Cytec Industries Inc.

2. Federal Employer ID No. ***(FEIN):***
2 2 3 2 6 8 6 6 0

3. Name of facility *(if different from above):*
Cytec – Willow Island Plant

4. The applicant is the:
☐ **OWNER** ☐ **OPERATOR** ☒ **BOTH**

5A. Applicant's mailing address:
Cytec Industries Inc.
#1 Heilman Avenue
Willow Island, WV 26134

5B. Facility's present physical address:
Cytec Industries Inc.
State Route 2
Willow Island, WV 26134

6. **West Virginia Business Registration.** Is the applicant a resident of the State of West Virginia? ☒ **YES** ☐ **NO**

➪ If **YES,** provide a copy of the **Certificate of Incorporation/Organization/Limited Partnership** (one page) including any name change amendments or other Business Registration Certificate as **Attachment A.**

➪ If **NO,** provide a copy of the **Certificate of Authority/Authority of L.L.C./Registration** (one page) including any name change amendments or other Business Certificate as **Attachment A.**

7. If applicant is a subsidiary corporation, please provide the name of parent corporation: Not Applicable (NA)

8. Does the applicant own, lease, have an option to buy or otherwise have control of the *proposed site?* ☒ **YES** ☐ **NO**

➪ If **YES,** please explain: The site is existing.

➪ If **NO,** you are not eligible for a permit for this source.

9. Type of plant or facility (stationary source) to be **constructed, modified, relocated, administratively updated** or **temporarily permitted** (e.g., coal preparation plant, primary crusher, etc.):
Chemical Manufacturing Unit – Surfactants Production

10. North American Industry Classification System (**NAICS**) code for the facility:
325199

11A. DAQ Plant ID No. (for existing facilities only):
0 7 3 – 0 0 0 0 3

11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only):
R13-2120H (effective June 27, 2012)
R30-07300003-2012 MM01 (Part 2 of 4) (issued August 28, 2012)

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

12A.

- ➪ For **Modifications, Administrative Updates** or **Temporary permits** at an existing facility, please provide directions to the *present location* of the facility from the nearest state road;
- ➪ For **Construction** or **Relocation permits,** please provide directions to the *proposed new site location* from the nearest state road. Include a **MAP** as **Attachment B**.

The plant is located on State Route 2, two miles south of Belmont, West Virginia.

12.B. New site address (if applicable):	12C. Nearest city or town:	12D. County:
NA	Willow Island	Pleasants
12.E. UTM Northing (KM): 4,356.2	12F. UTM Easting (KM): 473.4	12G. UTM Zone: 17

13. Briefly describe the proposed change(s) at the facility: Update of Section 1.0 equipment list in order to add Supersack Unloaders 1 & 2 (IDs WH-4BB1 & WH-4BB2). Add emission point 05BE to Sections 4.1.3 and 4.2.1.

14A. Provide the date of anticipated installation or change: 05/06/15 If this is an **After-The-Fact** permit application, provide the date upon which the proposed change did happen: NA	14B. Date of anticipated Start-Up if a permit is granted: 06/01/15

14C. Provide a **Schedule** of the planned **Installation** of/**Change** to and **Start-Up** of each of the units proposed in this permit application as **Attachment C** (if more than one unit is involved). NA (on-going operations)

15. Provide maximum projected **Operating Schedule** of activity/activities outlined in this application:
24 Hours Per Day 7 Days Per Week 52 Weeks Per Year

16. Is demolition or physical renovation at an existing facility involved? ☐ **YES** ☒ **NO**

17**. Risk Management Plans.** If this facility is subject to 112(r) of the 1990 CAAA, or will become subject due to proposed changes (for applicability help see www.epa.gov/ceppo), submit your **Risk Management Plan (RMP)** to U. S. EPA Region III.

18**. Regulatory Discussion.** List all Federal and State air pollution control regulations that you believe are applicable to the proposed process *(if known).* A list of possible applicable requirements is also included in Attachment S of this application (Title V Permit Revision Information). Discuss applicability and proposed demonstration(s) of compliance *(if known).* Provide this information as **Attachment D.**

Section II. Additional attachments and supporting documents.

19. Include a check payable to WVDEP – Division of Air Quality with the appropriate **application fee** (per 45CSR22 and 45CSR13).

20. Include a **Table of Contents** as the first page of your application package.

21. Provide a **Plot Plan,** e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is or is to be located as **Attachment E** (Refer to ***Plot Plan Guidance***) **.**

➪ Indicate the location of the nearest occupied structure (e.g. church, school, business, residence).

22. Provide a **Detailed Process Flow Diagram(s)** showing each proposed or modified emissions unit, emission point and control device as **Attachment F.**

23. Provide a **Process Description** as **Attachment G.**

➪ Also describe and quantify to the extent possible all changes made to the facility since the last permit review (if applicable).

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

24. Provide **Material Safety Data Sheets (MSDS)** for all materials processed, used or produced as **Attachment H.**

➪ For chemical processes, provide a MSDS for each compound emitted to the air.

25. Fill out the **Emission Units Table** and provide it as **Attachment I.**

26. Fill out the **Emission Points Data Summary Sheet (Table 1 and Table 2)** and provide it as **Attachment J.**

27. Fill out the **Fugitive Emissions Data Summary Sheet** and provide it as **Attachment K.**

28. Check all applicable **Emissions Unit Data Sheets** listed below:

☐ Bulk Liquid Transfer Operations	☐ Haul Road Emissions	☐ Quarry
☐ Chemical Processes	☐ Hot Mix Asphalt Plant	☐ Solid Materials Sizing, Handling and Storage Facilities
☐ Concrete Batch Plant	☐ Incinerator	
☐ Grey Iron and Steel Foundry	☐ Indirect Heat Exchanger	☐ Storage Tanks

☒ General Emission Unit, Supersack Unloader 1 (ID WH-4BB1) and Supersack Unloader 2 (ID WH-4BB2)

Fill out and provide the **Emissions Unit Data Sheet(s)** as **Attachment L.**

29. Check all applicable **Air Pollution Control Device Sheets** listed below:

☐ Absorption Systems	☒ Baghouse (WH-4DC1 & WH-4DC2)	☐ Flare
☐ Adsorption Systems	☐ Condenser	☐ Mechanical Collector
☐ Afterburner	☐ Electrostatic Precipitator	☐ Wet Collecting System

☐ Other Collectors, specify

Fill out and provide the **Air Pollution Control Device Sheet(s)** as **Attachment M.**

30. Provide all **Supporting Emissions Calculations** as **Attachment N,** or attach the calculations directly to the forms listed in Items 28 through 31.

31. **Monitoring, Recordkeeping, Reporting and Testing Plans.** Attach proposed monitoring, recordkeeping, reporting and testing plans in order to demonstrate compliance with the proposed emissions limits and operating parameters in this permit application. Provide this information as **Attachment O.**

- Please be aware that all permits must be practically enforceable whether or not the applicant chooses to propose such measures. Additionally, the DAQ may not be able to accept all measures proposed by the applicant. If none of these plans are proposed by the applicant, DAQ will develop such plans and include them in the permit.

32. **Public Notice.** At the time that the application is submitted, place a **Class I Legal Advertisement** in a newspaper of general circulation in the area where the source is or will be located (See 45CSR§13-8.3 through 45CSR§13-8.5 and ***Example Legal Advertisement*** for details). Please submit the **Affidavit of Publication** as **Attachment P** immediately upon receipt.

33**. Business Confidentiality Claims.** Does this application include confidential information (per 45CSR31)?

☐ **YES** ☒ **NO**

- If **YES,** identify each segment of information on each page that is submitted as confidential and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's ***"Precautionary Notice – Claims of Confidentiality"*** guidance found in the ***General Instructions*** as **Attachment Q.**

Section III. Certification of Information

34. **Authority/Delegation of Authority.** Only required when someone other than the responsible official signs the application. Check applicable **Authority Form** below:

☒ Authority of Corporation or Other Business Entity	☐ Authority of Partnership
☐ Authority of Governmental Agency	☐ Authority of Limited Partnership

Submit completed and signed **Authority Form** as **Attachment R.**

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

35A. **Certification of Information.** To certify this permit application, a Responsible Official (per 45CSR§13-2.22 and 45CSR§30-2.28) or Authorized Representative shall check the appropriate box and sign below.

Certification of Truth, Accuracy, and Completeness

I, the undersigned ☒ **Responsible Official** / ☐ **Authorized Representative,** hereby certify that all information contained in this application and any supporting documents appended hereto, is true, accurate, and complete based on information and belief after reasonable inquiry I further agree to assume responsibility for the construction, modification and/or relocation and operation of the stationary source described herein in accordance with this application and any amendments thereto, as well as the Department of Environmental Protection, Division of Air Quality permit issued in accordance with this application, along with all applicable rules and regulations of the West Virginia Division of Air Quality and W.Va. Code § 22-5-1 et seq. (State Air Pollution Control Act). If the business or agency changes its Responsible Official or Authorized Representative, the Director of the Division of Air Quality will be notified in writing within 30 days of the official change.

Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

SIGNATURE _____ DATE: ***03/02/2015***

(Please use blue ink) *(Please use blue ink)*

35B. Printed name of signee: Mr. Michael A. Young		35C. Title: Site Manager
35D. E-mail: mike.young@cytec.com	36E. Phone: (304) 665-3461	36F. FAX: (304) 665-3616
36A. Printed name of contact person (if different from above): Mr. John K. Pitner		36B. Title: Senior Environmental Engineer
36C. E-mail: john.pitner@cytec.com	36D. Phone: (304) 665-3485	36E. FAX: (304) 665-3671

PLEASE CHECK ALL APPLICABLE ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:

- ☒ **Attachment A: Business Certificate**
- ☐ **Attachment B: Map(s)**
- ☐ **Attachment C: Installation and Start Up Schedule**
- ☒ **Attachment D: Regulatory Discussion**
- ☐ **Attachment E: Plot Plan**
- ☐ **Attachment F: Detailed Process Flow Diagram(s)**
- ☒ **Attachment G: Process Description**
- ☐ **Attachment H: Material Safety Data Sheets (MSDS)**
- ☒ **Attachment I: Emission Units Table**
- ☒ **Attachment J: Emission Points Data Summary Sheet**
- ☐ **Attachment K: Fugitive Emissions Data Summary Sheet**
- ☒ **Attachment L: Emissions Unit Data Sheet(s)**
- ☒ **Attachment M: Air Pollution Control Device Sheet(s)**
- ☒ **Attachment N: Supporting Emissions Calculations**
- ☐ **Attachment O: Monitoring/Recordkeeping/Reporting/Testing Plans**
- ☒ **Attachment P: Public Notice**
- ☐ **Attachment Q: Business Confidential Claims**
- ☐ **Attachment R: Authority Forms**
- ☒ **Attachment S: Title V Permit Revision Information**
- ☒ **Application Fee**

Please mail an original and three (3) copies of the complete permit application with the signature(s) to the DAQ, Permitting Section, at the address listed on the first page of this application. Please DO NOT fax permit applications.

FOR AGENCY USE ONLY – IF THIS IS A TITLE V SOURCE:

- ☐ ***Forward 1 copy of the application to the Title V Permitting Group and:***
- ☐ ***For Title V Administrative Amendments:***
  - ☐ ***NSR permit writer should notify Title V permit writer of draft permit,***
- ☐ ***For Title V Minor Modifications:***
  - ☐ ***Title V permit writer should send appropriate notification to EPA and affected states within 5 days of receipt,***
  - ☐ ***NSR permit writer should notify Title V permit writer of draft permit.***
- ☐ ***For Title V Significant Modifications processed in parallel with NSR Permit revision:***
  - ☐ ***NSR permit writer should notify a Title V permit writer of draft permit,***
  - ☐ ***Public notice should reference both 45CSR13 and Title V permits,***
  - ☐ ***EPA has 45 day review period of a draft permit.***

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

TABLE OF CONTENTS

ATTACHMENT 1

SUMMARY OF REVISIONS to PERMIT R13-2120H

Section	Revisions
1.0	Update of Section 1.0 equipment list in order to add the new bulk bag unloaders (WH-4BB1 & WH-4BB2), and their associated dust collectors (WH-4DC1 & WH-4DC2), which vent through new emission point 05BE.
2.0	No changes.
3.0	No changes.
4.0	Add 05BE vent to the table in 4.1.3 and to 4.2.1.

West Virginia Department of Environmental Protection

Earl Ray Tomblin
Governor

Division of Air Quality

Randy C. Huffman
Cabinet Secretary

Permit to Update

Cytec's Proposed Revisions to R13-2120H

R13- 2120~~H~~I

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 Plant
073-00003

_____

John A. Benedict
Director

Issued: ~~June 27,2012~~ • *Effective: ~~June 27, 2012~~*

This permit supersedes and replaces R13-2120~~G~~H issued on ~~November 30, 2010~~ June 27, 2012.

Field Code Changed

Facility Location:	Willow Island, Pleasants County, West Virginia
Mailing Address:	#1 Heilman Avenue, Willow Island, WV 26134
Facility Description:	Surfactants Manufacturing
SIC Codes:	2869 – Industrial Organic Chemicals, Not Elsewhere Classified
UTM Coordinates:	473.42 km Easting • 4,356.22 km Northing • Zone 17
Permit Type:	Class II Administrative Update
Description of Change:	This update allows CYTEC to update Section 1.0's equipment list by ~~replacing the existing Double Drum Dryer (2-3DD1) with a similar new dryer. The replacement dryer will continue to be vented to the existing scrubber (3-3SC1) control device. Also, typographical errors and other minor corrections will be made to Section 1.0.~~adding the new bulk bag unloaders (WH-4BB1 & WH-4BB2), and their associated dust collectors (WH-4DC1 & WH-4DC2), which vent through new emission point 05BE. In Section 4.0, ~~omitted Emission Point 07BE from scrubber (3-3SC1) control device vent will be added to the table in 4.1.3, and the words "or Method 22 trained" will be added before the word "observer" in Section 4.4.7.~~ add 05BE vent to the table in 4.1.3 and to 4.2.1.

Field Code Changed

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 45CSR30. The permittee has the duty to update the facility's Title V (45CSR30) permit application to reflect the changes permitted herein.

Table of Contents

1.0 Emission Units

Emission Point ID	Control Device	Emission Unit ID	Emission Unit Description	Design Capacity	Year Installed
04BE	-----	1-4T2	Addition/Mix Tank	760 gallons	1998
		1-2SF1	Pressure Filter Sampling Port		
		1-3T1	Precoat Tank		
		1-3SF1	Pressure Filter Sampling Port		
		1-DRUM	Drumming Station		
		2-3K2	Reactor Sampling Port		
		2-2K2	Hold Tank Manway Hood		
		2-2K2	Hold Tank Sampling Port		
		2-4K1	Prep Kettle Manway Hood		
04CE Industrial Hygiene Vent for Surfactants	-----	2-4K1	Prep Kettle Sampling Port	6,000 acfm (blower)	The Industrial Hygiene Vent was installed in 1998. The emission sources vented to the IH vent have various installation dates.
		2-3K1	Sulfonation Reactor Manway Hood		
		2-3K1	Sulfonation Reactor Sampling Port		
		2-2K1	Esterification Reactor Manway Hood		
		2-2K1	Esterification Reactor Sampling Port		
		1-2T3	Precoat Tank Manway Hood		
		1-4T4	Precoat Tank Manway Hood		
		1-4T4	Precoat Tank Sampling Port		
		1-4SF1	Pressure Filter Sampling Port		
		2-3K2	Reactor Manway Hood		
		3-DRUM	Drumming Station		

Field Code Changed

1.0 Emission Units

Emission Point ID	Control Device	Emission Unit ID	Emission Unit Description	Design Capacity	Year Installed
		2-3K2, 3-2CD2, 3-2CD3	Reactor and Condensers	8,100 gallons	1998
		2-2K2, 3-2CD2, 3-2CD3	Reactor and Condensers	8,100 gallons	1998
		2-4T3	Drum Dryer/Feed Hold Tank	9,135 gallons	1998
		3-2VP1	Vacuum Pump System	5 mmHg	1998
		1-2T4	Alcohol Receiver	3,918 gallons	1998
		2-4K1, 3-4CD1	Prep Kettle and Condenser	16,460 gallons	1998
		3-4T1	Decanter	590 gallons	1998
	Seal Pot 3-4T2	3-4VJ1, 3-4VJ2, 3-4VJ3	Vacuum Jets	5 mmHg	2010
04DE	Caustic Scrubber 3-4SC1	3-2T1	Decanter	520 gallons	1976
		3-2VJ1, 3-2VJ2, 3-2VJ3	Vacuum Jets	5 mmHg	1976
	Water Scrubber 3-4SC2	1-2T1	Alcohol Receiver	2,070 gallons	1976
		3-4T3	Scrubber Liquor Recirculation Tank	930 gallons	1998
		WH-4T1	Drumming Tank	13,515 gallons	1998
		1-4T1	Alcohol Receiver	2,000 gallons	1988
		1-4T3	Hot Well	187 gallons	2010
		1-2T2	Hot Well	178 gallons	1976
		2-2K1, 3-2CD1	Esterification Reactor and Condenser	12,000 gallons	1976
		2-3K1, 3-3CD1	Sulfonation Reactor and Condenser	12,000 gallons	1975
08CE	-----	1-2ST1	Hold Tank	1,145 gallons	1975
03BE	Dust Collector 3-3DC1	3-3BS1	MBS Silo	100,000 lbs	2004

Field Code Changed

1.0 Emission Units

Emission Point ID	Control Device	Emission Unit ID	Emission Unit Description	Design Capacity	Year Installed
04AE	Dust Collector 3-4DC1	3-4BS1	Sodium Sulfite Silo	100,000 lbs	2004
05AE	Dust Collector 3-4DC2	3-4BS2	MBS Silo	100,000 lbs	1998
05BE	Dust Collectors WH-4DC1, WH-4DC2	WH-4BB1, WH-4BB2	Bulk Bag Unloaders	30,000 lb/hr	201530,000 lb/hr
08BE	-----	1-4SF1	Pressure Filter Manway Hood	700 gallons	1998
07BE	Scrubber 3-3SC1	2-3DD1	Double Drum Dryer	750 lb/hr	2012
TS-1E	-----	TS-1	Truck Loading Station	300 gpm	1976
TS-2E	-----	TS-2	Truck Loading Station	300 gpm	1976
TS-3E	-----	TS-3	Truck Loading Station	300 gpm	1976
TS-4E	-----	TS-4	Truck Loading Station	300 gpm	1998
TS-5E	-----	TS-5	Truck Loading Station	300 gpm	1998
RS-1E	-----	RS-1	Railcar Loading Station	300 gpm	1975
RS-2E	-----	RS-2	Railcar Loading Station	300 gpm	1998
RS-3E	-----	RS-3	Railcar Loading Station	300 gpm	1998
021E	-----	S-1T1	0T-75 Storage Tank	26,662 gallons	1977
019E	-----	S-2T1	MA-80I Storage Tank	25,000 gallons	1976
015E	-----	S-3T1	OT-35 Unwashed Storage Tank	27,555 gallons	1992
013E	-----	S-4T1	2-EH Storage Tank	32,314 gallons	1976
011E	-----	S-5T1	MIBC Storage Tank	25,000 gallons	1994
009E	-----	S-T-5	23A Storage Tank	25,000 gallons	1992
0A7E	-----	S-T-3 Compartment A	IBOH Storage Tank	6,000 gallons	1988
0B7E	-----	S-T-3 Compartment B	DEM Storage Tank	7,750 gallons	1988

Field Code Changed

1.0 Emission Units

Emission Point ID	Control Device	Emission Unit ID	Emission Unit Description	Design Capacity	Year Installed
0C7E	-----	S-T-3 Compartment C	PG or DEG Storage Tank	7,750 gallons	1988
0D7E	-----	S-T-3 Compartment D	IPAL or PG Storage Tank	6,000 gallons	1988
005E	-----	S-8T1	OT-35W Storage Tank	27,535 gallons	1998
003E	-----	S-7T1	MAA Storage Tank	31,712 gallons	1977
022E	-----	S-1T2	OT-GPG Storage Tank	25,000 gallons	1976
020E	-----	S-2T2	A-196 Storage Tank	25,000 gallons	1976
016E	-----	S-3T2	2-EH Storage Tank	32,587 gallons	1976
014E	-----	S-4T2	OT-35W Storage Tank	10,760 gallons	1975
012E	-----	S-5T2	Storage Tank	10,000 gallons	1994
010E-1	-----	S-6T2 Compartment A	Armeen Storage Tank	6,820 gallons	1998
010E-2	-----	S-6T2 Compartment B	Armeen Storage Tank	13,200 gallons	1998
010E-3	-----	S-6T2 Compartment C	Armeen Storage Tank	6,820 gallons	1998
008E	-----	S-7T2	OT-75 Storage Tank	27,535 gallons	1998
026E	-----	W-T5	Effluent Equalization Hold Tank	27,535 gallons	1998
A28E	-----	N-1T1 Compartment A	DSS 70% in 23A Storage Tank	7,350 gallons	2007
B28E	-----	N-1T1 Compartment B	DSS 70% in 23A Storage Tank	7,750 gallons	2007
C28E	-----	N-1T1 Compartment C	DSS 70% in 23A Storage Tank	7,750 gallons	2007
D28E	-----	N-1T1 Compartment D	DSS 70% in 23A Storage Tank	7,850 gallons	2007

Field Code Changed

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.

2.2. 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
dscm	Dry Standard Cubic Meter
FOIA	Freedom of Information Act
HAP	Hazardous Air Pollutant
HON	Hazardous Organic NESHAP
HP	Horsepower
lbs/hr	Pounds per Hour
LDAR	Leak Detection and Repair
M	Thousand
MACT	Maximum Achievable Control Technology
MDHI	Maximum Design Heat Input
MM	Million
MMBtu/hr *or* mmbtu/hr	Million British Thermal Units per Hour
MMCF/hr *or* mmcf/hr	Million Cubic Feet per Hour
NA	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
$PM_{2.5}$	Particulate Matter less than 2.5 µm in diameter
PM_{10}	Particulate Matter less than 10µm in diameter
Ppb	Pounds per Batch
Pph	Pounds per Hour
Ppm	Parts per Million
Ppm_V or ppmv	Parts per Million by Volume
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
VOL	Volatile Organic Liquids

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 R13-2120~~F~~G. 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 Application R13-2120, 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.

2.7. Duty to Supplement and Correct Information

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.

2.8. Administrative Update

The permittee may request an administrative update to this permit as defined in and according to the procedures specified in 45CSR13.
[45CSR§13-4.]

2.9. Permit Modification

The permittee may request a minor modification to this permit as defined in and according to the procedures specified in 45CSR13.
[45CSR§13-5.4.]

2.10 Major Permit Modification

The permittee may request a major modification to this permit as defined in and according to the procedures specified in 45CSR14 or 45CSR19, as appropriate.
[45CSR§14-7 *or* 45CSR§19-14]

2.11. Inspection and Entry

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.

2.12. Emergency

2.12.1. An "emergency" means any situation arising from sudden and reasonable 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.

2.12.2. 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 Section 2.12.3 are met.

2.12.3. 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. 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 must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

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

2.12.5 The provisions of this section are in addition to any emergency or upset provision contained in any applicable requirement.

2.13. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a permittee in an enforcement action that it should 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.

2.14. Suspension of Activities

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.

2.15. Property Rights

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

2.16. Severability

The provisions of this permit are severable and should any provision(s) be declared by a court of competent jurisdiction to be invalid or unenforceable, all other provisions shall remain in full force and effect.

2.17. Transferability

This permit is transferable in accordance with the requirements outlined in Section 10.1 of 45CSR13. **[45CSR§13-10.1.]**

2.18. Notification Requirements

The permittee shall notify the Secretary, in writing, no later than thirty (30) calendar days after the actual startup of the operations authorized under this permit.

2.19. Credible Evidence

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 defense otherwise available to the permittee including, but not limited to, any challenge to the credible evidence rule in the context of any future proceeding.

3.0. Facility-Wide Requirements

3.1. Limitations and Standards

3.1.1. **Open burning.** The open burning of refuse by any person, firm, corporation, association or public agency 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, suffer, allow or permit 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.
[40CFR§61.145(b) and 45CSR§15]

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. **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.]

3.1.6. **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.]

3.2. Monitoring Requirements

[Reserved]

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 in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as 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. If a testing method is specified or approved which effectively replaces a test method specified in the permit, the permit may be revised in accordance with 45CSR§13-4. or 45CSR§13-5.4 as applicable.

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 sixty (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; and,
    3. A statement of compliance or noncompliance with each permit or rule condition.

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

3.4. Recordkeeping Requirements

3.4.1. **Retention of records.** The permittee shall maintain records of all information (including monitoring data, support information, reports, and notifications) required by this permit recorded in a form suitable and readily available for expeditious inspection and review. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation. The files shall be maintained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two (2) years of data shall be maintained on site. The remaining three (3) years of data may be maintained off site, but must remain accessible within a reasonable time. Where appropriate, the permittee may maintain records electronically (on a computer, on computer floppy disks, CDs, DVDs, or magnetic tape disks), on microfilm, or on microfiche.

3.4.2. **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§4. *State Enforceable Only.*]

3.5. Reporting Requirements

3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

3.5.2. **Confidential information.** A permittee may request confidential treatment for the submission of reporting required by this permit pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.

3.5.3. **Correspondence.** 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, or mailed first class 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
Charleston, WV 25304-2345

If to the US EPA:
Associate Director
Office of Enforcement and Permits Review
(3AP12)
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

3.5.4. **Operating Fee**

3.5.4.1. In accordance with 45CSR30 – Operating Permit Program, 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. A receipt for the appropriate fee shall be maintained on the premises for which the receipt has been issued, and shall be made

immediately available for inspection by the Secretary or his/her duly authorized representative.

3.5.5. **Emission inventory.** At such time(s) as the Secretary may designate, the permittee herein shall prepare and submit an emission inventory for the previous year, addressing the emissions from the facility and/or process(es) authorized herein, in accordance with the emission inventory submittal requirements of the Division of Air Quality. After the initial submittal, the Secretary may, based upon the type and quantity of the pollutants emitted, establish a frequency other than on an annual basis.

4.0. Source-Specific Requirements

4.1. Limitations and Standards

4.1.1. Emissions generated from the Surfactants Manufacturing Unit[1] shall be limited as follow:

Pollutant	Hourly Emissions[2] (lb/hr)	Annual Emissions (TPY)
Particulate Matter	15.7	0.9
Sulfur Dioxide	0.7	0.24
Volatile Organic Compounds	92.09	26.9

[1] Emissions from Surfactants Manufacturing Unit shall be limited to the equipment and associated emission points listed in Section 1.0.

[2] Includes short duration peak emissions for "worst-case" batch activities and does not represent a continuous emission rate. Therefore, annual emissions are not based on the hourly rate taken 8,760 hours per year.

[45CSR§13-5.11.]

4.1.2. No person shall cause, suffer, allow, or permit emission of smoke and/or particulate matter into the open air from any process source operation which is greater than twenty (20) percent opacity.
[45CSR§7-3.1.]

4.1.3. No person shall cause, suffer, allow or permit particulate matter to be vented into the open air from any type source operation or duplicate source operation, or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess the quantity specified under the appropriate source operation type in Table 45-7A.
[45CSR§7-4.1.]

Emission Point ID No.	45CSR7 Maximum Allowable Particulate Emission Limit lb/hr
04CE	5
05BE	22
07BE	0.90

4.1.4. Emissions vented through Emission Point ID 04DE shall be routed to and controlled by devices 3-4T2, 3-4SC1, 3-4SC2 prior to emission to the atmosphere.
[45DCSR§13-5.11.]

4.1.5. The Seal Pot, designated as Control Device 3-4T2, shall be designed and operated to achieve a minimum control efficiency of 50 % for volatile organic compounds.
[45CSR§13-5.11.]

4.1.6. The Caustic Scrubber, designated as Control Device 3-4SC1, shall be designed and operated to achieve a minimum control efficiency of 97.5% for sulfur dioxide.

Field Code Changed

Field Code Changed

Field Code Changed

[45CSR§13-5.11.]

4.1.7. The Scrubber, designated as Control Device 3-4SC2, shall be designed and operated to achieve a minimum control efficiency of 85% for volatile organic compounds.
[45CSR§13-5.11.]

4.1.8. Emissions from the MBS Silo, Equipment ID No. 3-3BS1, shall be vented to and controlled by the Baghouse designated as Control Device 3-3DC1.
[45CSR§13-5.11.]

4.1.9. Emissions from the Sulfite Silo, Equipment ID No. 3-4BS1, shall be vented to and controlled by the Baghouse designated as Control Device 3-4DC1.
[45CSR§13-5.11.]

4.1.10. Emissions from the MBS Silo, Equipment ID No. 3-4BS2, shall be vented to and controlled by the Baghouse designated as Control Device 3-4DC2.
[45CSR§13-5.11.]

4.1.11. The Baghouses (Control Device Ids 3-3DC1, 3-4DC1, and 3-4DC2) shall be designed and operated to achieve a minimum control efficiency of 99.5% for particulate matter.
[45CSR§13-5.11.]

4.1.12. The control devices listed below shall be operated in accordance with the listed monitoring parameter values and data averaging periods:

Field Code Changed

Control Device ID	Description	Monitoring Parameter [2]	Parameter Value [2]	Data Averaging Period [2]
3-4SC1	Caustic Scrubber	Scrubber Liquor % Caustic[1]	≥ 3.0 %	Prior to Each Sulfonated Batch
		Scrubber Liquor Flow	≥ 6.2 gpm	Calendar Daily
3-4SC2	Water Scrubber	Scrubber Liquor Flow	≥ 3.8 gpm	Calendar Daily
3-4T2	Seal Pot	Scrubber Liquor Flow	≥ 1 gpm	Calendar Daily
3-3SC1	Drum Dryer Scrubber	Scrubber Liquor Flow	≥ 4.2 gpm	Calendar Daily

[1] % Caustic in Scrubber Liquor Recirculation Tank (3-4T3).

[2] The control device requirements listed above apply when the production process(es) are operating and venting to the listed control device.

[45CSR§13-5.11.]

4.1.13. No person shall cause, suffer, allow, or permit visible emissions from any storage structure(s) associated with any manufacturing process(es) that pursuant to subsection 5.1 is required to have a full enclosure and be equipped with a particulate matter control device.
[45CSR§7-3.7.]

4.1.14. Emissions generated by the Double Drum Dryer, Equipment ID No. 2-3DD1, shall be vented to and controlled by the Scrubber designated as Control Device 3-3SC1.
[45CSR§13-5.11.]

Field Code Changed

4.1.15. The Scrubber, designated as Control Device 3-3SC1, shall be designed and operated to achieve a minimum control efficiency of 95% for volatile organic compounds and particulate matter.
[45CSR§13-5.11.]

4.1.16. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.11.]

4.2. Monitoring Requirements

Field Code Changed

4.2.1. For the purpose of determining compliance with the opacity limits for emission points 04CE, 05BE and 07BE, the permittee shall conduct visible emission checks or opacity monitoring and recordkeeping for the emission points and equipment subject to an opacity limit. 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 40CFR60 Appendix A, Method 9 or Method 22, or 45CSR7A, during periods of normal operation of emission sources that vent from the referenced emission point(s) 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 40CFR Part 60, Appendix A, Method 9 within seventy-two (72) hours of the first signs of visible emissions. A 40CFR Part 60, Appendix A, Method 9 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.
[45CSR§7.3.1 & 3.2]

4.2.2. For the following control devices: Caustic Scrubber (3-4SC1), Water Scrubber (3-4SC2), Seal Pot (3-4T2) and Scrubber (3-3SC1), the permittee shall maintain and operate water/scrubbing liquor flow rate sensors with control panel alarms to ensure adequate water/scrubbing liquor flow rates.
[45CSR§13-5.11.]

4.2.3. The parameters as set forth in 4.1.12. for the Caustic Scrubber (3-4SC1), Water Scrubber (3-4SC2), and Seal Pot (3-4T2) shall be verified prior to the start of each sulfonation production batch. Production shall not commence until all parameters are greater than or equal to their

acceptable values. Conditions causing any parameter to be less than the compliance value will be corrected prior to the start of production.
[45CSR§13-5.11.]

Field Code Changed

4.2.4. The permittee shall conduct an annual preventative maintenance inspection, and cleaning, replacement, or refurbishment, as appropriate, of the bags, bag connections, and dust hoppers of the baghouses (Control Device IDs 3-3DC1, 3-4DC1, and 3-4DC2) at the specified emission points (03BE, 04AE, and 05AE), in order to ensure proper operation of the baghouses.
[45CSR§13-5.11.]

4.3. Testing Requirements

4.3.1. Compliance with the emission limits set forth in 4.1.1. for sulfur dioxide, shall be demonstrated, at the request of the Director, by utilizing EPA Reference Method 6 as specified in Appendix A of 40 CFR 60. The Director of the Division of Air Quality may specify or may approve other valid methods for compliance determination when he/she deems it appropriate and necessary.
[45CSR§13-5.11.]

Field Code Changed

4.3.2. If requested by the Director, compliance with the particulate matter emission limits for emission point 04CE set forth in Section 4.1.1. shall be demonstrated by utilizing the test method outlined in 45CSR7A, TP-4 - 'Compliance Test Procedures for Series 7 - "To Prevent Particulate Air Pollution from Manufacturing Process Operations."' The permittee shall determine mass emission rates as well as visible emissions during these tests and said tests shall be conducted under conditions which represent "worst-case" emissions. The process of compliance determination for the storage silos having emission points 03BE, 04AE and 05AE shall be demonstrated by having no visible emissions. The Director of the Division of Air Quality may specify or may approve other valid methods for compliance determination when he/she deems it appropriate and necessary.
[45CSR§13-5.11.]

4.4. Recordkeeping Requirements

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

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

b. The date(s) analyses were performed;

c. The company or entity that performed the analyses;

d. The analytical techniques or methods used;

e. The results of the analyses; and

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

[45CSR§13-5.11.]

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

[45CSR§13-5.11.]

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

a. The equipment involved.

b. Steps taken to minimize emissions during the event.

c. The duration of the event.

d. The estimated increase in emissions during the event.

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

e. The cause of the malfunction.

f. Steps taken to correct the malfunction.

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

[45CSR§13-5.11.]

4.4.4. The permittee shall maintain records indicating the emission calculations/emission models used to demonstrate compliance with all point source emission limits for each emission point specified in 1.0. Compliance with the specified emission limits set forth in 4.1.1. shall be demonstrated by calculating emissions for every product in the Surfactants Manufacturing Unit using Emission Master emission modeling software, or other appropriate emission 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 which has emissions of PM, SO_2, or VOC shall be included in the calculation and accounted for in the emissions report. The models shall be maintained current for all processes, process modifications and new product variants. The Division of Air Quality may specify or may approve other valid methods for compliance determination when deemed appropriate and necessary. These records shall be maintained on site for a period of no less than five (5) years.
[45CSR§13-5.11.]

4.4.5. The data necessary to demonstrate compliance with the control device monitoring parameters required by 4.1.12., emission calculations required by 4.4.4., and detailed descriptions of any other compliance procedures, as well as accurate production records shall be maintained on site for a period of five (5) years and made available to the Director of the Division of Air Quality or his/her duly authorized representative upon request.
[45CSR§13-5.11.]

4.4.6. The permittee shall maintain quarterly emission reports calculated by the method described in 4.4.4. The quarterly emission reports shall be used to calculate a four quarter rolling total used to demonstrate compliance with the annual emission limits set forth in 4.1.1. The quarterly emission reports and four quarter rolling total shall be maintained on site for a period of five (5) years.

[45CSR§13-5.11.]

4.4.7. Records of each visible emission observation and each 45CSR7A evaluation conducted in accordance with 4.2.1. shall be maintained on site for a period of no less than five (5) years. The visible emission observation records shall include, but not be limited to, the date, time, name of the emission unit, the applicable visible emissions requirements, the results of the observations, what action(s), if any, was/were taken, and the name of the certified Method 9 or Method 22 trained observer.
[45CSR§13-5.11.]

4.4.8. For the following control devices: Caustic Scrubber (3-4SC1), Water Scrubber (3-4SC2), Seal Pot (3-4T2) and Scrubber (3-3SC1), records shall be maintained on site for a period of no less than five (5) years stating the date and time of each control device's low water/scrubbing liquor flow rate monitoring parameter excursion from the required value in 4.1.12., the cause of the monitoring parameter excursion, and all corrective actions taken.
[45CSR§13-5.11.]

Field Code Changed

4.4.9 Records of all monitoring data and support information required for the following control devices: Caustic Scrubber (3-4SC1), Water Scrubber (3-4SC2), Seal Pot (3-4T2) and Scrubber (3-3SC1), shall be maintained on site for a period of at least five (5) years from the date of monitoring, sampling, measurement, or reporting. Support information includes all calibration and maintenance records and all strip chart recordings for continuous monitoring instrumentation, and copies of all required reports.
[45CSR§13-5.11.]

4.4.10. For the Control Devices 3-3DC1, 3-4DC1, and 3-4DC2, records shall be maintained on site for a period of no less than five (5) years stating the date and time of each baghouse's annual preventative maintenance activity, the results of the annual preventative maintenance activity, and all corrective actions taken.
[45CSR§13-5.11.]

Field Code Changed

4.5. Reporting Requirements

4.5.1. The permittee shall provide to the Director of the Division of Air Quality prior to the production of a new product, which involves any chemical or process change not addressed in application no. R13-2120, or any amendments thereto, sufficient documentation to demonstrate that the emissions limits as set forth in this permit will not be exceeded.
[45CSR§13-5.11.]

Field Code Changed

4.5.2 Due to unavoidable malfunction of equipment, emissions exceeding those set forth in 45CSR7 may be permitted by the Director for periods not to exceed ten (10) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director.
[45CSR§7-9.1.]

CERTIFICATION OF DATA ACCURACY

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

Signature[1] _____ _____
(please use blue ink) Responsible Official or Authorized Representative Date

Name & Title _____ _____
(please print or type) Name Title

Telephone No. _____ Fax No. _____

[1] This form shall be signed by a "Responsible Official." "Responsible Official" means one of the following:

a. For a corporation: The president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either:

(i) the facilities employ more than 250 persons or have a gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), or

(ii) the delegation of authority to such representative is approved in advance by the Director;

b. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;

c. For a municipality, State, Federal, or other public entity: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of U.S. EPA); or

d. The designated representative delegated with such authority and approved in advance by the Director.

Attachment A

WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION CERTIFICATE

ISSUED TO:
CYTEC INDUSTRIES INC
STATE RT 2
WILLOW ISLAND, WV 26134-0000

BUSINESS REGISTRATION ACCOUNT NUMBER: **1012-6978**

This certificate is issued on: **08/16/2011**

This certificate is issued by
the West Virginia State Tax Commissioner
in accordance with Chapter 11, Article 12, of the West Virginia Code

The person or organization identified on this certificate is registered to conduct business in the State of West Virginia at the location above.

This certificate is not transferrable and must be displayed at the location for which issued.

This certificate shall be permanent until cessation of the business for which the certificate of registration was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

Change in name or change of location shall be considered a cessation of the business and a new certificate shall be required.

TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them. CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of this certificate displayed at every job site within West Virginia.

atL006 v.4
L1951851136

Attachment D
Regulatory Discussion of Clean Air Act Applicable Requirements

Presumed Applicable CAA Requirements

Regulatory Citation	Emission Source Affected	Description of Applicability	Compliance Demonstration
45CSR7-3.1	Emission Point 05BE	Rule 7-3.1 limits opacity to 20%, except as noted in subsection 3.2.	Compliance is assured by monthly visible emissions observation at the listed vent point.
45CSR7-4.1	Emission Point 05BE	Rule 7-4.1 limits PM hourly emissions based upon source operation's process weight rate.	Compliance is assured by calculation of worst case PM emission rate at the listed vent point.

Attachment G
Process Description

The Cytec Willow Island (Cytec-WI) plant's Surfactants Unit manufactures industrial and food grade surfactants.

Cytec is submitting this Class II Administrative Update application to revise R13-2120H due to proposed changes to the Building 92 (B92) Manufacturing Unit equipment/emission units as listed in Section 1.0. No changes to emission limits are proposed by this permitting action.

New Sodium Metabisulfite (MBS) and Sodium Sulfite (SS) supersack unloading systems (WH-4BB1 & WH-4BB2) will be installed with integrated dust collection systems (WH-4DC1 & WH-4DC2) that will vent to new vent point 05BE. MBS and SS are raw materials that are used in Surfactants manufacturing. All MBS and SS collected in the dust collection system (when a bag is attached or detached from the unloader system) will be returned to the process via a self-cleaning air pulse jet assembly on the dust collection system.

Cytec-WI will install the two bulk bag unloaders in the B92 warehouse area. The existing pneumatic transfer system will be modified to transfer the material from the unloaders to the existing plant storage silos (3-3BS1, 3-4BS1 & 3-4BS2). The system will be automated and include a process controller located in the area.

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
WH-4BB1	05BE	Supersack Unloader 1	2015	30,000 lbs/hr	WH-4DC1
WH-4BB2		Supersack Unloader 2			WH-4DC2

Per R13-2120H Section 4.4.4, compliance with the emission limits set forth in Section 4.1.1 are demonstrated by calculating emissions for every product in the Building 92 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 4.4.4, as well as production records for each calendar month are maintained on site for a period of five (5) years.

PM Emissions from 05BE vent

Below are the estimated PM and PM10 hourly emission rates for Emission Point ID 05BE that are requested to be added to the 45CSR7 requirement in section 4.1.3. Also provided are the process weight rates and the 45CSR7-4.1 allowable hourly PM emission rates for the applicable process steps.

Attachment G
Process Description

Emission Unit ID	Emission Point ID	Process Step Description	PM Emitted (lb/hr)	Process Weight Rate (lb/hr)	Rule 7 Type 'a' Allowable PM Limit (lb/hr)
WH-4BB1 & WH-4BB2	05BE	Unloading raw materials from supersacks to air conveying system	0.0000021	30,000	22.0

Calculating PM emissions

The most similar unit operation to unloading raw materials 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 adaptation to the materials handling activities at Cytec-WI.

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 in which 15% or greater of a representative sample passes through a standard No. 200 mesh sieve would be considered as a fine material; Cytec considers 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

Where converted to percent by weight the factors become:

Attachment G
Process Description

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 emissions factors, it was decided that the factors would be doubled to account for the assumptions used in this emissions 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

The assumptions used to estimate the amount of material which will be captured by the dust collection system are as follows:

1. Up to 10 supersacks can be unloaded per hour, with each having a weight of 3,000 pounds (total unloading capacity 30,000 lb/hr).
2. Dust collection system will only run when the operator access door is open while disconnecting an “empty” supersack.
3. An estimated quantity of 10 pounds of material remains in an “empty” supersack.
4. 10 pounds of material per supersack x 10 supersacks per hour = 100 pounds of material per hour which is assumed to drop out of the supersacks while the dust collection system is operating as the supersacks are disconnected.
5. Dust collection control efficiency is 99% (per manufacturer).

Below are the worst-case PM and PM10 emission calculations for Emission Point ID 05BE for the unloading process steps:

<u>Supersack Unloading – Uncontrolled emissions</u>

100 lb/hr material x 0.00021% by wt (coarse particle PM) = 0.00021 lb/hr PM emitted
100 lb/hr material x 0.0001% by wt (coarse particle PM10) = 0.0001 lb/hr PM10 emitted

<u>Supersack Unloading – Controlled emissions</u>

0.00021 lb/hr PM x 99% control efficiency = 0.0000021 lb/hr PM to atmosphere

0.0001 lb/hr PM10 x 99% control efficiency = 0.000001 lb/hr PM10 to atmosphere

Attachment I

Emission Units Table

(includes all emission units and air pollution control devices that will be part of this permit application review, regardless of permitting status)

Emission Unit ID[1]	Emission Point ID[2]	Emission Unit Description	Year Installed/ Modified	Design Capacity	Type[3] and Date of Change	Control Device[4]
WH-4BB1 & WH-4BB2	05BE	Bulk Bag Unloaders	2015	30,000 lb/hr	New	Dust Collectors (WH-4DC1 & WH-4DC2)

[1] For Emission Units (or Sources) use the following numbering system:1S, 2S, 3S,... or other appropriate designation.
[2] For Emission Points use the following numbering system:1E, 2E, 3E, ... or other appropriate designation.
[3] New, modification, removal
[4] For Control Devices use the following numbering system: 1C, 2C, 3C,... or other appropriate designation.

Attachment J
EMISSION POINTS DATA SUMMARY SHEET

Table 1: Emissions Data

Emission Point ID No. *(Must match Emission Units Table & Plot Plan)*	Emission Point Type[1]	Emission Unit Vented Through This Point *(Must match Emission Units Table & Plot Plan)*		Air Pollution Control Device *(Must match Emission Units Table & Plot Plan)*		Vent Time for Emission Unit *(chemical processes only)*		All Regulated Pollutants - Chemical Name/CAS[3] *(Speciate VOCs & HAPS)*	Maximum Potential Uncontrolled Emissions[4]		Maximum Potential Controlled Emissions[5]		Emission Form or Phase *(At exit conditions, Solid, Liquid or Gas/Vapor)*	Est. Method Used[6]	Emission Concentration[7] (ppmv or mg/m^4)
		ID No.	Source	ID No.	Device Type	Short Term[2]	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
05BE	Horiz. stack	WH-4BB1	Bulk bag unloader	WH-4DC1	Dust Collector	Varies	Varies	PM10	0.0001	0.00044	0.000001	0.0000044	Solid	EE	NA
05BE	Horiz. stack	WH-4BB2	Bulk bag unloader	WH-4DC2	Dust Collector	Varies	Varies	PM10	0.0001	0.00044	0.000001	0.0000044	Solid	EE	NA

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET. Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

[1] Please add descriptors such as upward vertical stack, downward vertical stack, horizontal stack, relief vent, rain cap, etc.

[2] Indicate by "C" if venting is continuous. Otherwise, specify the average short-term venting rate with units, for intermittent venting (ie., 15 min/hr). Indicate as many rates as needed to clarify frequency of venting (e.g., 5 min/day, 2 days/wk).

[3] List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. **LIST** Acids, CO, CS_2, VOCs, H_2S, Inorganics, Lead, Organics, O_3, NO, NO_2, SO_2, SO_3, all applicable Greenhouse Gases (including CO_2 and methane), etc. **DO NOT LIST** H_2, H_2O, N_2, O_2, and Noble Gases.

[4] Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[5] Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[6] Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

[7] Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m^3) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO_2, use units of ppmv (See 45CSR10).

Attachment J
EMISSION POINTS DATA SUMMARY SHEET

Table 2: Release Parameter Data								
Emission Point ID No. *(Must match Emission Units Table)*	Inner Diameter (ft.)	Exit Gas			Emission Point Elevation (ft)		UTM Coordinates (km)	
		Temp. (^{o}F)	Volumetric Flow [1] (acfm) *at operating conditions*	Velocity (fps)	Ground Level *(Height above mean sea level)*	Stack Height [2] *(Release height of emissions above ground level)*	Northing	Easting
05BE	0.5	Ambient	500	42.4	646	20	4,356.136	473.638

[1] Give at operating conditions. Include inerts.
[2] Release height of emissions above ground level.

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): **WH-4BB1 and WH-4BB2 [05BE]**

1. Name or type and model of proposed affected source:

Supersack unloading systems (WH-4BB1 and WH-4BB2) venting to 05BE

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

Sodium Metabisulfite (MBS) 30,000 lbs/hr or Sodium Sulfite (SS) 30,000 lbs/hr

4. Name(s) and maximum amount of proposed material(s) produced per hour:

NA

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

NA

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable): NA

(a) Type and amount in appropriate units of fuel(s) to be burned:

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash: NA

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input: × 10^6 BTU/hr.

7. Projected operating schedule:

Hours/Day	24	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ 75 °F and 14.7 psia

a.	NO_X		lb/hr	grains/ACF
b.	SO_2		lb/hr	grains/ACF
c.	CO		lb/hr	grains/ACF
d.	PM_{10}	0.0001	lb/hr	grains/ACF
e.	Hydrocarbons		lb/hr	grains/ACF
f.	VOCs		lb/hr	grains/ACF
g.	Pb		lb/hr	grains/ACF
h.	Specify other(s)			
			lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF
			lb/hr	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
Cytec does not believe that any additional MRRT is needed beyond the existing R13-2120H permit terms.	
REPORTING	TESTING

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

Per manufacturer's operating manual.

Attachment M
Air Pollution Control Device Sheet
(Dust Collector)

Control Device ID No. (must match Emission Units Table): WH-4DC1 and WH-4DC2

Equipment Information and Filter Characteristics

1. Manufacturer: Spiroflow Systems, Inc.
   Model No. DC18-1-500-83-6
2. Total number of compartments: 1
3. Number of compartment online for normal operation: 1
4. Provide diagram(s) of unit describing capture system with duct arrangement and size of duct, air volume, capacity, horsepower of movers. If applicable, state hood face velocity and hood collection efficiency.
5. Baghouse Configuration: (check one)
   - ☐ Open Pressure
   - ☐ Closed Pressure
   - ☐ Closed Suction
   - ☐ Electrostatically Enhanced Fabric
   - ☒ Other, Specify – Negative pressure during operation, and positive pressure during self-cleaning via air pulse jet.
6. Filter Fabric Bag Material:
   - ☐ Nomex nylon
   - ☐ Wool
   - ☒ Polyester
   - ☐ Polypropylene
   - ☐ Acrylics
   - ☐ Ceramics
   - ☐ Fiber Glass
   - ☐ Cotton Weight ____ oz./sq.yd
   - ☐ Teflon Thickness ____ in
   - ☐ Others, specify :
7. Bag Dimension:
   Diameter 12.75 (outer) in.
   Length 26 in.
8. Total cloth area: 83 ft^2
9. Number of bags: 3 cartridges per unit
10. Operating air to cloth ratio: --- ft/min
11. Baghouse Operation: ☐ Continuous ☒ Automatic ☐ Intermittent
12. Method used to clean bags:
    - ☐ Mechanical Shaker
    - ☐ Pneumatic Shaker
    - ☐ Bag Collapse
    - ☐ Manual Cleaning
    - ☐ Sonic Cleaning
    - ☐ Reverse Air Flow
    - ☒ Pulse Jet
    - ☐ Reverse Jet
    - ☐ Reverse Air Jet
    - ☐ Other:
13. Cleaning initiated by:
    - ☐ Timer
    - ☐ Expected pressure drop range ____ in. of water
    - ☐ Frequency if timer actuated
    - ☒ Other: Closure of access door.
14. Operation Hours: Max. per day: 24 Max. per yr: 365
15. Collection efficiency: Rating: 99 % Guaranteed minimum: --- %

Gas Stream Characteristics

16. Gas flow rate into the collector: 500 ACFM at 75 °F and ____ PSIA
    ACFM: Design: ____ PSIA Maximum: ____ PSIA Average Expected: ____ PSIA
17. Water Vapor Content of Effluent Stream: --- lb. Water/lb. Dry Air
18. Gas Stream Temperature: 75 °F
19. Fan Requirements: 1 hp OR ____ ft^3/min
20. Stabilized static pressure loss across baghouse. Pressure Drop: High 9 in. H_2O Low ____ in. H_2O
21. Particulate Loading: Inlet: See 24. below. grain/scf Outlet: ____ grain/dscf

22. Type of Pollutant(s) to be collected (if particulate give specific type):

Dust/PM from unloading the following raw materials: Sodium Metabisulfite (MBS) and Sodium Sulfite (SS).

23. Is there any SO_3 in the emission stream? ☒ No ☐ Yes SO_3 content: ppmv

24. Emission rate of pollutant (specify) into and out of collector at maximum design operating conditions:

	IN		OUT	
Pollutant	**lb/hr**	**grains/acf**	**lb/hr**	**grains/acf**
PM (MBS & SS)	0.00021	4.90E-5	0.0000021	4.90E-7
PM10 (MBS & SS)	0.0001	2.33E-5	0.000001	2.33E-7

25. Complete the table:

	Particle Size Distribution at Inlet to Collector	**Fraction Efficiency of Collector**
Particulate Size Range (microns)	**Weight % for Size Range**	**Weight % for Size Range**
0 – 2		
2 – 4		
4 – 6		
6 – 8		
8 – 10		
10 – 12		
12 – 16		
16 – 20		
20 – 30		
30 – 40		
40 – 50		
50 – 60		
60 – 70		
70 – 80		
80 – 90		
90 – 100		
>100		

26. How is filter monitored for indications of deterioration (e.g., broken bags)?
    - ☐ Continuous Opacity
    - ☐ Pressure Drop
    - ☐ Alarms-Audible to Process Operator
    - ☒ Visual opacity readings, Frequency: monthly / quarterly (per R13-2120H, section 4.2.1.)
    - ☐ Other, specify:

27. Describe any recording device and frequency of log entries:
    NA

28. Describe any filter seeding being performed:
    NA

29. Describe any air pollution control device inlet and outlet gas conditioning processes (e.g., gas cooling, gas reheating, gas humidification):
    Existing air conditioning system on pneumatic system to dehumidify gas stream.

30. Describe the collection material disposal system:
    MBS and SS collected in the dust collection system will be cleared back to the unloading chute by air pulse jet cleaning system.

31. Have you included ***Baghouse Control Device*** in the Emissions Points Data Summary Sheet? Yes

32. **Proposed Monitoring, Recordkeeping, Reporting, and Testing**
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING:	RECORDKEEPING:
Cytec does not believe that any additional MRRT is needed beyond the existing R13-2120H permit terms.	
REPORTING:	TESTING:

MONITORING:	Please list and describe the process parameters and ranges that are proposed to be monitored in order to demonstrate compliance with the operation of this process equipment or air control device.
RECORDKEEPING:	Please describe the proposed recordkeeping that will accompany the monitoring.
REPORTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.
TESTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.

33. Manufacturer's Guaranteed Capture Efficiency for each air pollutant.
99%

34. Manufacturer's Guaranteed Control Efficiency for each air pollutant.
99%

35. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.
Operate the dust collector in accordance with manufacturer's operating instructions.

Attachment N
Supporting Emissions Calculations

See Attachment G Process Description for the calculation of estimated PM and PM10 hourly emission rates for Emission Point ID 05BE, and also for the compliance demonstration with Rule 7 PM process weight rate emission limit.

The maximum emission estimates for every product and associated process in the Surfactants Manufacturing Unit were calculated using either Emission Master ™ emission modeling software, or other appropriate emission estimation models and calculation methodologies, as required by R13-2120H Section 4.4.4:

> The permittee shall maintain records indicating the emission calculations/emission models used to demonstrate compliance with all point source emission limits for each emission point specified in 1.0. Compliance with the specified emission limits set forth in 4.1.1. shall be demonstrated by calculating emissions for every product in the Surfactants Manufacturing Unit using Emission Master emission modeling software, or other appropriate emission 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 which has emissions of PM, SO2, or VOC shall be included in the calculation and accounted for in the emissions report. The models shall be maintained current for all processes, process modifications and new product variants. The Division of Air Quality may specify or may approve other valid methods for compliance determination when deemed appropriate and necessary. These records shall be maintained on site for a period of no less than five (5) years.

Cytec maintains current versions of emission models and other calculation methods for all processes, process modifications and new product variants.

ATTACHMENT P – PUBLIC NOTICE

Notice is given that Cytec Industries Inc., has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Class II Administrative Update of Permit R13-2120H, for an existing chemical production facility located on State Route 2, Willow Island, in Pleasants County, West Virginia. The latitude and longitude coordinates are: 39.355821 and -81.306289 respectively.

The applicant estimates the potential to discharge Regulated Air Pollutants will not be increased above the currently permitted allowable emissions as a result of the requested Class II Administrative Update.

Manufacturing operations are on-going at the currently permitted chemical production facility. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 1227, during normal business hours.

Dated this the 2nd day of March, 2015.

By: Cytec Industries Inc.
Michael A. Young
Site Manager
#1 Heilman Avenue
Willow Island, WV 26134

Attachment S

Title V Permit Revision Information

1. New Applicable Requirements Summary

Mark all applicable requirements associated with the changes involved with this permit revision:

☒ SIP 45CSR7	☐ FIP
☒ Minor source NSR (45CSR13)	☐ PSD (45CSR14)
☐ NESHAP (45CSR15)	☐ Nonattainment NSR (45CSR19)
☐ Section 111 NSPS (Subpart(s)_____)	☐ Section 112(d) MACT standards (Subpart(s)_____)
☐ Section 112(g) Case-by-case MACT	☐ 112(r) RMP
☐ Section 112(i) Early reduction of HAP	☐ Consumer/commercial prod. reqts., section 183(e)
☐ Section 129 Standards/Reqts.	☐ Stratospheric ozone (Title VI)
☐ Tank vessel reqt., section 183(f)	☐ Emissions cap 45CSR§30-2.6.1
☐ NAAQS, increments or visibility (temp. sources)	☐ 45CSR27 State enforceable only rule
☐ 45CSR4 State enforceable only rule	☐ Acid Rain (Title IV, 45CSR33)
☐ Emissions Trading and Banking (45CSR28)	☐ Compliance Assurance Monitoring (40CFR64) (1)
☐ NO_x Budget Trading Program Non-EGUs (45CSR1)	☐ NO_x Budget Trading Program EGUs (45CSR26)

(1) If this box is checked, please include **Compliance Assurance Monitoring (CAM) Form(s)** for each Pollutants Specific Emission Unit (PSEU) (See Attachment H to Title V Application).

2. Non Applicability Determinations

List all requirements, which the source has determined not applicable to this permit revision and for which a permit shield is requested. The listing shall also include the rule citation and a rationale for the determination.

☐ **Permit Shield Requested** *(not applicable to Minor Modifications)*

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

3. Suggested Title V Draft Permit Language

Are there any changes involved with this Title V Permit revision outside of the scope of the NSR Permit revision? ☐ Yes ☒ No If Yes, describe the changes below.

Also, please provide **Suggested Title V Draft Permit language** for the proposed Title V Permit revision (including all applicable requirements associated with the permit revision and any associated monitoring /recordkeeping/ reporting requirements), OR attach a marked up pages of current Title V Permit. Please include appropriate citations (Permit or Consent Order number, condition number and/or rule citation (e.g. 45CSR§7-4.1)) for those requirements being added / revised.

Cytec expects this Title V Permit revision to be wholly within the scope of the proposed NSR Permit R13-2120I revision. See suggested draft administrative update R13-2120I permit language.

4. Active NSR Permits/Permit Determinations/Consent Orders Associated With This Permit Revision

Permit or Consent Order Number	Date of Issuance	Permit/Consent Order Condition Number
R13-2120H	06/27/2012	
R30-07300003-2012 (Part 2 of 4) MM01	08/28/2012	
	/ /	

5. Inactive NSR Permits/Obsolete Permit or Consent Orders Conditions Associated With This Revision

Permit or Consent Order Number	Date of Issuance	Permit/Consent Order Condition Number
N/A	/ /	
	/ /	
	/ /	

6. Change in Potential Emissions -

Pollutant	Change in Potential Emissions (+ or -), TPY
N/A	No increase in allowable emissions in R13-2120I.

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

7. Certification For Use Of Minor Modification Procedures *(Required Only for Minor Modification Requests)*

Note:	*This certification must be signed by a responsible official. Applications without a signed certification will be returned as incomplete. The criteria for allowing the use of Minor Modification Procedures are as follows:*

i. Proposed changes do not violate any applicable requirement;
ii. Proposed changes do not involve significant changes to existing monitoring, reporting, or recordkeeping requirements in the permit;
iii. Proposed changes do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient air quality impacts, or a visibility increment analysis;
iv. Proposed changes do not seek to establish or change a permit term or condition for which there is no underlying applicable requirement and which permit or condition has been used to avoid an applicable requirement to which the source would otherwise be subject (synthetic minor). Such terms and conditions include, but are not limited to a federally enforceable emissions cap used to avoid classification as a modification under any provision of Title I or any alternative emissions limit approved pursuant to regulations promulgated under § 112(j)(5) of the Clean Air Act;
v. Proposed changes do not involve preconstruction review under Title I of the Clean Air Act or 45CSR14 and 45CSR19;
vi. Proposed changes are not required under any rule of the Director to be processed as a significant modification;

Notwithstanding subparagraph 45CSR§30-6.5.a.1.A. (items i through vi above), minor permit modification procedures may be used for permit modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches, to the extent that such minor permit modification procedures are explicitly provided for in rules of the Director which are approved by the U.S. EPA as a part of the State Implementation Plan under the Clean Air Act, or which may be otherwise provided for in the Title V operating permit issued under 45CSR30.

Pursuant to 45CSR§30-6.5.a.2.C., the proposed modification contained herein meets the criteria for use of Minor permit modification procedures as set forth in Section 45CSR§30-6.5.a.1.A. The use of Minor permit modification procedures are hereby requested for processing of this application.

(Signed):		Date:	***March*** / ***2*** / ***2015***
	(Please use blue ink)		*(Please use blue ink)*
Named (typed):	Michael A. Young	Title:	Site Manager

Note: Please check if the following included (if applicable):

☐	Compliance Assurance Monitoring Form(s)
☐	Suggested Title V Draft Permit Language

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.