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west virginia department of environmental protection

Division of Air Quality
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Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
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ENGINEERING EVALUATION / FACT SHEET

BACKGROUND INFORMATION

Application No.:	R13-2473K
Plant ID No.:	073-00030
Applicant:	Allnex USA Inc. (Allnex)
Facility Name:	Willow Island Plant
Location:	252 Hellman Avenue, Belmont, Pleasants County, WV 26134
NAICS Code:	325199
Application Type:	Modification
Received Date:	April 25, 2016
Engineer Assigned:	John Legg
Fee Amount:	$3,500.00
Date Received:	April 29, 2016
Complete Date:	May 12, 2016
Due Date:	August 12, 2016
Applicant Ad Date:	April 27, 2016
Newspaper:	*St. Marys Oracle*
UTM's:	Easting: 473.66 Northing: 4,356.34 Zone: 17
Description:	Proposed minor changes:

- Reinstate an emission point MEC-001 for the existing Methanol Storage Tank (V516); Add emission limits for emission point MEC-001;
- Make in-kind equipment replacements for existing equipment items Circulated Methanol Coolers (E035A/B) and Refining Vacuum System (J010/J110);
- Typo correction in R13-2473J section 4.4.6.c;
- Voluntarily revise data collection frequency from daily to at least once every 15 minutes for several existing control devices.

DESCRIPTION OF PROCESS

The following process description came from Attachment G in the permit application:

Allnex proposes to make the following changes:

- Addition of Emission Point MEC-001

  Allnex would like to reinstate an emission point for the existing Methanol Storage Tank (V516).

  This emission point (MEC-001) was previously removed from the permit after a vapor balancing system was installed to control vapors vented from the tank when unloading methanol from a rail car or tank truck.

  At that time, there was no need to be able to vent through the tank's conservation vent.

  Allnex would now like to occasionally pump methanol to the storage tank (V516) from the MeC and Methanol Recovery processes.

  Doing so would cause the methanol storage tank (V516) to vent through its conservation vent (MEC-001).

  Methanol would be transferred from two (2) process vessels:

  - During operation of the MeC process, methanol would be pumped from the Methanol Feed Tank (V518).

  - During operation of the Methanol Recovery process, methanol would be pumped from the MeC Condenser Receiver (V574).

  In both cases, the transfers would be intermittent.

  This change would result in a small increase in annual VOC emissions.

  This change would not affect the unloading of methanol from rail cars and tank trucks, i.e., the vapor return system would still be used as required by Allnex's current permit.

- In-kind replacement of two existing equipment items:

  - The existing Circulated Methanol Cooler (E036A/B) would be replaced with like-kind coolers of the came capacity (200,000 BTU/hr).

    The new coolers would continue to have no direct vent to the atmosphere.

  - The existing Refining Vacuum System (J010/J110) would be replaced with a like-kind vacuum system of moderately higher capacity (742 ft^3/min).

The new vacuum system would continue to vent to the atmosphere via control devices C102/E120 and vent at emission point UAM-001.

The pump capacity increase will not result in any change in emissions.

- Correct a typo in section 4.4.6.c.

- Changes to Appendix A - "Emission Limits" to add emission limits for emission point MEC-001.

- Changes to Appendix B - "Control Devices Parmetric Monitoring" to voluntarily revise data collection frequency from daily to at least once every 15 minutes for several existing control devices.

  Allnex is proposing this change to reflect its enhanced process data collection system.

Note that Allnex provided a revised permit in their application (R13-2473K, Appendix 1) detailing the proposed changes to be made.

Table 1: Emission Unit Table (R13-2473K, Attachment I) Allnex, Willow Island Plant, Belmont, Pleasants County, WV 26134.

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Type and Date of Change	Control Device
V516	MEC-001	Methanol Storage Tank	1988/ 2016	17,500 gallon	Modification	None for vent MEC-001
E036A and E036B	No Direct Vent	Circulated Methanol Coolers	2016	200,000 BTU/hr	Modification (like-kind replacement)	None
J010/J110	UAM-001	Refining Vacuum System	2016	742 ft^3/min	Modification (like-kind replacement)	C102/E120

Table 2: Emissions Unit Data Sheet (R13-2473K, Attachment L) for Replacement Circulated Methanol Coolers, Allnex, Willow Island Plant, Belmont, Pleasants County, WV 26134.

Identification Number	E036A and E036B
Name or Type and Model of Proposed Affected Source:	Circulate Methanol Coolers; 200,000 BTU/hr capacity; Used to chill methanol for the methanol spray condenser (V032); Gaspar Inc. manufacturer; Serial Numbers 41823-1 and 41823-2.

Table 2: Emissions Unit Data Sheet (R13-2473K, Attachment L) for Replacement Circulated Methanol Coolers, Allnex, Willow Island Plant, Belmont, Pleasants County, WV 26134.	
Identification Number	E036A and E036B
Projected Operating Schedule	24 hours/day; 7 days/week; 42 weeks/yr

Table 3: Emissions Unit Data Sheet (R13-2473K, Attachment L) for Replacement Vacuum System, Allnex, Willow Island Plant, Belmont, Pleasants County, WV 26134.	
Identification Number	J010/J110
Name or Type and Model of Proposed Affected Source:	Refining Vacuum System; 742 ft3/min air displacement capacity, used to maintain vacuum on the first pass columns (C002) and second pass column (C120); Busch LLC manufacturer; Model Number: Cobra NCO603.B
Projected Operating Schedule	24 hours/day; 7 days/week; 42 weeks/yr
Projected Amount of Pollutants that would be Emitted from Affected Source if No Control Devices were Used.	11.5 lb/hr VOC; 0.2 lb/hr Methanol.\

SITE INSPECTION

The writer did not visit Allnex's Willow Island Plant for this modification because the the facility is an existing facility, routinely inspected by DAQ Enforcement.

The plant was last inspected on May 27, 2014 by Dan Bauerle, DAQ Enforcement Inspector, who conducted a full-on-site inspection and found the facility to be in compliance (status code 30).

Directions to the facility as given in the permit appliance are as follows:

> From Interstate 77, Exit 179, take State Route 2, north approximately 10 miles. The plant site on left (river side) of State Route 2, two miles south of Belmont, WV.

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Emissions resulting from this modification permit are estimated to increase by the following amounts.

Table 4: Estimated Emissions Increases Resulting from Modification Permit R13-2473K.

Emission Point ID No.	Pollutant		Estimated Emissions Increases	
			(lb/hr)	(ton/yr)
MEC-001 (Conservation Vent on Methanol Tank V516)	VOC		4.7	0.1
	HAP	Methanol (67-56-1)	4.6	0.1

Maximum hourly emissions resulting from the two (2) types of process transfers were calculated using Emission Master modeling software (version 7.6.1.12):

1. Maximum VOC emissions from emission point MEC-001 when transferring methanol from the MeC process are 4.7 lb/hr; while methanol emissions are 4.6 lb/hr. The VOCs are primarily methanol with a small amount of MeC.

   Transfer methanol from methanol feed tank V518 to methanol storage tank V516; See Attachment N, Supporting Emissions Calculations, pages N2, N3, N4, and N5.

2. Maximum VOC/methanol emissions from emission point MEC-001 when transferring methanol from the Methanol Recovery process are 0.64 lb/hr. The VOCs are all methanol.

   Transfer methanol from MeC condenser receiver V574 to methanol storage tank V516; See Attachment N, Supporting Emission Calculation, pages N6, N7, and N8.

Maximum annual emissions are small, estimated at not to exceed 0.1 ton/yr of total VOC and 0.1 ton/yr of methanol for each of the two process liquid transfer operations, because transfers will be intermittent and for short periods of time.

REGULATORY APPLICABILITY

Allnex's Willow Island Plant is a major, stationary source under Rule 13 (> 100 TPY of VOC), a Title V source and an major source for Hazardous Air Pollutants (HAPs) [> 10 TPY of an individual HAP: methanol, methyl isobutyl ketone, toulene, and triethylamine; > 25 TPY of aggregated HAPs].

There were no new regulatory or revised requirements.

The following rules were reviewed for this modification application:

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

Allnex submitted a complete application (on May 12, 2016 - newspaper affidavit arrived at DAQ) for the modification permit (because the addition of vent emission point MEC-001 has HAP emissions of greater than 2.0 lb/hr); ran a legal advertisement (on April 27, 2016 in *St. Marys Oracle*,); and paid a $3,500 application fee (April 29 , 2016; $1,000 modification application fee and $2,500.00 NESHAP/MACT fee) to obtain a modification permit.

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

This rule establishes and adopts a program of national emission standards for hazardous air pollutants (NESHAPS) and other regulatory requirements promulgated by the United States Environmental Protection Agency pursuant to 40 CFR Parts 61, 63 and section 112 of the federal Clean Air Act, as amended (CAA). This rule codifies general procedures and criteria to implement emission standards for stationary sources that emit (or have the potential to emit) one or more of the eight substances listed as hazardous air pollutants in 40 CFR §61.01(a), or one or more of the substances listed as hazardous air pollutants in section 112(b) of the CAA. The Secretary hereby adopts these standards by reference. The Secretary also adopts associated reference methods, performance specifications and other test methods which are appended to these standards.

40 CFR 63, Subpart FFFF was reviewed for applicability. See below.

40 CFR 63, Subpart FFFF - "National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing."

The existing Methanol Storage Tank (V516) is subject to this subpart/MON MACT. However, adding the new emission/vent point MEC-001 to the existing Methanol Storage Tank (V516) does not affect any existing requirement of the MON MACT.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

There were no non-criteria regulated pollutants resulting from this modification permit.

AIR QUALITY IMPACT ANALYSIS

No modeling was conducted for this modification permit because VOC emissions are estimated to increase no more than 0.1 tpy.

MONITORING OF OPERATIONS

Appendix B entitled "Control Devices Parmetric Monitoring" was changed to voluntarily revise data collection frequency from daily to at least once every 15 minutes for several existing control devices.

Allnex is proposing this change to reflect its enhanced process data collection system.

CHANGES TO PERMIT R13-2473J

A compare file comparing the old permit (R13-2473J) with the new/resulting permit (R13-2473K) is provided in Attachment 1 to this evaluation. Pages where no changes were made were omitted to save space.

RECOMMENDATION TO DIRECTOR

The information supplied in permit application R13-2473K indicates that compliance with all applicable requirements will be achieved. Therefore, it is the writer's recommendation that this modification permit for several minor changes to Allnex's Willow Island Plant located near Belmont, Pleasants County, WV facility be granted.

John Legg
Permit Writer

August 17, 2016
August 17, 2016

Attachment 1

Compare File

Comparing R13-2473J to R13-2473K

Allnex USA Inc.

Willow Island Plant,

Belmont, Pleasants County, WV

West Virginia Department of Environmental Protection

Earl Ray Tomblin
Governor

Division of Air Quality

Randy C. Huffman
Cabinet Secretary

~~Class I Administrative Update~~

Modification Permit

R13- ~~2473J~~2473K

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:

Allnex USA Inc.
Willow Island
073-00030

This permit will supercede and replace Permit R13-~~2473I~~2473J.

Facility Location:	Willow Island, Pleasants County, West Virginia
Mailing Address:	#1 Heilman Ave, Willow Island, WV 26134
Facility Description:	Urethanes Manufacturing Unit
SIC Codes:	2869 Chemicals and Allied Products – Industrial Organic Chemicals, Inc. 2899 Chemicals and Allied Products – Chemical Preparations, NEC 2843 Surface Active Agents, Finishing Agents, Sulfonated Oils, and Assistants
UTM Coordinates:	473.6 km Easting • 4,356.1 km Northing • Zone 17
Permit Type:	~~Class I Administrative Update~~Modification
~~Description of Change:~~	~~Change the permittee name from Cytec Industries, Inc. to Allnex USA, Inc. Remove the Vacuum Water Caustic Treatment Tank (Emission Unit ID#V160) from the vent header that is routed to control device K360 (Emission Point ID#UAM-003). The tank will be designated as Standby Storage Tank (Emission Unit ID#V160) and vented to a new vent point (Emission Point ID#USM-012). The Standby Storage Tank (Emission Unit ID#V160) is currently inactive/not in use.~~
Description of Change:	Proposed minor changes: - Reinstate an emission point MEC-001 for the existing Methanol Storage Tank (V516); Add emission limits for emission point MEC-001; - Make in-kind equipment replacements for existing equipment items Circulated Methanol Coolers (E035A/B) and Refining Vacuum System (J010/J110); - Typo correction in R13-2473J section 4.4.6.c; - Voluntarily revise data collection frequency from daily to at least once every 15 minutes for several existing control devices.

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. Changes authorized by this permit must also be incorporated into the facility's Title V operating permit. Commencement of the operations authorized by this permit shall be determined by the appropriate timing limitations associated with Title V permit revisions per 45CSR30.

1.0. Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
C002[4]	No direct vent	First Pass Column	1974	8,200 gallons	None
C020[4]		Water Stripper	1987	1,800 gallons	None
C030[4]		MeC Stripper	1974	9,000 gallons	None
C507[4]		Trimer Removal Column	1989	596 gallons	None
E007[4]		First Pass Overhead Condenser	1987	700,000 BTU/hr	None
E008[4]		First Pass Spray Condenser	1987	28,000 BTU/hr	None
E013[4]		Storage Tank Cooler	1999	50 Tons	None
E015[4]		Cracking Column Overhead Condenser	2003	1.9 MMBTU/hr	None
E016[4]		Catalyst Heater	1996	152,000 BTU/hr	None
E021A/B[4]		Circulated Liquid Coolers	1987	150,000 BTU/hr	None
E035[4]		TMXDI Condenser	1987	269,000 BTU/hr	None
E036A/B[4]		Circulated Methanol Coolers	~~1987~~2016	200,000 BTU/hr	None
E039[4]		Product Cooler	1974	168,000 BTU/hr	None
E051[4]		Evaporator Condenser	1996	196 ft^2	None
E107[4]		Water Cooled Oil Cooler	2010	4.77 MMBTU/hr	None
E525[4]		Methanol Column Cooler	1987	971,000 BTU/hr	None
E528[4]		MeC Letdown Condenser	1987	1.4 MMBTU/hr	None
E538[4]		Methanol Column Feed Cooler	1987	4.5 MMBTU/hr	None
E541[4]		Methanol Column Cooler	1975	1.34 MMBTU/hr	None
E570[4]		MeC Condenser	1987	1.0 MMBTU/hr	None
E580[4]		Methanol Circulating Cooler	1987	275,000 BTU/hr	None
H026[4]		Chilled Oil Refrigeration System	1987	47 tons	None
H027[4]		Chilled Oil Refrigeration System	2011	160 tons	None
H040[4]		Wiped Film Evaporator	1996	53 ft^2	None
H055[4]		Hot Oil Heater	1996	300 KW	None
H550[4]	No direct vent	MeC Evaporator	1987	1.0 MMBTU/hr	None

1.0. Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
C002[4]	No direct vent	First Pass Column	1974	8,200 gallons	None
C020[4]		Water Stripper	1987	1,800 gallons	None
C030[4]		MeC Stripper	1974	9,000 gallons	None
C507[4]		Trimer Removal Column	1989	596 gallons	None
E007[4]		First Pass Overhead Condenser	1987	700,000 BTU/hr	None
E008[4]		First Pass Spray Condenser	1987	28,000 BTU/hr	None
E013[4]		Storage Tank Cooler	1999	50 Tons	None
E015[4]		Cracking Column Overhead Condenser	2003	1.9 MMBTU/hr	None
E016[4]		Catalyst Heater	1996	152,000 BTU/hr	None
E021A/B[4]		Circulated Liquid Coolers	1987	150,000 BTU/hr	None
E035[4]		TMXDI Condenser	1987	269,000 BTU/hr	None
E036A/B[4]		Circulated Methanol Coolers	~~1987~~2016	200,000 BTU/hr	None
E039[4]		Product Cooler	1974	168,000 BTU/hr	None
E051[4]		Evaporator Condenser	1996	196 ft^2	None
E107[4]		Water Cooled Oil Cooler	2010	4.77 MMBTU/hr	None
E525[4]		Methanol Column Cooler	1987	971,000 BTU/hr	None
E528[4]		MeC Letdown Condenser	1987	1.4 MMBTU/hr	None
E538[4]		Methanol Column Feed Cooler	1987	4.5 MMBTU/hr	None
E541[4]		Methanol Column Cooler	1975	1.34 MMBTU/hr	None
E570[4]		MeC Condenser	1987	1.0 MMBTU/hr	None
E580[4]		Methanol Circulating Cooler	1987	275,000 BTU/hr	None
H026[4]		Chilled Oil Refrigeration System	1987	47 tons	None
H027[4]		Chilled Oil Refrigeration System	2011	160 tons	None
H040[4]		Wiped Film Evaporator	1996	53 ft^2	None
H055[4]		Hot Oil Heater	1996	300 KW	None
H550[4]	No direct vent	MeC Evaporator	1987	1.0 MMBTU/hr	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
R010[4]		Cracking Reactor and Column	1987	5,900 gallons	None
V001[4]		Secondary MeC Stripper	1987	450 gallons	None
V161[4]		Evaporator Bottoms Receiver	1996	100 gallons	None
V420[4]		Cracking Column Secondary Condenser	1987	560 gallons	None
V513[4]		Bottoms Neutralization Tank	1975	10,000 gallons	None
V516[4]		Methanol Storage Tank (transfers from railcars or tank trucks)	1988	17,500 gallons	Vapor return line B001
V530[4]		MeC Reactor	1975	3,350 gallons	None
V540[4]		Methanol Column Secondary Condenser	2010	350,000 BTU/hr	None
V552[4]		Evaporator Bottoms Pot	1987	80 gallons	None
V003	DIP-001	Reactant Storage Tank	1974	525,000 gallons	None
V516	MEC-001	Methanol Storage Tank (transfers from process vessels)	Installed 1988 (process transfers change in 2016)	17,500 gallons	None
V508	MEC-002	Urea/Methanol Slurry Tank	1974	8,300 gallons	E522
V518		Methanol Feed Tank	1974	6,300 gallons	
M507	MEC-003	Urea Rotary Air Lock	1987	NA	None
U001		TMXDI Product Drumming	1988	28 drums/hr	
V514	MEC-004	Bottoms Heavies Box	NA	350 gallons	None
V554	MEC-005	Evaporator Bottoms Receiver	1974	3,325 gallons	None
V500A-C	MEC-006	Recovered Methanol Rail Cars	NA	20,000 gallons	V582
V510		By-product Methanol Rail Car	NA	20,000 gallons	
V574		MeC Condenser Receiver	1987	140 gallons	
V599A-E		Crude MeC Rail Cars	NA	20,000 gallons	
V535	MEC-007	Intermediate Product Receiver	1975 Modified 7/14/1987	11,000 gallons	None
V578		Methanol Spray Condenser Receiver	1987	200 gallons	
V577	MEC-008	Methanol Spray Condenser	1987	800 gallons	P590A/B

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
C539	MEC-009	Methanol Column	1975	5,100 gallons	H599
E540	MEC-009	Methanol Secondary Condenser	2010	149.2 ft^2	H599
V584	MEC-010	Crude MeC Storage Tank	1975 Modified 3/15/87	18,000 gallons	V583
H530	MEC-011	Hot Oil Heater	1987	21.8 MMBTU/hr	None
V515	MEC-012	Flare Purge Tote	2008	300 gallons	None
U002	MEC-013	Drumming Station	2011	12 Drums/hr	None
V085A	TMI-002	Fresh Methanol Tank Wagon	NA	5,000 gallons	None
V060A	TMI-003	Finished TMU Tank Wagon	NA	5,000 gallons	None
V060B	TMI-005	Finished TMU Tank Wagon	NA	5,000 gallons	None
V102	TMX-003	Caustic Storage Tank	1986	6,570 gallons	None
V107	TMX-004	Sulfuric Acid Storage Tank	1987	6,570 gallons	None
C120	UAM-001	Second Pass Column	1974	7,100 gallons	C102/E120
E024		Second Pass Overhead Condenser	1987	256 ft^2	
J001/J010[2]		Production Vacuum System	1987	500 cfm	
J010/J110[1]		Refining Vacuum System	~~1987~~2016	~~500~~742 cfm	
P001A/B		Catalyst Recovery Vacuum System	1996	400 cfm	
R001[2]		Addition Reactor (during TMI to TMU production)	1987	11,900 gallons	
V009[1]		First Pass Overhead Receiver	1987	550 gallons	
V004		Catalyst Feed Tank	1987	1,250 gallons	
V005		First Pass Spray Condenser	1987	510 gallons	
V010[5]		Methanol Surge Tank	1974 Modified 10/2/87	10,700 gallons	
V012		Recovered Catalyst Storage Tank	1975 Modified 11/18//99	15,000 gallons	
V016[2]		Crude TMXDU Surge Tank (during TMI to TMU production)	1974	19,000 gallons	
V019[1]		TMI Surge Tank/Crude TMXDI Tank	1974 Modified 7/23/87	11,400 gallons	
V022		Circulating Liquid Tank	1987	535 gallons	
V026[3]		Second Pass Column Overhead Receiver	1987	130 gallons	C102/E120

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-~~2473I~~2473J. 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-~~Applications R13-2473, R13-2473A, R13-2473B, R13-2473C, R13-2473D, R13-2473E, R13-2473F, R13-2473G, R13-2473H, R13-2473I, R13-2473J, R13-2473K 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.]

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2.5.2. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA;

2.5.3. Violations of any of the conditions contained in this permit, or incorporated herein by reference, may subject the permittee to civil and/or criminal penalties for each violation and further action or remedies as provided by West Virginia Code 22-5-6 and 22-5-7;

2.5.4. Approval of this permit does not relieve the permittee herein of the responsibility to apply for and obtain all other permits, licenses, and/or approvals from other agencies; i.e., local, state, and federal, which may have jurisdiction over the construction and/or operation of the source(s) and/or facility herein permitted.

2.6. Duty to Provide Information

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

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

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

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

c. Missed readings for each scrubber monitoring parameter data element specified in Appendix B shall be recorded and compared to the maximum allowable missed readings limitation in Section 4.1.~~8~~7. A rolling consecutive twelve (12) month tabulation of missing readings for each scrubber monitoring parameter element shall be maintained on site for a period of no less than five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.

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

[45CSR§13-5.11]

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

4.4.8. Compliance with Sections 4.4.2 and 4.4.3 may be shown by keeping similar records required by the requirements of the Startup, Shutdown, and Malfunction Plan as contained in 40CFR63 Subpart A and as may be amended by specific MACT subpart requirements

4.5. Reporting Requirements

[Reserved]

APPENDIX A (Emission Limits)

Emission Point	Source	Pollutant	Emission Limit pph	Emission Limit tpy
Emission Limits when any Urethanes Manufacturing Unit Process is On-Line				
USM-007	V002	VOC	1.0	0.1
USM-008	V320	VOC	0.1	0.1
USM-010	V132	VOC	0.1	0.3
MEC-003	U001	VOC	0.1	0.1
MEC-011	H530	CO NO_X PM SO_2 VOC	1.8 2.2 0.2 0.1 0.2	7.9 9.4 0.9 0.1 0.7
MEC-013	U002	VOC THAP	0.7 0.4	0.1 0.1
Emission Limits when TMI to TMU Process is On-Line				
TMI-002	V085A	VOC THAP	0.1 0.1	0.10 0.10
TMI-003	V060A	VOC THAP	0.4 0.3	0.20 0.15
TMI-005	V060B	VOC THAP	0.4 0.3	0.20 0.15
UAM-001 *or* UAM-002	C102	VOC THAP	2.0 1.8	0.90 0.75
Emission Limits when Methanol Recovery Operation is On-Line				
MEC-001	V516	VOC THAP	0.64 0.64	0.1 0.1
MEC-006	V582, V574, V500A-C	VOC THAP	0.70 0.70	0.50 0.50
MEC-007	V578, V535	VOC THAP	0.39 0.39	0.30 0.30
MEC-008	P590A/B	VOC THAP	0.10 0.10	0.10 0.10
UTM-002	V545	VOC THAP	0.30 0.30	0.30 0.20
Emission Limits when DMF Recovery Operation is On-Line				
UAM-002	V555, V560, P051A/B, J001/J101	VOC THAP	0.1 0.1	0.1 0.1
UAM-003	V024	VOC THAP	0.1 0.1	0.1 0.1
UAM-007	V550	VOC THAP	0.4 0.4	0.1 0.1

Emission Point	Source	Pollutant	Emission Limit pph	Emission Limit tpy
Emission Limits when Methyl Carbamate Process is On-Line				
MEC-001	V516	VOC THAP	4.7 4.6	0.1 0.1
MEC-002	E522, V508	VOC THAP	1.5 0.8	0.52 0.51
MEC-003	M507	PM	1.2	0.47
MEC-004	V514	VOC	0.1	0.01
MEC-005	V554	VOC	0.1	0.01
MEC-006	V599A-E, V574	VOC THAP	0.1 0.1	0.3 0.15
MEC-007	V578, V535	VOC THAP	1.8 1.76	2.2 2.1
MEC-008	P590A/B, V577	VOC THAP	0.6 0.6	2.00 2.00
MEC-009	H599, C539, E540	CO NO_X PM SO_2 VOC THAP	0.1 0.4 0.1 0.1 7.2 6.1	0.02 1.15 0.01 0.01 25.12 21.30
MEC-010	V584	VOC THAP	0.1 0.1	0.10 0.10
MEC-012	V515	VOC THAP	0.2 0.2	0.7 0.7
UTM-002	V501	VOC THAP	0.2 0.1	0.1 0.1

APPENDIX B – Control Devices Parametric Monitoring

Control Device ID	Description	Applicable Regulations	Emission Group(s)*	Monitoring Parameter	Parameter Value	Data Collection Frequency	Data Averaging Period	Inspection/ Preventative Maintenance Frequency
B001	Vapor Return Line	40 C.F.R. 63, Subpart FFFF – HAP	Methyl Carbamate	NA	NA	NA	NA	Annual
C102	DMF Scrubber	NA	TMI to TMU, TMI Distillation, TMXDI, DMF Recovery	Inlet scrubber liquor flowrate	≥ 6.5 gpm	15 minutes[1]	Calendar daily	Annual
C102	DMF Scrubber	NA	TMI to TMU, TMXDI	Methanol concentration of scrubber liquor[3]	≥ 20% by weight	Daily	Calendar daily	Annual
E120	Vent Condenser	NA	TMI to TMU, TMI Distillation, TMXDI, DMF Recovery	Outlet temperature	≤ 0 deg C	15 minutes[1]	Calendar daily	Annual
E522	Methanol Vent Condenser	NA	Methyl Carbamate	Refrigerated oil temperature at the condenser outlet	≤ -7 deg C	~~Daily~~15 minutes[1]	Calendar daily	Annual
H599	Flare	45CSR6 –PM; 40 C.F.R. 63, Subpart FFFF – HAP	Methyl Carbamate	Pilot light flameout detection & reignition system	Pilot light flame verification	Continuous	Not Applicable	Annual
K360	Scrubber	NA	TMXDI, DMF Recovery	Inlet water (liquor) flowrate	≥ 2.6 gpm	~~Daily~~15 minutes[1]	Calendar daily	Annual
P051A/B	Graham Vacuum Pump	NA	TMXDI, DMF Recovery	Inlet water (liquor) flowrate	≥ 20.0 gpm	~~Daily~~15 minutes[1]	Calendar daily	Annual
P590A/B	Water Ring Vacuum Pump	NA	Methyl Carbamate, Methanol Recovery[2]	Inlet water (liquor) flowrate	≥ 3.0 gpm	~~Daily~~15 minutes[1]	Calendar daily	Annual
V032	Methanol Spray Condenser	NA	TMI to TMU	Recirculated methanol temperature	≤ -6 deg C	~~Daily~~15 minutes[1]	Calendar daily	Annual
V032	Methanol Spray Condenser	NA	TMXDI	Recirculated methanol temperature	≤ -4 deg C	~~Daily~~15 minutes[1]	Calendar daily	Annual
V577	Methanol Spray Condenser	NA	Methanol Recovery	Recirculated methanol temperature	≤ 6 deg C	~~Daily~~15 minutes[1]	Calendar daily	Annual
V582	Scrubber	NA	Methanol Recovery, TMXDI	Inlet water (liquor) flowrate	≥2.6 gpm	~~Daily~~15 minutes[1]	Calendar daily	Annual
V583	Scrubber	NA	TMXDI	Inlet water (liquor) flowrate	≥ 2.6 gpm	~~Daily~~15 minutes[1]	Calendar daily	Annual

*The control device requirements apply when the listed emission groups (s) are operating and venting to the control device.
1. Data logging ~~of flow rate~~required at least once every fifteen (15) minutes. However, the permittee may revert to daily data collection if the electronic data historian system is non-functional/being repaired.
2. Only required when the water ring vacuum pump is needed to maintain vacuum service during the methanol recovery operation.
3. If the parameter value is ≥ 20%, the DMF scrubbing fluid shall be recharged with fresh DMF.