

INTERNAL PERMITTING DOCUMENT TRACKING MANIFEST

Company Name Allnex USA Inc. (073-00030); Willow Island Plant, Pleasants County

Permitting Action Number R13-2473K Total Days _____ DAQ Days _____
Region 2

Permitting Action:

- | | | |
|---|------------------------------------|---|
| <input type="radio"/> Permit Determination | <input type="radio"/> Temporary | <input checked="" type="radio"/> Modification |
| <input type="radio"/> General Permit | <input type="radio"/> Relocation | <input type="radio"/> PSD (Rule 14) |
| <input type="radio"/> Administrative Update | <input type="radio"/> Construction | <input type="radio"/> NNSR (Rule 19) |

Documents Attached:

- | | |
|--|---|
| <input checked="" type="radio"/> Engineering Evaluation/Memo | <input checked="" type="radio"/> Completed Database Sheet |
| <input checked="" type="radio"/> Draft Permit | <input type="radio"/> Withdrawal |
| <input type="radio"/> Notice | <input type="radio"/> Letter |
| <input type="radio"/> Denial | <input type="radio"/> Other (specify) _____ |
| <input type="radio"/> Final Permit/General Permit Registration | _____ |

Date	From	To	Action Requested
8/8/16	John Legg	Beverly McKeone	Okay to run DAQ legal advertisement?
8/17	Bew	John	See comments - Address Go to notice

NOTE: Retain a copy of this manifest for your records when transmitting your document(s).



Permit / Application Information Sheet
Division of Environmental Protection
West Virginia Office of Air Quality

Company:	Allnex USA Inc.		Facility:	Willow Island	
Region:	2	Plant ID:	073-00030	Application #:	13-2473K
Engineer:	Legg, John		Category:		
Physical Address:	252 Heilman Avenue Willow Island WV 26134		SIC: [2869] CHEMICALS AND ALLIED PRODUCTS - INDUSTRIAL ORGANIC CHEMICALS,NEC NAICS: [325110] Petrochemical Manufacturing SIC: [3952] MISCELLANEOUS MANUFACTURING INDUSTRIES - LEAD PENCILS AND ART GOODS NAICS: [325998] All Other Miscellaneous Chemical Product and Preparation Manufacturing		
County:	Pleasants		SIC: [2869] CHEMICALS AND ALLIED PRODUCTS - INDUSTRIAL ORGANIC CHEMICALS,NEC NAICS: [325199] All Other Basic Organic Chemical Manufacturing		
Other Parties:	ENGINEER - David, Lieving 304-665-1644 SITE MGR - Barbarito, Sebastian 304-665-1641				

Information Needed for Database and AIRS
 1. Need valid physical West Virginia address with zip

Regulated Pollutants		
VOC	Volatile Organic Compounds (Reactive organic gases)	0.100 TPY
HAPOT	Hazardous Air Pollutants Other	0.100 TPY

Summary from this Permit 13-2473K		
Air Programs	Applicable Regulations	
TITLE V Title V/Major		
Fee Program	Fee	Application Type
6B	\$3,500.00	MODIFICATION

Activity Dates	
APPLICATION RECEIVED	04/25/2016
APPLICATION FEE PAID	04/27/2016
ASSIGNED DATE	04/27/2016
APPLICATION FEE PAID	04/29/2016
APPLICATION DEEMED COMPLETE	05/12/2016

Notes from Database
 Permit Note: 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.

NON-CONFIDENTIAL

Please note, this information sheet is not a substitute for file research and is limited to data entered into the AIRTRAX database.

Company ID: 073-00030
 Company: Allnex USA Inc.
 Printed: 08/08/2016
 Engineer: Legg, John

Action	Date	Days	Open	OAQ Status
APPLICATION RECIEVED	04/25/2016	0	0	0 Open on Co Time
APPLICATION FEE PAID	04/27/2016	---	---	--- Entry ignored
ASSIGNED DATE	04/27/2016	---	---	--- Entry ignored
APPLICATION FEE PAID	04/29/2016	---	---	--- Entry ignored
APPLICATION DEEMED COMPLETE	05/12/2016	17	17	0 Open on OAQ time
Corrected to :	08/08/2016	0	105	88 Open on OAQ time
Final Values	08/08/2016	0	105	88 Open on OAQ time

Permit Writer	John Legg
Email Address	john.c.legg@wv.gov
Company Name	Allnex USA Inc. Willow Island Plant 252 Heilman Avenue Belmont, WV 26134
Company ID	073-00030
Facility Name	Willow Island Plant
Permit Number	R13-2473K
County	Pleasants
Newspaper	St. Marys Oracle P.O. Box 27 St Marys, WV 2170 Phone (304) 684-2424; FAX (304) 684-2426
Company Contact & Email	Gus Barbarito gus.barbarito@allnex.com Dave E. Lieving dave.lieving@allnex.com
Consultant Email Address	Rick Wilson RWilson@trcsolutions.com TRC Environment One Kenton Drive Suite 200 Charleston, WV 25211 Phone no.: (304) 476-7037 Direct no.: (304) 346-2591
Regional Office (if applicable)	Not Applicable

AIR QUALITY PERMIT NOTICE

Notice of Intent to Approve

On April 25, 2016, Allnex USA Inc. (Allnex) applied to the WV Department of Environmental Protection, Division of Air Quality (DAQ) for a modification permit to made minor changes at their Willow Island Plant located at Belmont, WV at latitude 39.35613 degrees and longitude -81.30569 degrees. A preliminary evaluation has determined that all State and Federal air quality requirements will be met by the proposed facility. The DAQ is providing notice to the public of its preliminary determination to issue the permit as R13-2473K.

The following increase in potential emissions will be authorized by this permitting action: 0.1 tpy of Volatile Organic Compounds (VOC); 0.1 tpy Total Regulated Hazardous Air Pollutants.

Written comments or requests for a public meeting must be received by the DAQ before 5:00 p.m. on September XX, 2016. A public meeting may be held if the Director of the DAQ determines that significant public interest has been expressed, in writing, or when the Director deems it appropriate.

The purpose of the DAQ's permitting process is to make a preliminary determination if the proposed construction will meet all State and Federal air quality requirements. The purpose of the public review process is to accept public comments on air quality issues relevant to this determination. Only written comments received at the address noted below within the specified time frame, or comments presented orally at a scheduled public meeting, will be considered prior to final action on the permit. All such comments will become part of the public record.

John Legg
WV Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, WV 25304
Telephone: 304/926-0499, ext. 1257
FAX: 304/926-0478

Additional information, including copies of the draft permit, application and all other supporting materials relevant to the permit decision may be obtained by contacting the engineer listed above. The draft permit and engineering evaluation can be downloaded at:

www.dep.wv.gov/daq/Pages/NSRPermitsforReview.aspx



west virginia department of environmental protection

Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone (304) 926-0475 • FAX: (304) 926-0479

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

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 same 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 ft³/min).

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Allnex USA Inc.
Willow Island Plant

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 Parametric 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.

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Allnex USA Inc.
Willow Island Plant

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 ft ³ /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 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.

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Allnex USA Inc.
Willow Island Plant

ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

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

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, toluene, and triethylamine; > 25 TPY of aggregated HAPs].

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Allnex USA Inc.
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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.

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Willow Island Plant

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 Parametric 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

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Allnex USA Inc.
Willow Island Plant

Attachment 1

Compare File

Comparing R13-2473J to R13-2473K

Allnex USA Inc.

Willow Island Plant,

Belmont, Pleasants County, WV

**Fact Sheet R13-2473K
Allnex USA Inc.
Willow Island Plant**

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

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

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
<u>V516</u>	<u>MEC-001</u>	<u>Methanol Storage Tank (transfers from process vessels)</u>	<u>Installed 1988 (process transfers change in 2016)</u>	<u>17,500 gallons</u>	<u>None</u>
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	

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-~~2473J~~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 4.1.87. 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	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	1.8	7.9
		NO _x	2.2	9.4
		PM	0.2	0.9
		SO ₂	0.1	0.1
		VOC	0.2	0.7
MEC-013	U002	VOC	0.7	0.1
		THAP	0.4	0.1
Emission Limits when TMI to TMU Process is On-Line				
TMI-002	V085A	VOC	0.1	0.10
		THAP	0.1	0.10
TMI-003	V060A	VOC	0.4	0.20
		THAP	0.3	0.15
TMI-005	V060B	VOC	0.4	0.20
		THAP	0.3	0.15
UAM-001 <i>or</i> UAM-002	C102	VOC	2.0	0.90
		THAP	1.8	0.75
Emission Limits when Methanol Recovery Operation is On-Line				
<u>MEC-001</u>	<u>V516</u>	<u>VOC</u> <u>THAP</u>	<u>0.64</u> <u>0.64</u>	<u>0.1</u> <u>0.1</u>
MEC-006	V582, V574, V500A-C	VOC	0.70	0.50
		THAP	0.70	0.50
MEC-007	V578, V535	VOC	0.39	0.30
		THAP	0.39	0.30
MEC-008	P590A/B	VOC	0.10	0.10
		THAP	0.10	0.10
UTM-002	V545	VOC	0.30	0.30
		THAP	0.30	0.20
Emission Limits when DMF Recovery Operation is On-Line				
UAM-002	V555, V560, P051A/B, J001/J101	VOC	0.1	0.1
		THAP	0.1	0.1
UAM-003	V024	VOC	0.1	0.1
		THAP	0.1	0.1
UAM-007	V550	VOC	0.4	0.1
		THAP	0.4	0.1

Emission Point	Source	Pollutant	Emission Limit	
			pph	tpy
Emission Limits when Methyl Carbamate Process is On-Line				
<u>MEC-001</u>	<u>V516</u>	<u>VOC</u> <u>THAP</u>	<u>4.7</u> <u>4.6</u>	<u>0.1</u> <u>0.1</u>
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 ²	≥ 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 rates 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.

West Virginia Department of Environmental Protection
Earl Ray Tomblin
Governor

Division of Air Quality

Randy C. Huffman
Cabinet Secretary

Modification Permit



R13- 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

William F. Durham
Director

Issued: Draft

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

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: Modification
Description of Change: Proposed minor changes:

- Reinstatement of 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.

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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	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
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	2016	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	

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
V032	UAM-001	Methanol Spray Condenser	1987	3,100 gallons	
V033 ¹		Recovered Methanol Tank	1987	1,977 gallons	
V036		TMXDI Product Receiver	1987	500 gallons	
V039 ¹		Crude TMI Storage Tank	1995	100,000 gallons	
V059 ³		Supercrude TMI Storage Tank	1976 Modified 3/22/00	50,000 gallons	
V080A		Secondary Condensate Tank Wagon	NA	5,000 gallons	
V080B ³		Recovered TMXDI Tank Wagon (during TMI Distillation)	NA	5,000 gallons	
V085 ¹		Fresh DMF Tank Wagon	NA	5,000 gallons	
V085B ²		Heavy Polymer Tank Wagon	NA	5,000 gallons	
V110A ³		Fourth Pass Bottoms Tank Wagon	NA	5,000 gallons	
V110B ³		Fifth Pass Bottoms Tank Wagon	NA	5,000 gallons	
V110C ³		Sixth Pass Overheads Tank Wagon	NA	5,000 gallons	
V112		Cracking Column Overheads Receiver	1987	300 gallons	
V116 ¹		First Pass Circulating Liquid Tank	1988	220 gallons	
V150		Methanol Receiver	1996	20 gallons	
V152		Distillate Receiver	1996	300 gallons	
V185 ¹		Spent DMF Tank Wagon	NA	5,000 gallons	
E022		UAM-002	Water Stripper Overheads Condenser	1987	
E032	MeC Stripper Overheads Receiver/Condenser		1974	1,300 gallons	
V555	UAM-002	DMF Waste Tank Wagon	2008	5,000 gallons	C102/E120/ P051A/B
V560		Recovered DMF Tank Wagon	2008	5,000 gallons	
R001	UAM-003	Addition Reactor (during TMXDI production)	1987	11,900 gallons	K360
V016		Crude TMXDU Surge Tank (during TMXDI production)	1974 Modified 7/23/87	19,000 gallons	
V024		Water Stripper Overhead Receiver	1987	130 gallons	
V160	USM-012	Standby Storage Tank (Inactive per R13-2473J, October 9, 2014)	1976 Modified 7/23/87	37,600 gallons	None
V006	UAM-004	TMXDU Purge Container	NA	400 gallons	None
V105	UAM-005	Sulfuric Acid Calibration Tank	1987	50 gallons	None
V038	UAM-006	Recovered MeC Storage Tank	1974 Modified 7/27/87	13,000 gallons	None
V007	UAM-007	Water Stripper TMXDI Overheads Tank	2008	5,000 gallons	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
V550	UAM-007	Water Stripper DMF Overheads Tank Wagon	2008	5,000 gallons	None
V401	UAM-008	Water Stripper Overheads Storage Tank	1979	10,235 gallons	None
V080B	UCM-005	Recovered TMXDI Tank Wagon (during TMXDI production)	NA	5,000 gallons	None
V121A	UCM-007	Catalyst Decanting Tank Wagon	NA	5,000 gallons	None
V121B/C		Bottoms Tank Wagons	NA	5,000 gallons	None
V101	USM-003	TMXDI Storage Tank	1974	12,600 gallons	None
V201	USM-004	TMXDI Storage Tank	1974	10,000 gallons	None
V301	USM-005	TMXDI Storage Tank	1974	12,600 gallons	None
V020	USM-006	TMI Storage Tank	1975	4,000 gallons	None
V002	USM-007	Cooling Oil Storage Tank	1987	6,600 gallons	None
V320	USM-008	Chilled Oil Surge Tank	1974 Modified 7/23/87	17,000 gallons	None
V132	USM-010	Hot Oil Storage/Expansion Tank	1974	18,000 gallons	None
V031	USM-011	Catalyst Storage Tank	1987	6,750 gallons	None
V100	UTM-002	TMXDI Trailer Loading	NA	5,000 gallons	None
V130		Finished TMI Tank Wagon	NA	5,000 gallons	
V501		Crude MeC Tank Wagon	NA	5,000 gallons	
V545		Heavies Tank Wagon	NA	5,000 gallons	

¹ - Can also vent through UAM-002 when TMI to TMU Process or TMI Distillation Process is operating.

² - Can also vent through UAM-002 when TMI to TMU Process is operating.

³ - Can also vent through UAM-002 when TMI Distillation Process is operating.

⁴ - Emission from these emission units vent to another emission unit and do not vent directly to the atmosphere.

⁵ - Can also vent through UAM-002 when DMF Recovery Process is operating.

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	NO_x	Nitrogen Oxides
CBI	Confidential Business Information	NSPS	New Source Performance Standards
CEM	Continuous Emission Monitor	PM	Particulate Matter
CES	Certified Emission Statement	PM_{2.5}	Particulate Matter less than 2.5 μm in diameter
C.F.R. or CFR	Code of Federal Regulations	PM₁₀	Particulate Matter less than 10μm in diameter
CO	Carbon Monoxide	Ppb	Pounds per Batch
C.S.R. or CSR	Codes of State Rules	Pph	Pounds per Hour
DAQ	Division of Air Quality	Ppm	Parts per Million
DEP	Department of Environmental Protection	Ppmv or ppmv	Parts per Million by Volume
dscm	Dry Standard Cubic Meter	PSD	Prevention of Significant Deterioration
FOIA	Freedom of Information Act	Psi	Pounds per Square Inch
HAP	Hazardous Air Pollutant	SIC	Standard Industrial Classification
HON	Hazardous Organic NESHAP	SIP	State Implementation Plan
HP	Horsepower	SO₂	Sulfur Dioxide
lbs/hr	Pounds per Hour	TAP	Toxic Air Pollutant
LDAR	Leak Detection and Repair	TPY	Tons per Year
M	Thousand	TRS	Total Reduced Sulfur
MACT	Maximum Achievable Control Technology	TSP	Total Suspended Particulate
MDHI	Maximum Design Heat Input	USEPA	United States Environmental Protection Agency
MM	Million	UTM	Universal Transverse Mercator
MMBtu/hr or mmbtu/hr	Million British Thermal Units per Hour	VEE	Visual Emissions Evaluation
MMCF/hr or mmcf/hr	Million Cubic Feet per Hour	VOC	Volatile Organic Compounds
NA	Not Applicable	VOL	Volatile Organic Liquids
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		

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 R13-2473J. 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 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.]
- 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 as defined in and according to the procedures specified in 45CSR14 or 45CSR19, as appropriate.
[45CSR§13-5.1]

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 Air Enforcement and Compliance Assistance
(3AP20)
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. Maximum allowable emissions to the atmosphere from the Urethanes Business Unit shall not exceed the limitations set forth in Appendix A, dependent upon the process(es) currently in operation in the Urethanes Business Unit.
- 4.1.2. If the permittee emits greater than 50 pounds per calendar year of any Hazardous Air Pollutants (HAPs) other than Methanol (CAS 67-56-1) and Dimethyl Formamide (CAS 68-12-2) from any emission point listed in Appendix A, the permittee shall provide written notification to the Director within thirty (30) days after such emissions. This written notification shall include the potential to emit (in pph and tpy) for each new HAP species from each of the emission points listed in Appendix A. The permittee shall not emit 2 pph or 5 tpy or more of any HAP or combination of HAPs in excess of the limits established in Section 4.1.1 without obtaining a modification of this permit.
- 4.1.3. Compliance with the emission limits set forth in section 4.1.1 shall be demonstrated by calculating emissions for every product/process in the Urethanes Business Unit using appropriate engineering calculations, process models, and actual process data. When these emissions are calculated, each emission point listed in Appendix A shall be included in the calculation and accounted for in the actual emissions record. The calculations shall be maintained current for all processes, process modifications and new variants. 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.
- 4.1.4. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.11.]
- 4.1.5. During all periods of normal operations, process vent air emissions from the emission sources and equipment listed in Section 1.0 shall be routed to and controlled by the associated control devices listed in Section 1.0 prior to venting emissions to the atmosphere. However, the control devices listed in Section 1.0 may be bypassed to perform maintenance and/or repair activities for periods up to 72 hours per calendar year per control device, with the bypass hours counted only when the listed emission group(s) in Appendix B are operating and venting to the respective control device during a bypass event.
[45CSR§13-5.11]
- 4.1.6. Emissions to the atmosphere from the following emission sources subject to 45CSR§7 – “To Prevent and Control Particulate Matter Air Pollution from Manufacturing Processes and Associated Operations” shall not exceed the emission limitations set forth in Sections 4.1.13 and 4.1.14, and shall not exceed opacity limitations listed in Sections 4.1.11 and 4.1.12.

Table 4.1.6. 45CSR§7 Sources Emission Limits

Product or Process Name	Emission Point ID	Source ID	Pollutant
TMXDI and Crude TMI Production	TMX-003	V102	PM ₁₀ Opacity
TMXDI and Crude TMI Production	TMX-004	V107	H ₂ SO ₄ Opacity
TMXDI and Crude TMI Production	UAM-005	V105	H ₂ SO ₄ Opacity
Methyl Carbamates	MEC-003	M507	PM ₁₀ Opacity

[Compliance with this streamlined condition shall insure compliance with 45CSR§§7-3.1, -3.2, -4.1, and -4.2]

- 4.1.7. The control devices listed in Appendix B shall be operated in accordance with the required monitoring parameters and inspected and maintained in accordance with the Inspection & Preventive Maintenance schedules listed in Appendix B. Missed readings for each control device monitoring parameter data element specified in Appendix B shall not exceed 5% of the total required readings in a rolling twelve (12) month period.
- 4.1.8. The permittee shall comply with all applicable requirements of 40 C.F.R. 63, Subpart EEEE – “National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline)” (OLD MACT).
- 4.1.9. The permittee shall comply with all applicable requirements of 40 C.F.R. 63, Subpart FFFF – National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing”.
- 4.1.10. *[Reserved]*
- 4.1.11. The permittee shall not cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any process source operation which is greater than twenty (20) percent opacity, except as noted in Section 4.1.12. Process source operations subject to the opacity limitation are indicated in Section 4.1.6.
[45CSR§7-3.1]
- 4.1.12. The opacity provisions of Section 4.1.11 shall not apply to smoke and/or particulate matter emitted from any process source operation which is less than forty (40) percent opacity for any period or periods aggregating no more than five (5) minutes in any sixty (60) minute period.
[45CSR§7-3.2]
- 4.1.13. The permittee shall not cause, suffer, allow or permit particulate matter to be vented into the open air from any type of source operation or duplicate source operation, or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantity specified under type ‘a’ source operation in Table 45-7A found at the end of 45CSR§7. Process source operations subject to the particulate weight limitation are indicated in Section 4.1.6.
[45CSR§7-4.1]

- 4.1.14. Mineral acids shall not be released from any type source operation or duplicate source operation or from all pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantity given in Table 4.1.14. Process source operations subject to the mineral acid concentration limitation are indicated in Section 4.1.6.

Table 4.1.14. Mineral Acid Stack Gas Concentration Limitations

Mineral Acid	Allowable Stack Gas Concentration (mg/dscm)
Sulfuric Acid Mist (H ₂ SO ₄)	35
Nitric Acid Mist and/or Vapor (HNO ₃)	70
Hydrochloric Acid Mist and/or Vapor (HCl)	210
Phosphoric Acid Mist and/or Vapor (H ₃ PO ₄)	3

[45CSR§7-4.2]

- 4.1.15. Due to unavoidable malfunction of equipment, emissions exceeding those set forth in Sections 4.1.13. and 4.1.14. may be permitted by the Director for periods not to exceed ten (10) days upon specific application to the Director. Such application shall be made within twenty-four (24) hours of the malfunction. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the permittee and approved by the Director.

[45CSR§7-9.1]

- 4.1.16. Maintenance operations shall be exempt from the provisions of 45CSR7-4, and the emission limitations set forth in Sections 4.1.13. and 4.1.14., provided that, at all times the owner or operator conducts maintenance operations in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Director, which may include, but not limited to, monitoring results, opacity observations, review of operating and maintenance procedures and inspection of the source.

[45CSR§7-10.3]

- 4.1.17. The following equipment, listed in Table 4.1.17. in the Urethanes Manufacturing Unit is used on an as-needed basis and may not be operated for extended periods of time. This equipment is exempt from Section 2.14. but remains subject to Section 3.1.5. Written notification shall be provided to the Director in the event of permanent shutdown of this equipment.

Table 4.1.17. Intermittent Use Equipment

Equipment ID	Source Description

[45CSR§13-5.11]

4.2. Monitoring Requirements

- 4.2.1. The permittee shall perform monitoring of all equipment parameters listed in Appendix B per the minimum data collection frequency and per the data averaging period as indicated.
- 4.2.2. For the purpose of determining compliance with the opacity limits of 45CSR§§7-3.1 and -3.2, the permittee shall conduct visible emission checks or opacity monitoring and recordkeeping for all emission points and equipment subject to an opacity limit, including those emission sources listed in Table 4.1.6.

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 45CSR§7A, during periods of normal operation of emission sources that vent from the referenced emission points for a sufficient time interval to determine if there is a visible emission. For observations of visible emissions from any emission point(s) which follows a water scrubber, when condensed water vapor is present in the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which condensed water vapor is no longer visible; the observer shall record the approximate distance from the emission outlet to the point in the plume at which the observations are made.

If visible emissions are identified during the visible emission check, or at any other time regardless of operations, the permittee shall conduct an opacity reading using the procedures and requirements of 45CSR§7A within seventy-two (72) hours of the first signs of visible emissions. A 45CSR§7A 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.

- 4.2.3. The permittee shall monitor and record monthly the following data pertaining to any control device bypass events per Section 4.1.5: Identification of the control device bypassed, the date and the duration of the bypass, the nature of the repair or maintenance conducted, and the quantity of regulated air pollutants emitted during the bypass time period.

4.3. Testing Requirements

[Reserved]

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.
- 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.
- 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.
 - e. For each such case associated with an equipment malfunction, the additional information shall also be recorded:
 - f. The cause of the malfunction.
 - g. Steps taken to correct the malfunction.
 - h. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.
- 4.4.4. The emission/discharge estimation models and calculation methodologies developed in Section 4.1.3, as well as production records for each calendar month shall be maintained on site for a period of five (5) years. Certified copies of these records shall be made available to the Director of the Division of Air Quality or his or her duly authorized representative upon request.
[45CFR§13-5.11]
- 4.4.5. The permittee shall maintain on site for a period of five (5) years a tabulation of actual emissions/discharges generated using those methods specified in Section 4.1.3, over the most recent continuous rolling twelve (12) calendar month period, showing emission/discharge totals for the regulated air pollutants listed in Sections 4.1.1 and 4.1.3. 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]

- 4.4.6. 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 4.1.7. 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	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	1.8	7.9
		NO _x	2.2	9.4
		PM	0.2	0.9
		SO ₂	0.1	0.1
		VOC	0.2	0.7
MEC-013	U002	VOC	0.7	0.1
		THAP	0.4	0.1
Emission Limits when TMI to TMU Process is On-Line				
TMI-002	V085A	VOC	0.1	0.10
		THAP	0.1	0.10
TMI-003	V060A	VOC	0.4	0.20
		THAP	0.3	0.15
TMI-005	V060B	VOC	0.4	0.20
		THAP	0.3	0.15
UAM-001 <i>or</i> UAM-002	C102	VOC	2.0	0.90
		THAP	1.8	0.75
Emission Limits when Methanol Recovery Operation is On-Line				
MEC-001	V516	VOC	0.64	0.1
		THAP	0.64	0.1
MEC-006	V582, V574, V500A-C	VOC	0.70	0.50
		THAP	0.70	0.50
MEC-007	V578, V535	VOC	0.39	0.30
		THAP	0.39	0.30
MEC-008	P590A/B	VOC	0.10	0.10
		THAP	0.10	0.10
UTM-002	V545	VOC	0.30	0.30
		THAP	0.30	0.20
Emission Limits when DMF Recovery Operation is On-Line				
UAM-002	V555, V560, P051A/B, J001/J101	VOC	0.1	0.1
		THAP	0.1	0.1
UAM-003	V024	VOC	0.1	0.1
		THAP	0.1	0.1
UAM-007	V550	VOC	0.4	0.1
		THAP	0.4	0.1

Emission Point	Source	Pollutant	Emission Limit	
			pph	tpy
UAM-001	V010	VOC THAP	0.1 0.1	0.1 0.1
Emission Limits when TMI Distillation Process is On-Line				
UAM-001 <i>or</i> UAM-002	P051A/B, C102/E120	VOC THAP	0.3 0.2	0.20 0.10
USM-006	V020	VOC	0.1	0.10
UTM-002	V130	VOC	0.1	0.10
Emission Limits when TMXDI and Crude TMI Production Process is On-Line				
DIP-001	V003	VOC	0.1	0.1
MEC-006	V510, V582	VOC THAP	0.2 0.2	0.1 0.1
MEC-010	V583	VOC THAP	0.1 0.1	0.4 0.2
TMX-003	V102	PM	0.1	0.1
UAM-001	C102/E120	VOC THAP	1.75 1.75	5.6 5.6
UAM-002	P051A/B	VOC THAP	0.6 0.2	1.9 0.65
UAM-003	K360	VOC THAP	0.1 0.1	0.1 0.1
UAM-004	V006	VOC	0.2	0.1
UAM-006	V038	VOC THAP	0.3 0.1	0.8 0.1
UAM-007	V007	VOC THAP	0.6 0.6	2.0 2.0
UAM-008	V401	VOC THAP	0.1 0.1	0.1 0.1
UCM-005	V080B	VOC	0.1	0.1
UCM-006	V070A/B	VOC	0.1	0.1
UCM-007	V121A-C	VOC	0.2	0.4
USM-003	V101	VOC	0.1	0.1
USM-004	V201	VOC	0.1	0.1
USM-005	V301	VOC	0.1	0.1
USM-011	V031	VOC	0.1	0.1
UTM-002	V100	VOC	0.1	0.1

Emission Point	Source	Pollutant	Emission Limit	
			pph	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	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	15 minutes ¹	Calendar daily	Annual
P051A/B	Graham Vacuum Pump	NA	TMXDI, DMF Recovery	Inlet water (liquor) flowrate	≥ 20.0 gpm	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	15 minutes ¹	Calendar daily	Annual
V032	Methanol Spray Condenser	NA	TMI to TMU	Recirculated methanol temperature	≤ -6 deg C	15 minutes ¹	Calendar daily	Annual
V032	Methanol Spray Condenser	NA	TMXDI	Recirculated methanol temperature	≤ -4 deg C	15 minutes ¹	Calendar daily	Annual
V577	Methanol Spray Condenser	NA	Methanol Recovery	Recirculated methanol temperature	≤ 6 deg C	15 minutes ¹	Calendar daily	Annual
V582	Scrubber	NA	Methanol Recovery, TMXDI	Inlet water (liquor) flowrate	≥ 2.6 gpm	15 minutes ¹	Calendar daily	Annual
V583	Scrubber	NA	TMXDI	Inlet water (liquor) flowrate	≥ 2.6 gpm	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 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.

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.

Signature¹

(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.