From:	Air.Pollution Control
То:	APC Permitting
Subject:	FW: 82-0003 - MSOP-24 Application (R3-3 SM2 and CP1)
Date:	Friday, August 13, 2021 7:31:02 AM
Attachments:	MSOP-24 Application (R3-3 SM2 and CP1).zip

From: Larkey, Debra <dlarkey@eastman.com> On Behalf Of Eastman Corporate Environmental Affairs

Sent: Friday, August 13, 2021 7:13 AM

To: Air.Pollution Control <Air.Pollution.Control@tn.gov>

Cc: Travis Blake <Travis.Blake@tn.gov>; Matthew Hayes <Matthew.Hayes@tn.gov>; Reeder, Alex L <AlexL.Reeder@eastman.com>

Subject: [EXTERNAL] 82-0003 - MSOP-24 Application (R3-3 SM2 and CP1)

*** This is an EXTERNAL email. Please exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email - STS-Security. ***

Attached: MSOP-24 Application (R3-2 SM2 and CP1)

CBI pages to be considered with this application package are being mailed separately via USPS certified mail.

Thanks,

Debra Larkey | Eastman Environmental Operations - Kingsport Environmental Technologist Office: +1 423-224-0670

Note: The information transmitted is intended only for the person or entity to which it is addressed and may contain restricted, confidential, and/or privileged material. The recipient is not to distribute the information to other than management without prior authorization from Environmental Affairs in consultation with Legal as necessary. If you received this in error, please contact the sender and delete the material from any computer.

Eastman Chemical Company Tennessee Operations 200 South Wilcox Dr Kingsport, TN 37660 Telephone: (423) 229-2000



MSOP-24

Submittal Number:

R3-3 SM2 and CP1

Date of Submittal:

August 13, 2021

Summary: Eastman is submitting a construction permit application for a new feed pump in the Glycol MCPU. This process modification will trigger NSPS RRR applicability due to an increase in actual emissions from the reactors to which this pump will supply material. Detailed changes that occurred on each page of the application are included below.

Old Page #	New Page #	Description of Change				
General F	General Forms					
2	2	Updated Table of Contents				
		APC 29:				
9-10	9-10	 Updated total gaseous HAP emissions from 108.65 to 108.72 tons/year 				
		Updated methanol emissions from 67.97 to 68.04 tons/year				
19	19	Request for Permit Shield: Updated language in selection box				
B-221-3 A	pplication					
		APC 28:				
47-48	47-48	 Updated total gaseous HAP emissions from 33.89 to 33.96 tons/year 				
		Updated methanol emissions from 12.81 to 12.88 tons/year				
		APC 30 Attachment:				
		Condition 5: Updated VOC maximum actual emissions for entire source from 55.27 to 45.56 tons/year				
50	50	• Condition 6: Updated VOC emissions limitation for Vents E, F, and J from 43.07 to 30.12 lb/hr, updated VOC				
		maximum actual emissions from 43.07 to 11.66 lb/hr				
		Condition 9: Updated methane maximum actual emissions from 53.78 to 31.21 tons/year				
-	52	APC 30 Attachment: Added Condition 16 for 40 CFR Part 60 Subpart RRR applicability				
52	53	APC 30 Attachment: Added 40 CFR Part 60 Subpart RRR applicability for WE-23 Condenser (Triangle 7) Affected				
	55	Facility				
B-221-3 A	ttachments					
8	8	Updated to new Calculation Documentation form template for clarity				
9-10	9-10	Updated to new Calculation Documentation form template for clarity, updated stream table based on most recent				
<i>y</i> 10	9-10	sampling				
12-13	12-13	Updated to new Calculation Documentation form template for clarity				
18-19	18-19	Updated to new Calculation Documentation form template for clarity, updated stream table to improve consistency in				
10 12		emissions calculations				
20-21	20-21	Updated to new Calculation Documentation form template for clarity				
23	23	Updated to new Calculation Documentation form template for clarity				

End of Summary of Changes (MSOP-24)

Page number:	Revision Number:	Date of revision:	
1 of 1	R3-3 SM2 and CP1	August 13, 2021	



Tennessee Operations 200 South Wilcox Dr Kingsport, TN 37660 Telephone: (423) 229-2000

Title V Operating Permit Application

General Forms

MSOP-24

Entire Source

Page number:	Revision number:	Date of revision:
1 of 19	R3-3 SM2 and CP1	August 13, 2021

Eastman Chemical Company Tennessee Operations 200 South Wilcox Dr Kingsport, TN 37660 Telephone: (423) 229-2000

ΕΛSTΜΛΝ

Table of Contents

<u>Section</u>	Page #
General Forms	
Application	1 to 19
PES B-221-3	
Application	1 to 56
Attachments	1 to 31
PES B-237A-3	
Application	1 to 24
Attachments	1 to 12
PES B-238-1	
Application	1 to 22
Attachments	1 to 8
PES B-238-2	
Application	1 to 115
Attachments	1 to 107
PES B-368-1	
Application	1 to 24
Attachments	1 to 10
PES H2 Plants	
Application	1 to 29
Attachments	1 to 14

Total Pages: 471

Page number:	Revision number:	Date of revision:
2 of 19	R3-3 SM2 and CP1	August 13, 2021



TITLE V PERMIT APPLICATION **INDEX OF AIR POLLUTION PERMIT APPLICATION FORMS**

Section 1: Identification and Diagrams				
This application contains the following forms:	APC Form 1, Facility Identification: Eastman Chemical Company, Tennessee Operations			
APC Form 2, Operations and Flow Diagrams				
	Section 2: Emission Source Description Forms			
		Total number of this form		
	APC Form 3, Stack Identification	50		
	APC Form 4, Fuel Burning Non-Process Equipment	8		
	APC Form 5, Stationary Gas Turbines or Internal Combustion Engines	0		
	APC Form 6, Storage Tanks	46		
This application contains the following forms	APC Form 7, Incinerators	0		
operation, fuel burning installation, etc.):	APC Form 8, Printing Operations	0		
	APC Form 9, Painting and Coating Operations	0		
	APC Form 10, Miscellaneous Processes	6		
	APC Form 33, Stage I and Stage II Vapor Recovery Equipment	0		
	APC Form 34, Open Burning	0		
	Section 3: Air Pollution Control System Forms			
		Total number of this form		
	APC Form 11, Control Equipment - Miscellaneous	0		
	APC Form 13, Adsorbers	0		
This application contains the following forms	APC Form 14, Catalytic or Thermal Oxidation Equipment	0		
facility):	APC Form 15, Cyclones/Settling Chambers	0		
	APC Form 17, Wet Collection Systems	8		
	APC Form 18, Baghouse/Fabric Filters	0		
	(OVER)			
Paga number	Povision number Data of revision:			

rage number.	Revision number.	Date of fevision.	
3 of 19	R3-3 SM2 and CP1	August 13, 2021	
CN-1397			RDA 1298

Section 4: Compliance Demonstration Forms				
Total number of this form				
	APC Form 19, Compliance Certification - Monitoring and Reporting - Description of Methods for Determining Compliance	6		
	APC Form 20, Continuous Emissions Monitoring	0		
	APC Form 21, Portable Monitors	0		
	APC Form 22, Control System Parameters or Operating Parameters of a Process	7		
	APC Form 23, Monitoring Maintenance Procedures	0		
	APC Form 24, Stack Testing	0		
This application contains the following forms	APC Form 25, Fuel Sampling and Analysis	0		
operation, fuel burning installation, etc.):	APC Form 26, Record Keeping	13		
	APC Form 27, Other Methods	12		
	APC Form 28, Emissions from Process Emissions Sources / Fuel Burning Installations / Incinerators	6		
	APC Form 29, Emissions Summary for the Facility or for the Source Contained in This Application	1		
	APC Form 30, Current Emissions Requirements and Status	7		
	APC Form 31, Compliance Plan and Compliance Certification	1		
	APC Form 32, Air Monitoring Network	0		
Section 5: Statement of Completeness and Certification of Compliance				

I have reviewed this application in its entirety and to the best of my knowledge and based on information and belief formed after reasonable inquiry, the statements and information contained in this application are true, accurate, and complete. I have provided all the information that is necessary for compliance purposes and this application consists of \pm pages and they are numbered from page \pm to \pm . The status of this facility's compliance with all applicable air pollution control requirements, including the enhanced monitoring and compliance certification requirements of the Federal Clean Air Act, is reported in this application along with the methods to be used for compliance demonstration.

[‡]See Table of Contents for page counts and numbering.

Name and Title of Responsible Official	Telephone Number with Area Code
Bill Fritsch- Division Manufacturing Leader, Plastics	(423) 229 - 6860
Signature of Responsible Official	Date of Application-Signature
M. M. Dale	August 10, 2021
(For definition of responsible official, see instructions for APC Form 1)	

Page number:	Revision number:	Date of revision:	
4 of 19	R3-3 SM2 and CP1	August 13, 2021	
CO I 1005			DD 1 1000



APC 1 MSOP-24

TITLE V PERMIT APPLICATION FACILITY IDENTIFICATION

	SITE INFORMATION				
1.	Organization's legal name				APC company point no.
	Eastman Chemical Company			For APC	
2.	Site name (if different from legal name)			Use Only	APC Log/Permit no.
	Tennessee Operations				
3.	Site address: (St./Rd./Hwy.)			NAICS or S	IC Code
	200 South Wilcox Drive			325199	2869
	City or distance to nearest town	Zip Code		County name	e
	Kingsport	3/660		Sullivan	
4.	Site location (in Lat/Long)	Latitude			Longitude
	CONT	36.5222318	LATION (DECD	MCIDI E	-82.3431/9
6	CONTA	ACT INFORM	IATION (RESPO	JUSIBLE (OFFICIAL)
э.	Responsible official contact Bill Eritsch			Phone numb (423) 220	6860
6	Mailing address			(423) 229	with area code
0.	P. O. Box 511			N/A	with area code
	City	State	Zip code	Email address	
	Kingsport	TN	37662	wjfritsch@eastman.com	
		CONTACT IN	FORMATION (TECHNIC	AL)
7.	Principal technical contact			Phone numb	ber with area code
	Alex Reeder			(423) 229-	6817
8. Mailing address		Fax number	with area code		
	P. O. Box 511		T	(423) 224-	7213
	City	State	Zip code	Email addre	SS 1
	Kingsport		3/662	AlexL.Ree	der(<i>a</i> /eastman.com
11	Dilli	CONTACT	INFORMATION		
11.	Billing contact			Phone number with area code	
12	Mailing address			(423) 229-	J250
12.	P O Box 511			(423) 224-	7213
	City	State	Zip code	Email addre	\$\$
	Kingsport	TN	37662	tvenett@ea	astman.com
		TYPE O	F PERMIT REQ	UESTED	
13.	Permit requested for:			-	
	- Initial application to ope	erate:			Minor permit modification:
	Permit renewal to operate:				Significant modification:
	Administrative permit amendr	nent:			Construction permit:
	*				· 🖬

(OVER)

Page number:	Revision number:	Date of revision:	
5 of 19	R3-3 SM2 and CP1	August 13, 2021	
CN-1398			RDA 1298

						APC 1
	HAZARDOU	S AIR POLLU	UTANTS, DESIGN	NATIONS, AN	ID OTHER PERMITS ASSOCIATED WIT	TH FACILITY
14.	Is this facility subject to the provisions governing prevention of accidental releases of hazardous air contaminants contained in Chapter 1200-03-32 of the					1200-03-32 of the
	Tennessee Air Po	llution Control reg	ulations?		Xes	No
	If the answer is	Yes, are you in cor	npliance with the provis	ions of Chapter 12	00-03-32 of the Tennessee Air Pollution Control regulation	ons?
					Xes Yes	No
15.	 If facility is located in an area designated as "Non-Attainment" or "Additional Control", indicate the pollutant(s) for the designation. SO2 					
16.	6. List all valid Air Pollution permits issued to the <u>sources contained in this application</u> [identify all permits with most recent permit numbers and emission source reference numbers listed on the permit(s)].					
		Permit Number	Emission Source Reference Number	PES	Description	
		576162	82-0003-245	B-221-3	Glycol Plants	
		576162	82-0003-246	B-237A-3	Glycol Refining	
		576162	82-0003-247	B-238-1	Heat Transfer Fluid Furnaces	_
		576162	82-0003-248	B-238-2	Ester Production Facility	
		576162	82-0003-250	B-368-1	Trans-Ester Production Facility	

H2 Plants

Revision number:

R3-3 SM2 and CP1

Hydrogen Plants 3,4,5, and 6

17. Page number: 6 of 19 576162

82-0003-305

Date of revision:

August 13, 2021



APC 02 MSOP-24

TITLE V PERMIT APPLICATION OPERATIONS AND FLOW DIAGRAMS

1.	. Please list, identify, and describe briefly process emission sources, fuel burning installations, and incinerators that are contained in this application. Please attach a flow diagram for this application.				
	See APC 1 Item 16 for a listing of sources and a brief description	of each. See APC 2 Attachment for facility diagram.			
2.	2. List all <u>insignificant activities</u> which are exempted because of size or produ Below is a listing of all IEUs contained in this MSOP that are requ	ired to be listed in the application per 1200-3-904(5)(a)4.(i).			
	HTM Fluid Storage Tanks: MC-01 and MF-50	<u>B-238-1</u>			
	HTM Fluid Dryers: MF-51 and MC-02 HTM Fluid Expansion Tanks: MF-52, MF-53, MH-53, MI-52, and ML-5 HTM Non-Condensable Purges	3			
	III III Condensation Parges	<u>B-273A-3</u>			
	Dimer Storage/Loading Glycol Loading				
3.	3. Are there any storage piles?				
	YES	NO 🖾			
4.	4. List the <u>states</u> that are within 50 miles of your facility.				
	Kentucky, North Carolina, and Virginia				
5.	5. Page number: Revision number:	Date of revision:			
CN	/ of 19 R3-3 SM2 and CP1 CN-1399	August 13, 2021 RDA 1298			

Eastman Chemical Company Tennessee Operations 200 South Wilcox Dr Kingsport, TN 37660 Telephone: (423) 229-2000 ΕΛSTΜΛΝ

MSOP-24

TITLE V PERMIT APPLICATION OPERATIONS AND FLOW DIAGRAMS



Page number:	Revision number:	Date of revision:
8 of 19	R3-3 SM2 and CP1	August 13, 2021



TITLE V PERMIT APPLICATION EMISSION SUMMARY FOR THE FACILITY OR FOR THE SOURCES CONTAINED IN THIS APPLICATION

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Eastman Chemical Company, Tennessee Operations

EMISSIONS SUMMARY TABLE – CRITERIA AND SELECTED POLLUTANTS

2. Complete the following emissions summary for regulated air pollutants at this facility or for the sources contained in this application.

	Summary of Maximum Allowable Emissions ¹		Summary of Actual Emissions ²	
Air Pollutant	Tons per Year	Reserved for State use (Pounds per Hour- Item 4, APC 28)	Tons per Year	Reserved for State use (Pounds per Hour- Item 4, APC 28)
PM-2.5 ³	19.08		N/A	
PM-10 ³	19.08		N/A	
Particulate Matter (TSP)	6.11		N/A	
Sulfur Dioxide	1.51		N/A	
Volatile Organic Compounds	220.69		N/A	
Carbon Monoxide	318.51		N/A	
Lead	0.00		N/A	
Nitrogen Oxides	172.89		N/A	
Total Reduced Sulfur	0.00		N/A	
Mercury	0.00		N/A	
Asbestos	0.00		N/A	
Beryllium	0.00		N/A	
Vinyl Chlorides	0.00		N/A	
Fluorides	0.00		N/A	
Gaseous Fluorides	0.00		N/A	
Greenhouse Gases in CO ₂ Equivalents	487,870		N/A	
		(Continued on next page)		

Page number:	Revision number:	Date of revision:	
9 of 19	R3-3 SM2 and CP1	August 13, 2021	

CN-1410

APC 29 MSOP-24

RDA-1298

	(Continued f	rom previous page)		
EMISSIONS	SUMMARY TABLE	- HAZARDOUS A	IR POLLUTANTS	
3. Complete the following <u>emissions sur</u> this application.	nmary for regulated air polluta	nts that are hazardous air pol	lutant(s) at this facility or fo	or the sources contained in
	Summary of Maximum	Allowable Emissions ¹	Summary of A	actual Emissions ²
Air Pollutant & CAS ⁴	Tons per Year	Reserved for State use (Pounds per Hour- Item 5, APC 28)	Tons per Year	Reserved for State use (Pounds per Hour- Item 5, APC 28)
Total Particulate Hazardous Air Pollutants*	0.00		N/A	
Total Gaseous Hazardous Air Pollutants*	108.72		N/A	
Acetaldehyde (CAS# 75-07-0)	0.94		N/A	
Biphenyl (CAS# 92-52-4)	6.40		N/A	
1,4 Dioxane (CAS# 123-91-1)	0.34		N/A	
Formaldehyde (CAS# 50-00-0)	0.09		N/A	
Hexane (CAS# 110-54-3)	2.25		N/A	
Methanol (CAS# 67-56-1)	68.04		N/A	
m-Xylene (CAS# 108-38-3)	21.66		N/A	
o-Xylene (CAS # 95-47-6)	0.39		N/A	
p-Xylene (CAS# 106-42-3)	0.46		N/A	
HAP not Subject to a Standard	8.15		N/A	
4. Page number: 10 of 19	Revision number: R3-3 SM2 and CP1		Date of revision: August 13, 2021	
CN-1410				RDA-1298

CN-1410

The term "maximum allowable emissions" as used here represents the "allowable emissions" as defined in subparagraph 1200-3-26-.02(2)(d). These emission 1. rates are intended solely for the purposes of fee computation and in no way are to be considered the setting of binding emission limitations.

"Not applicable" (N/A) is indicated unless the responsible official chooses to pay annual emission fees based on actual emissions rather than allowable 2. emissions pursuant to subparagraph 1200-3-26-.02(9)(b).

3. PM-2.5 and PM-10 emissions are also included in particulates (TSP) Emissions and should not be counted in annual emission fee calculations.

4. An asterisk (*) is placed next to each pollutant that is also included in the totals in Item 2



APC 30

MSOP-24

TITLE V PERMIT APPLICATION CURRENT EMISSIONS REQUIREMENTS AND STATUS

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: 2. Emission source number: Eastman Chemical Company, Tennessee Operations All sources included in this application 3. Describe the process emission source / fuel burning installation / incinerator: All sources included in this application **EMISSIONS AND REQUIREMENTS** Identify if only a part of Pollutant 6. Applicable requirement(s): TN Air Pollution Control Regulations, 40 7. Limitations 9. Compliance status 5. 8. Maximum actual the source is subject to CFR, permit restrictions, air quality based standards emissions (In/Out) this requirement 1. All emission units Visible Emissions TAPCR 1200-03-05: Visible Emission Regulations See APC 30 Attachment N/A In and activities 2. All emission units Non-process gaseous TAPCR 1200-03-06-.03(2): General Non-Process Gaseous Emissions See APC 30 Attachment N/A In and activities air contaminants Standards 3. All emission units Non-process TAPCR 1200-03-06: Non-Process Emissions Standards See APC 30 Attachment N/A In and activities particulate matter TAPCR 1200-03-07-.07(2): General Provisions and Applicability for See APC 30 Attachment 4. All emission units Process gaseous air N/A In contaminants Process Gaseous Emission Standards and activities 5. All emission units TAPCR 1200-03-07: Process Emissions Standards See APC 30 Attachment Process particulate N/A In and activities matter Sulfur Dioxide TAPCR 1200-03-14: Control of Sulfur Dioxide Emissions 6. All emission units See APC 30 Attachment N/A In and activities 7. All emission units Fugitive Dust TAPCR 1200-03-08: Fugitive Dust See APC 30 Attachment N/A In and activities 8. All emission units Air Contaminants TAPCR 1200-03-04: Open Burning See APC 30 Attachment N/A In and activities All emission units 9. Asbestos TAPCR 1200-03-11-.02(2)(d): Asbestos standard for demolition and See APC 30 Attachment N/A In and activities renovation 40 CFR Part 61 Subpart M: National Emissions Standards for Asbestos See APC 30 Attachment for additional Emissions and Requirements 10. Other applicable requirements (new requirements that apply to this source during the term of this permit)

 In Page number:
 Revision number:
 Date of revision:

 11 of 19
 R3-3 SM2 and CP1
 August 13, 2021

Eastman Chemical Company Tennessee Operations 200 South Wilcox Dr Kingsport, TN 37660 Telephone: (423) 229-2000

ΕΛSTΜΛΝ

APC 30 Attachment

MSOP-24

APC 30 - Emissions and Requirements Table Continued

	EMISSIONS AND REQUIREMENTS					
4. Id th th	lentify if only a part of e source is subject to is requirement	5. Pollutant	 Applicable requirement(s): TN Air Pollution Control Regulations, 40 CFR, permit restrictions, air quality-based standards 	7. Limitations	8. Maximum actual emissions	9. Compliance status (In/Out)
10.	All emission units and activities	N/A	TAPCR 1200-03-0902(11)(e)1.(iii); TAPCR 1200-03-1004(2)(b)1: Monitoring, Recordkeeping, and Reporting Requirements TAPCR 1200-03-0902(11)(e)3.(i): Compliance Certification	See APC 30 Attachment	N/A	In
11.	All emission units and activities	HAPs	TAPCR 0400-30-38: Emission Standards for Hazardous Air Pollutants	See APC 30 Attachment	N/A	In
12.	All emission units and activities	Air Contaminants	TAPCR 0400-30-39: Standards of Performance for New Stationary Sources	See APC 30 Attachment	N/A	In
13.	Gasoline Dispensing Facilities	HAPs	TAPCR 1200-03-18.24: Gasoline Dispensing Facilities	See APC 30 Attachment	N/A	In
14.	Internal Combustion Engines	Air Contaminants	 TAPCR 0400-30-3801; Stationary Reciprocating Internal Combustion Engines 0400-30-3901; Stationary Compression Ignition Internal Combustion Engines 0400-30-3902; Stationary Spark Ignition Internal Combustion Engines 	See APC 30 Attachment	N/A	In

Page number:	Revision number:	Date of revision:
12 of 19	R3-3 SM2 and CP1	August 13, 2021

ΕΛSTΜΛΝ

MSOP-24

Eastman Chemical Company Tennessee Operations 200 South Wilcox Dr Kingsport, TN 37660 Telephone: (423) 229-2000

APC 30 – Additional Language from Items 6 and/or 7

Limitation 1 (Visible Emissions): With the exception of air emission sources exempt from the requirements of TAPCR Chapter 1200-03-05 and air emission sources for which a different opacity standard is specifically provided elsewhere in this permit, the permittee shall not cause, suffer, allow or permit discharge of a visible emission from any air contaminant source with an opacity in excess of twenty (20) percent for an aggregate of more than five (5) minutes in any one (1)hour or more than twenty (20) minutes in any twenty-four (24) hour period; provided, however, that for fuel burning installations with fuel burning equipment of input capacity greater than 600 million btu per hour, the permittee shall not cause, suffer, allow, or permit discharge of a visible emission from any fuel burning installation with an opacity in excess of twenty (20) percent (6-minute average) except for one six minute period per one (1) hour of not more than forty (40) percent opacity. Sources constructed or modified after July 7, 1992 shall utilize 6-minute averaging.

Consistent with the requirements of TAPCR Chapter 1200-03-20, due allowance may be made for visible emissions in excess of that permitted under TAPCR 1200-03-05 which are necessary or unavoidable due to routine startup and shutdown conditions. The facility shall maintain a continuous, current log of all excess visible emissions showing the time at which such conditions began and ended and that such record shall be available to the Technical Secretary or his representative upon his request.

Limitation 2 (Non-process gaseous emissions): Any person constructing or otherwise establishing a non-portable air contaminant source emitting gaseous air contaminants after April 3, 1972, or relocating an air contaminant source more than 1.0 km from the previous position after November 6, 1988, shall install and utilize the best equipment and technology currently available for controlling such gaseous emissions.

Limitation 3 (Non-process particulate matter): The permittee shall not cause, suffer, allow, or permit particulate emissions from non-process sources in excess of the standards in TAPCR 1200-03-06.

Limitation 4 (Process gaseous emissions): Any person constructing or otherwise establishing an air contaminant source emitting gaseous air contaminants after April 3, 1972, or relocating an air contaminant source more than 1.0 km from the previous position after November 6, 1988, shall install and utilize equipment and technology which is deemed reasonable and proper by the Technical Secretary.

Limitation 5 (Process particulate matter): The permittee shall not cause, suffer, allow, or permit particulate emissions from process sources in excess of the standards in TAPCR 1200-03-07.

Limitation 6 (Sulfur dioxide): The permittee shall not cause, suffer, allow, or permit Sulfur dioxide emissions from process and non-process sources in excess of the standards in TAPCR 1200-03-14. Regardless of the specific emission standard, new process sources shall utilize the best available control technology as deemed appropriate by the Technical Secretary of the Tennessee Air Pollution Control Board.

Limitation 7 (Fugitive dust): The permittee shall not cause, suffer, allow, or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, but not be limited to, the following:

1. Use, where possible, of water or chemicals for control of dust in demolition of existing buildings or structures, construction operations, grading of roads, or the clearing of land;

2. Application of asphalt, oil, water, or suitable chemicals on dirt roads, material stock piles, and other surfaces which can create airborne dusts;

3. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting or other similar operations.

The permittee shall not cause, suffer, allow, or permit fugitive dust to be emitted in such manner to exceed five (5) minutes per hour or twenty (20) minutes per day as to produce a visible emission beyond the property line of the property on which the emission originates, excluding malfunction of equipment as provided in Chapter 1200-03-20.

Limitation 8 (Open Burning): The permittee shall comply with the TAPCR 1200-03-04 for all open burning activities at the facility.

Limitation 9 (Asbestos): Where applicable, the permittee shall comply with the requirements of 1200 03 11 .02(2)(d) when conducting any renovation or demolition activities at the facility.

Page number:	Revision number:	Date of revision:
13 of 19	R3-3 SM2 and CP1	August 13, 2021

Eastman Chemical Company Tennessee Operations 200 South Wilcox Dr Kingsport, TN 37660 Telephone: (423) 229-2000

ΕΛSTΜΛΝ

APC 30 – Additional Language from Items 6 and/or 7

Limitation 10 (Annual certification of compliance): The generally applicable requirements set forth in Section D of this permit are intended to apply to activities and sources that are not subject to source-specific applicable requirements contained in State of Tennessee and U.S. EPA regulations. By annual certification of compliance, the permittee shall be considered to meet the monitoring and related record keeping and reporting requirements of TAPCR 1200-03-09-.02(11)(e)1.(iii) and 1200-03-10-.04(2)(b)1 and compliance requirements of TAPCR 1200-03-09-.02(11)(e)1.(iii) for these conditions annually.

Limitation 11 (Emission Standards for Hazardous Air Pollutants): Where applicable, the permittee shall comply with the Tenn. Comp. R. & Regs. 0400-30-38 for all emission sources subject to a requirement contained therein. Tenn. Comp. R. & Regs. Chapter 0400-30-38.

Limitation 12 (Standards of Performance for New Stationary Sources): Where applicable, the permittee shall comply with the Tenn. Comp. R. & Regs. 0400-30-39 for all emission sources subject to a requirement contained therein. Tenn. Comp. R. & Regs. Chapter 0400-30-39.

Limitation 13 (Gasoline Dispensing Facilities): Where applicable, the permittee shall comply with the Tenn. Comp. R. & Regs. Rule 1200-03-18-.24 for all emission sources subject to a requirement contained therein.

Limitation 14 (Internal Combustion Engines):

- (a) All stationary reciprocating internal combustion engines, including engines deemed insignificant activities and insignificant emission units, shall comply with the applicable provisions of Tenn. Comp. R. & Regs. 0400-30-38-.01.
- (b) All stationary compression ignition internal combustion engines, including engines deemed insignificant activities and insignificant emission units, shall comply with the applicable provisions of Tenn. Comp. R. & Regs. 0400-30-39-.01.
- (c) All stationary spark ignition internal combustion engines, including engines deemed insignificant activities and insignificant emission units, shall comply with the applicable provisions of Tenn. Comp. R. & Regs. 0400-30-39-.02. Tenn. Comp. R. & Regs. 0400-30-38 and 39

Page number:	Revision number:	Date of revision:
14 of 19	R3-3 SM2 and CP1	August 13, 2021



TITLE V PERMIT APPLICATION **COMPLIANCE PLAN AND COMPLIANCE CERTIFICATION** GENERAL IDENTIFICATION AND DESCRIPTION

1.	Facility name: Eastman Chemical Company, Tennessee Operations			
2.	List all the process emission source(s) or fuel burning installation(s) or incinerator(s) that are part of this applica See APC 1 Item 16 for a listing of sources.	tion.		
CC	OMPLIANCE PLAN AND CERTIFICATION			
3.	Indicate that source(s) which are contained in this application are presently in compliance with all applicable required to the source of the	uirements, by checking the following:		
	\square A. Attached is a statement of identification of the source(s) currently in compliance. We will continue to assure compliance with all the applicable requirements for the duration of the permit.	e to operate and maintain the source(s)		
	B APC 30 form(s) includes new requirements that apply or will apply to the source(s) during the tern requirements on a timely basis.	n of the permit. We will meet such		
4.	Indicate that there are source(s) that are contained in this application which are not presently in full compliance,	by checking both of the following:		
	A. Attached is a statement of identification of the source(s) not in compliance, non-complying requirement(s), brief description of the problem, and the proposed solution.			
	B. We will achieve compliance according to the following schedule:			
Act	ion	Deadline		
	Progress reports will be submitted:			
	Start date: and every 180 days thereafter until compliance is achieved.			
5.	State the compliance status with any applicable compliance assurance monitoring and compliance certification reunder section $114(a)(3)$ of the Clean Air Act as of the date of submittal of this APC 31.	equirements that have been promulgated		
	Compliance Status: IN 🛛 OUT 🔲 N/A 🗍			
6.	Page number: Date 15 of 19 P3-3 SM2 and CP1	of revision:		
	130117 K3-3 Sivi2 and C11 Aug	UST 15, 2021		



DEPARTMENT OF ENVIRONMENT AND CONSERVATION DIVISION OF AIR POLLUTION CONTROL William R. Snodgrass Tennessee Tower 312 Rosa L. Parks Avenue, 15th Floor, Nashville, TN 37243 Telephone: (615) 532-0554, Email: <u>Air.Pollution.Control@TN.gov</u>

TITLE V FEE SELECTION

		Type or print and	l submit to the	email address above.	
1 Organization	's legal name and	I SOS control nu	mber [as regist	ered with the TN Secretary	of State (SOS)]
Eastman Chemic	al Company: 000	270913		crea with the Try Secretary	or sure (505)]
2. Site name (if	different from leg	al name)			
Tennessee Opera	ations	,			
3. Site address (St./Rd./Hwy.)				County name
200 South Wilco	ox Drive				Sullivan
City					Zip code
Kingsport					37660
4. Emission sour	ce reference num	ber		5. Title V permit number	
82-0003 MSOP-	24			576162	
			FEE SELE	ECTION	
This fee selection new Fee Selection period.	n is effective begi on form is submit	nning January I ted. Fee Selection	<u>, 2021</u> forms must be	When approved, the submitted on or before D	his selection will be effective until a ecember 31 of the annual accounting
6. Payment Sch	edule (choose on	e):			
Calendar Yea	ar Basis (January	l – December 31)	\boxtimes	Fiscal Year Bas	sis (July 1 – June 30)
7. Payment Bas	is (choose one):				
Actual Emission	s Basis 🗌 🛛 A	llowable Emissior	ns Basis 🔀	Combination of Actual as	nd Allowable Emissions Basis
8. If Payment B each permit	asis is "Actual En ted source and eac	nissions" or "Com ch pollutant for wh	bination of Act iich fees are du	tual and Allowable Emissic e for that source. See instru	ons", complete the following table for actions for further details.
		Allowabla	If allow	able emissions: Specify co	ondition number and limit.
Source ID	Pollutant	or Actual Emissions	If actu examp	al emissions: Describe ca ple. Provide condition nun applica	culation method and provide nber that specifies method, if ıble.
CN-1583 (Rev. 4-	-19)				RDA-1298
Page Number: 16 of 19		Revision R3-3 SM	Number: A2 and CP1	Date Aug	of Revision: ust 13, 2021

8. (Continued)						
		Allowable	If a	allowable er	missions: Specify co	ondition number and limit.
Source ID	Pollutant	or Actual Emissions	If ez	f actual emis xample. Pro	ssions: Describe cal ovide condition nun applica	lculation method and provide nber that specifies method, if able.
			CONTACT	INFODM	ATION	
9 Billing contac	rt		CUNTACT		Phone number with :	area code
Tracy Venett				((423) 229-5230	
Mailing address	s (St./Rd./Hwy.)			I	Fax number with are	ea code
P.O. Box 511	· · ·			((423) 224-7213	
City		State	Zip code	I	Email address	
Kingsport		TN	37662	<u>t</u>	venett@eastman.co	<u>m</u>
		SIC	SNATURE B	BY RESPO	NSIBLE OFFIC	IAL
Based upon info certify that the ir 39-16-702(a)(4).	ormation and belief of this declaration is i	formed after d in the subi made under	er reasonable in nittal is accura penalty ofperju	inquiry, I, as ate and true to ury.	the responsible per o the best of my kno	rson of the above-mentioned facility, weldge. As specified in TCA Section
10. Signature			1 7 1 5	5		Date
See APC Index I	Form					See APC Index Form
Signer's na	me (type or print)		Title			Phone number with area code
Bill Fritsch	_ /		Division Mar	nufacturing I	Leader, Plastics	(423) 229-6860
CN-1583 (Rev. 4-	19)					RDA-1298

Page Number:	Revision Number:	Date of Revision:
17 of 19	R3-3 SM2 and CP1	August 13, 2021

ΕΛSTΜΛΝ

Mutual Agreement to Establish More Restrictive Emissions Limits

TAPCR References	Rule Section
1200-03-0501(3)	General Visible Emission Standards
1200-03-0601(7)	General Non-Process Emissions Standards
1200-03-0701(5)	General Process Particulate Emissions Standards
1200-03-1401(5)	General Provisions for Control of Sulfur Dioxide Emissions
1200-03-2602(6)	Administrative Fees Schedule

Pursuant to the Tennessee Air Pollution Control Regulations (TAPCR) referenced above, upon mutual agreement of the owner or operator of any air contaminant source and the Technical Secretary, an emission limit more restrictive than that otherwise specified in the applicable Chapter may be established. In addition, these more restrictive regulatory requirements may be established to minimize the allowable emissions and thus the annual emission fee. The regulations require that each emission limit be stated as a special condition for any permit or order issued concerning the applicable source. They also state that a violation of this agreed to, more stringent emission standard is grounds for revocation of the issued permit and/or other enforcement measures provided for in the Tennessee Air Quality Act. Eastman would like to agree to more restrictive emissions limits being established for the PESs listed below:

PES	Pollutant(s)	Requested Limit and Compliance Method
B-221-3	Particulate Matter, Sulfur Dioxide	
B-237A-3	Particulate Matter, Sulfur Dioxide	
B-238-1	Particulate Matter, Sulfur Dioxide	Limits and periodic monitoring specified in the
B-238-2	Particulate Matter, Sulfur Dioxide	applicable Title V applications
B-368-1	Particulate Matter, Sulfur Dioxide	
H2 Plants	Particulate Matter, Sulfur Dioxide	

Page Number:	Revision Number:	Date of Revision:
18 of 19	R3-3 SM2 and CP1	August 13, 2021

ΕΛSTΜΛΝ

Request for Permit Shield

Choose one of the following...

□ This submittal does not qualify for permit shield [operational flexibility; 502(b)(10); minor modification]

Eastman Chemical Company requests a permit shield pursuant to TAPCR 1200-03-09-.02(11)(e)6.

TAPCR 1200-03-09-.02(11)(e)

6. Permit Shield

- (i) Except as provided in paragraph 1200-03-09-.02(11), the Technical Secretary shall if requested by the applicant, expressly include in a permit issued pursuant to paragraph 1200-03-09-.02(11) a provision stating that compliance with the conditions of the permit shall be deemed compliance with any applicable requirements as of the date of permit issue, provided that:
 - (I) Such applicable requirements are included and are specifically identified in the permit; or
 - (II) The Technical Secretary, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.
- (ii) A permit issued pursuant to paragraph 1200-03-09-.02(11) that does not expressly state that a permit shield exists shall be presumed not to provide such a shield.
- (iii) Nothing in this part or in any permit issued pursuant to paragraph 1200-03-09-.02(11) shall alter or affect the following:
 - (I) The provisions of section 303 of the federal Act (emergency orders), including the authority of the Administrator under that section. Similarly, the provisions of T.C.A. 68-201-109 (emergency orders) including the authority of the Governor under the section;
 - (II) The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
 - (III) The applicable requirements of the acid rain program, consistent with section 408(a) of the federal Act; or
 - (IV) The ability of EPA to obtain information from a source pursuant to section 114 of the federal Act.

END OF GENERAL FORMS (ENTIRE SOURCE)

Page number:	Revision Number:	Date of Revision:
19 of 19	R3-3 SM2 and CP1	August 13, 2021



Tennessee Operations 200 South Wilcox Dr Kingsport, TN 37660 Telephone: (423) 229-2000

Title V Operating Permit Application

Application Forms

MSOP-24 PES B-221-3 Glycol Plants

Page Number:	Revision Number:	Date of Revision:
1 of 56	R3-3 SM2 and CP1	August 13, 2021



APC 10 MSOP-24

TITLE V PERMIT APPLICATION MISCELLANEOUS PROCESSES

1.	Facility name: Eastman Chemical Com	nany Tennessee Operations			
2	Process emission source (i	lentify).			
2.	PES B-221-3	winny).			
3.	Stack ID or flow diagram p	point identification(s):	4. Year of constru	ction or last modification	ation:
	See APC 10 Attachmen	t	2018		
	If the emissions are control	led for compliance, attach an appropriate A	ir Pollution Control	system form.	
5.	Normal operating schedule	: <u>24</u> Hrs./Day <u>7</u> Days/Wk. <u>365</u> Days/Y	r.		
6.	Location of this process en	nission source in UTM coordinates:	UTM Vertical:	4042700 N UTM	Horizontal: <u>362300 E</u>
7.	Describe this process (Plea	se attach a flow diagram of this process) an tinuous	d check one of the f	ollowing:	
		PROCESS MATE	RIAL INPUT A	ND OUTPUT	
8.	List the types and amounts	of raw materials input to this process:			
	Material	Storage/Material handling proce	ss Ave	rage usage (units)	Maximum usage (units)
	Hydrogen (1)	Closed Pipe		CBI	CBI
	Ester (2)	Closed Pipe		CBI	CBI
	Additive (3)	Tanks/Closed Pipe		CBI	CBI
9.	List the types and amounts	of primary products produced by this proce	ess:		
			A.v.e	age usage Amount	Maximum usaga Amount
	Material	Storage/Material handling proce	ss P	roduced (units)	Produced (units)
	Crude Glycol (4)	Closed Pipe		CBI	CBI
10.	Process fuel usage:		·		
	Type of fuel	Max heat input (10 ⁶ BTU/Hr.)	Ave	rage usage (units)	Maximum usage (units)
	N/A	N/A		N/A	N/A
11.	List any solvents, cleaners,	etc., associated with this process:	I		
	N/A If the emissions and/or one	rations of this process are monitored for co	mpliance please att	och the appropriate C	ompliance Demonstration form
12.	Describe any fugitive emis	sions associated with this process, such as c	outdoor storage piles	s, open conveyors, op	en air sand blasting, material handling
	operations, etc. (please atta	ch a separate sheet if necessary).	0 1	· • • • • • • •	<i></i>
L	Equipment leaks such a	as pumps, valves, flanges, etc.			
Pag	e Number:	Revision Number:	D1	Date	e of Revision:
_ 2 0 	.1407	K3-3 SIV12 and C	11	Au	gust 13, 2021 RDA 1298

ΕΛSTΜΛΝ

Eastman Chemical Company Tennessee Operations 200 South Wilcox Dr Kingsport, TN 37660 Telephone: (423) 229-2000 APC 10 Attachment

TITLE V PERMIT APPLICATION MISCELLANEOUS PROCESSES





MSOP-24

TITLE V PERMIT APPLICATION **STACK IDENTIFICATION**

	GENERAL IDENTII	FICATI	ON AND DE	SCRIPTION	
1.	Facility name: Eastman Chemical Company, Tennessee Operations				
2.	Emission source (identify): PES B-221-3				
	STACK	DESCH	IPTION		
3.	Stack ID (or flow diagram point identification): E				
4.	Stack height above grade in feet: 59				
5.	Velocity (data at exit conditions): 32.1 (Actual feet per second)	6. Ins 0.6	de dimensions a 65	t outlet in feet:	
7.	Exhaust flow rate at exit conditions (ACFM): 669	8. Flo 64	w rate at standar S	d conditions (DSCFM):	
9.	Exhaust temperature:	10. Mc	isture content (d	ata at exit conditions):	
	<u>64</u> Degrees Fahrenheit (°F)	NE	G Percent		foot (gr./dscf)
11.	Exhaust temperature that is equaled or exceeded during ninety (90) percent	ent or mo	e of the operatin	g time (for stacks subjec	t to diffusion equation only):
		<u>N/A</u> (*	F)		
12.	If this stack is equipped with continuous pollutant monitoring equipmer SO ₂ , NO ₂ , etc.)? N/A	it required	for compliance,	what pollutant(s) does th	is equipment monitor (e.g., Opacity,
	Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each source	ce exhaust	ng through this	stack.	
	BYPASS S	TACK	DESCRIPTI	ON	
13	Do you have a bypass stack?	\boxtimes	No		
	If yes, describe the conditions which require its use & complete APC for number(s) exhausting through this bypass stack.	rm 4 for tl	e bypass stack.	Please identify the stack	number(s) of flow diagram point
Page	e number: Revision number:			Date of revision	:
4 of	f 56 R3-3 SM2 and CP	1		August 13, 20	21
UN-	1400				KDA 1298



MSOP-24

TITLE V PERMIT APPLICATION **STACK IDENTIFICATION**

	GENERAL IDENTI	FICA	ATION AND DESCRIPTION	
1.	Facility name: Eastman Chemical Company, Tennessee Operations			
2.	Emission source (identify): PES B-221-3			
	STACK	DES	SCRIPTION	
3.	Stack ID (or flow diagram point identification): F			
4.	Stack height above grade in feet: 30	-		
5.	Velocity (data at exit conditions): <u>17.4</u> (Actual feet per second)	6.	Inside dimensions at outlet in feet: 0.34	
7.	Exhaust flow rate at exit conditions (ACFM): 94.9	8.	Flow rate at standard conditions (DSCFM): 85.4	
9.	Exhaust temperature:	10.	Moisture content (data at exit conditions):	
	85 Degrees Fahrenheit (°F)		<u>3</u> Percent	Grains per dry standard cubic foot (gr./dscf)
11.	Exhaust temperature that is equaled or exceeded during ninety (90) per	cent of	r more of the operating time (for stacks subject	et to diffusion equation only):
		<u>N</u>	/ <u>A</u> (°F)	
12.	If this stack is equipped with continuous pollutant monitoring equipmer SO ₂ , NO ₂ , etc.)? N/A	nt requ	aired for compliance, what pollutant(s) does the	his equipment monitor (e.g., Opacity,
	Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each sour	ce exł	nausting through this stack.	
	BYPASS S	TAC	CK DESCRIPTION	
13	Do you have a bypass stack?		🛛 No	
	If yes, describe the conditions which require its use & complete APC for number(s) exhausting through this bypass stack.	orm 4	for the bypass stack. Please identify the stack	number(s) of flow diagram point
Pag	e number: Revision number:	1	Date of revision	1:
CN.	1400 K3-3 SM2 and CP	1	August 13, 20	RDA 1298



MSOP-24

TITLE V PERMIT APPLICATION **STACK IDENTIFICATION**

1. Facility name: Eastman Chemical Company, Tennessee Operations 2. Emission source (identify): PES B-221-3 STACK DESCRIPTION 3. Stack ID (or flow diagram point identification): J 4. Stack height above grade in feet: 45 5. Velocity (data at exit conditions): <u>11.9</u> (Actual feet per second) 6. Inside dimensions at outlet in feet: 0.5 7. Exhaust flow rate at exit conditions (ACFM): 966.9
2. Emission source (identify): PES B-221-3 STACK DESCRIPTION 3. Stack ID (or flow diagram point identification): J 4. Stack height above grade in feet: 45 5. Velocity (data at exit conditions): 11.9 (Actual feet per second) 6. Inside dimensions at outlet in feet: 0.5 7. Exhaust flow rate at exit conditions (ACFM): 966.9 8. Flow rate at standard conditions (DSCFM): 804.1
STACK DESCRIPTION 3. Stack ID (or flow diagram point identification): J 4. Stack height above grade in feet: 45 5. Velocity (data at exit conditions): <u>11.9</u> (Actual feet per second) 6. Inside dimensions at outlet in feet: 0.5 7. Exhaust flow rate at exit conditions (ACFM): 966.9 8. Flow rate at standard conditions (DSCFM): 804.1
 Stack ID (or flow diagram point identification): J Stack height above grade in feet: 45 Velocity (data at exit conditions): <u>11.9</u> (Actual feet per second) Inside dimensions at outlet in feet: 0.5 Exhaust flow rate at exit conditions (ACFM): 966.9 Flow rate at standard conditions (DSCFM): 804.1
 4. Stack height above grade in feet: 45 5. Velocity (data at exit conditions): <u>11.9</u> (Actual feet per second) 6. Inside dimensions at outlet in feet: 0.5 7. Exhaust flow rate at exit conditions (ACFM): 966.9 8. Flow rate at standard conditions (DSCFM): 804.1
 5. Velocity (data at exit conditions): 11.9 (Actual feet per second) 6. Inside dimensions at outlet in feet: 0.5 7. Exhaust flow rate at exit conditions (ACFM): 966.9 8. Flow rate at standard conditions (DSCFM): 804.1
 Exhaust flow rate at exit conditions (ACFM): 966.9 8. Flow rate at standard conditions (DSCFM): 804.1
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
9. Exhaust temperature: 10. Moisture content (data at exit conditions):
<u>60</u> Degrees Fahrenheit (°F) <u>14.4</u> Percent Grains per dry foot (gr./dscf)
11. Exhaust temperature that is equaled or exceeded during ninety (90) percent or more of the operating time (for stacks subject to diffusion equ
N/A (°F)
 If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monotopic solution solution (s) does the sequipment monotopic solution of solution (s) does the sequipment monotopic solution (s) does the sequence solution (s) does
Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each source exhausting through this stack.
BYPASS STACK DESCRIPTION
13 Do you have a bypass stack?
If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flo number(s) exhausting through this bypass stack.
Page number: Revision number: Date of revision:
6 of 56 R3-3 SM2 and CP1 August 13, 2021



TITLE V PERMIT APPLICATION STACK IDENTIFICATION

	GENERAL IDENTIFICATION AND DESCRIPTION									
1.	Facility name: Eastman Chemical Company, Tennessee Operations									
2.	Emission source (identify): PES B-221-3									
	STACK DESCRIPTION									
3.	Stack ID (or flow diagram point identification): J1									
4.	Stack height above grade in feet: 40									
5.	Velocity (data at exit conditions): <u>1.25</u> (Actual feet per second)	 Inside dimensions at outlet in feet: 0.33 								
7.	Exhaust flow rate at exit conditions (ACFM): 26	 Flow rate at standard conditions (DSCI 24 	FM):							
9.	Exhaust temperature:	10. Moisture content (data at exit condition	ns):							
	80.0 Degrees Fahrenheit (°F)	2.2 Percent	Grains per dry standard cubic foot (gr./dscf)							
11.	Exhaust temperature that is equaled or exceeded during ninety (90) per	cent or more of the operating time (for stacks s	ubject to diffusion equation only):							
		<u>N/A</u> (°F)								
12.	If this stack is equipped with continuous pollutant monitoring equipmen SO ₂ , NO ₂ , etc.)? N/A	nt required for compliance, what pollutant(s) d	oes this equipment monitor (e.g., Opacity,							
	Complete the appropriate APC form(s) 4, 5, 7, 8, 9, or 10 for each sour	ce exhausting through this stack.								
	BYPASS S	TACK DESCRIPTION								
13	Do you have a bypass stack?	🖂 No								
	If yes, describe the conditions which require its use & complete APC for number(s) exhausting through this bypass stack.	orm 4 for the bypass stack. Please identify the	stack number(s) of flow diagram point							
Page	e number: Revision number:	Date of rev	vision:							
7 of	f 56 R3-3 SM2 and CP	1 August 1	3, 2021							
CN-	-1400		RDA 1298							

MSOP-24



TITLE V PERMIT APPLICATION STORAGE TANKS

GENERAL IDENTIFICATION AND DESCRIPTION										
1.	Facility name: Eastman Chemical Company, Tannessee On	arations								
2	Process emission source (identify):									
2.	PES B-221-3									
	STORAGE TANK DESCRIPTION									
3.	Storage tank identification:		3a. Vent ID:							
4	UD-30	coordinates	AI UTM Vortical: 404280	0 N	UTM Horizontal: 362300 E					
4.	Storage tank capacity: 6 Vear of ins	tallation:	7 Tank height	<u>U IN</u>	8 Tank diameter:					
5.	18,050 (Gallons) 1968		12.0 (Feet)		16.0 (Feet)					
9.	Color of tank:	te 🛛 Other	Specify Unpainted							
10.	Is this tank equipped with a submerged fill pipe?		🛛 Yes	No						
11.	Type of storage tank:	1 0		10						
	Upen top tank	d roof	Variable vapor space	l floating roof	U Other (specify)					
12	For fixed roof tanks:	inal noating 1001		-						
A. T	Tank configuration (check one): X Vertical (uprigh	t cylinder)	Horizontal	Sphere						
В. Т	ank roof type: (check one):	of – indicate tank roo	of height (feet)	The tank roof h	eight is not relevant since the outage height					
	🛛 Dome r	oof – indicate tank ro	of height 2.14 (feet)	is measured for	m the liquid surface of the tank to the top of					
	Indicate sh	ell radius 8.0 (feet)		the tank roof						
	F	LOATING ROO	OF TANK DESCRI	PTION						
13.	For floating Roof tanks (both internal and external) - shell condition (c	heck one): Not Applicab	le						
	Light rust	Dense rust		Gui	nite lined					
14.	For External Floating Roof tanks: Not Applicab	le		р.						
	A. Tank construction (check one):	Welded tank		Riv	eted tank					
	P. Pim Soal system description (shock one);									
	Shoe Mounted Primary	Vapor Mounted, Pr	imary	uid Mounted Primary						
	Shoe Primary, Rim Secondary	Vapor Primary, Rir	n Secondary	uid Primary, Rim Secondary						
	Liquid Primary w/Weather Shield	Shoe Primary and S	Secondary Vapor Primary w/Weather Shield							
	C. Roof type (check one):	Pontoon roof	Double Deck roof							
	D. Roof fitting types (indicate the number of each	type):								
	Access Hatch (24" Diameter well)	Unslotted Guide-P	ole Well	~						
	Bolted cover, gasketed	(8" Diameter Unsl	otted Pole, 21" Dia. Well)	Gauge-F	loat Well (20" Diameter)					
	Unbolted cover, gasketed	Ungasketed sliding	g cover	Unbolted	cover, ungasketed					
	Unbolted cover, ungasketed	Gasketed sliding c	over	Bolted co	over, gasketed					
	C = H + 1/C = 1 W H (0.2 D')	V D I (Donica et	, e., gamered					
	Gauge Hatch/Sample Well (8" Dia.)	Vacuum Breaker (Weighted Meehen	10 ^{°′} Dia. Well)	Roof Dra	in					
	Actuation Gasketed	Actuation Gasket	ed	Open						
	Weighted Mechanical	Weighted Mechan	ical	000/ 01						
	Actuation Ungasketed	Actuation Ungasl	ceted	90% Clo	sed					
	Slotted Guide Dolo/Sample Wall	g (2 ½" Dia.)								
	Ungasketed Sliding Cover, without Float	Adjustable, Pontoc	n area	Adjustab	le, Pontoon area					
	Ungasketed Sliding Cover, with Float	Adjustable, Center	area	Adjustab	le, Center area					
Gasketed Sliding Cover, without Float Adjustable, Control			e-Deck roofs	Adjustab	le, Double-Deck roots					
	Gasketed Sliding Cover, with Float	Fixed		F1X6	cu					
L										
Page	e number:	Revision number:	. 1	Date of r	evision:					
8 of	50	K3-3 SM2 and CP	'1	August	13, 2021					
CN-	1403				RDA 1298					

MSOP-24

103

APC 6

MSOP-24

15. For Internal Floating Roof tanks: Not Applicable										
A. Rim Seal	A. Rim Seal system description:									
Liquid Mo Vapor Mo	Liquid Mounted PrimaryLiquid Mounted Primary plus Secondary SealVapor Mounted PrimaryVapor Mounted Primary plus Secondary Seal									
B. Number o	f Columns:			D.	Deck Type	e (check one):	Welded	Bolted		
C. Effective	C. Effective Column diameter: (Feet) E. Total Deck					k Seam length:	(Feet)			
F. Deck Area	a:	(Square]	Feet)							
G. Deck Fitti	G. Deck Fitting types (indicate the number of each type):									
Access Hatch (24" Dia.)Automatic Gauge Float WellColumn WellBolted cover, gasketedBolted cover, gasketedBuilt-up Column-Sliding cover, gasketedUnbolted cover, gasketedUnbolted cover, gasketedBuilt-up Column-Sliding cover, ungasketedUnbolted cover, ungasketedUnbolted cover, ungasketedPipe Column-Sliding cover, ungasketedPipe Column-Sliding cover, ungasketedPipe Column-Sliding cover, ungasketedPipe Column-Sliding cover, ungasketed							ed keted Il			
Ladder we Sliding co Sliding co Sliding co Sample W Stub Dra	ell ver, gasketed ver, ungaske /ell-Slit fabri in, 1-inch dia	l ted c seal, 10% open area meter	Sample Pipe and Slotted Pipe-Slic Slotted Pipe-Slic	l Well ling cover ling cover	, gasketed , ungasketec	1	Roof Leg Adjustabl Fixed	g or Hanger Well le		
Vacuum E Weighted Weighted	Breaker Mechanical A Mechanical A	Actuation, gasketed Actuation, ungasketed								
16. For variable v Volume exp	vapor space ta	anks: Not Applicable acity (Gallons)	2							
		TAN	K CONTENTS A	AND OI	PERATIO	ON DESCRIPTI	ON			
17. Complete the	flowing tabl	e for materials to be st	ored in this tank:							
Material or component stored	Wt. %	Material Annual Throughput (1000 Gal./Yr.)‡	Material stored Daily Average (Gallons)‡	Com Mol weights M	ponent lecular s (Lb./Lb. lole)	Component Vapor Pressures (PSIA)	Material storage pressure (PSIA)‡	Material average storage temp. (Deg. F)‡		
VOC 100 216			12,034	38	8.49	8.76	14.10	284		
Multipurpose tank	with variable	e composition:		□ Y	es		🛛 No			
18. Describe the Ester Storag	18. Describe the operation this tank will serve: Ester Storage Tank									
Page number: 9 of 56	Page number: Date of revision: 9 of 56 R3-3 SM2 and CP1 August 13, 2021									

‡Value shown is for the mixture.

CN-1403



APC 6 MSOP-24

TITLE V PERMIT APPLICATION STORAGE TANKS

GENERAL IDEN IIFICATION AND DESCRIPTION									
1. Facility name: Eastman Chemica	Company, Tennessee	Operations							
2. Process emission sou PES B-221-3	rce (identify):								
		STORAGE 7	TANK DESCR	IPTION					
3. Storage tank identifi JT-53	cation:		3a. Vent ID: B						
4. Location of the stora	ge tank or tank farm in UT	M coordinates:	UTM Vertical: 4	042710 N	UTM Horizontal: 362247	E			
5. Storage tank capacit 13500 (Gallons)	y: 6. Year of 1987	installation:	7. Tank height 16.0 (Feet)		8. Tank diameter: 12.0 (Feet)				
9. Color of tank:		Vhite 🛛 Other	Specify Insulated	Tank					
10. Is this tank equipped	with a submerged fill pipe	?	🛛 Yes	No No					
11. Type of storage tank Open top tank Pressurized tank	: A F D F	ixed roof xternal floating roof	☐ Fixed roof w/i ☐ Variable vapo	nternal floating roof r space	Other (spec	ify)			
12. For fixed roof tanks: A. Tank configuration (check one): Vertical (upright cylinder) B. Tank roof type: (check one): Cone roof – indicate tank roof height(feet) Momer Dome roof – indicate tank roof height 1.61 Image: Cone roof – indicate tank roof height 1.61 Indicate shell radius 6.0 (feet)									
		FLOATING RO	OF TANK DES	CRIPTION					
13. For floating Roof tan Light rust	13. For floating Roof tanks (both internal and external) – shell condition (check one): Not Applicable Light rust Dense rust Gunite lined								
14. For External Floating Roof tanks: Not Applicable A. Tank construction (check one): Welded tank Riveted tank									
B. Rim Seal system Shoe Mounted Shoe Primary, Liquid Primary	description (check one): Primary Rim Secondary w/Weather Shield	Vapor Mounted, P Vapor Primary, Ri Shoe Primary and	'rimary m Secondary Secondary	Liquid Mounted Primary Liquid Primary, Rim Secondary Vapor Primary w/Weather Shield					
C. Roof type (check	one):	Pontoon roof	Double Deck roof						
D. Roof fitting type	s (indicate the number of e	ach type):							
Access Hatch Bolted cover, Unbolted cov Unbolted cov Gauge Hatch Weighted Me	(24" Diameter well) gasketed er, gasketed er, ungasketed Sample Well (8" Dia.) chanical	Unslotted Guide- (8" Diameter Uns Ungasketed slidin Gasketed sliding o Vacuum Breaker Weighted Machar	Pole Well lotted Pole, 21" Dia. g cover cover (10" Dia. Well) pical	Well) Gaug Unbu Unbu Bolta Roof	ge-Float Well (20" Diameter) olted cover, ungasketed olted cover, gasketed ed cover, gasketed 5 Drain				
Actuation G Weighted Me Actuation U	asketed chanical ngasketed	Actuation Gaske Weighted Mechar Actuation Ungas	eted nical sketed	Oper 90%	n Closed				
Slotted Guide Ungasketed S Ungasketed S Gasketed Slic Gasketed Slic	-Pole/Sample Well liding Cover, without Float liding Cover, with Float ing Cover, without Float ing Cover, with Float	t Roof Leg (3" Dia Adjustable, Ponto Adjustable, Cente Adjustable, Doub Fixed	.) ion area ir area le-Deck roofs	Roof Adju Adju Adju	ELeg (2 1⁄2" Dia.) Istable, Pontoon area Istable, Center area Istable, Double-Deck roofs Fixed				
Page number: 10 of 56		Revision number: R3-3 SM2 and C	P1	Date Aug	of revision: ust 13, 2021				

CN-1403

APC 6

MSOP-24

15. For Internal F	Floating Roof	tanks: Not Applica	ble							
A. Rim Seal	A. Rim Seal system description:									
Liquid Mo Vapor Mo	Liquid Mounted PrimaryLiquid Mounted Primary plus Secondary SealVapor Mounted PrimaryVapor Mounted Primary plus Secondary Seal									
B. Number o	B. Number of Columns: D. Deck Type (check one)							Bolted		
C. Effective	Column diam	neter:	(Feet)	E.	Total Decl	x Seam length:	(Feet)			
F. Deck Area	a:	(Square	Feet)							
G. Deck Fitti	G. Deck Fitting types (indicate the number of each type):									
Access Ha Bolted co Unbolted Unbolted Pipe Colur Pipe Colur	atch (24" Dia ver, gasketed cover, gasket cover, ungash nn-Sliding co nn-Sliding co	.) ed keted over, gasketed over, ungasketed	Automatic Gauge Fl Bolted cover, gasket Unbolted cover, gask Unbolted cover, ung	oat Well ed keted asketed		-Sliding cover, gasketed -Sliding cover, ungasketed xible fabric sleeve seal				
Ladder we Sliding co Sliding co Sample W Stub Drai	ell over, gasketed over, ungasket /ell-Slit fabrid in, 1-inch dia	l ted c seal, 10% open area meter	Sample Pipe and Well Slotted Pipe-Sliding cover, gasketed Slotted Pipe-Sliding cover, ungasketed			I	Roof Leg or Hanger Well Adjustable Fixed			
Vacuum E Weighted Weighted	Breaker Mechanical A Mechanical A	Actuation, gasketed Actuation, ungasketed								
16. For variable v	vapor space ta	anks: Not Applicab	le							
v ofutite exp	Jansion capa	TAN	K CONTENTS A	AND O	PERATIO	ON DESCRIPTI	ON			
17. Complete the	flowing table	e for materials to be st	ored in this tank:							
Material or component stored	Wt. %	Material Annual Throughput (1000 Gal./Yr.)‡	Material stored Daily Average (Gallons)‡	Com Mol weight	nponent lecular s (Lb./Lb. fole)	Component Vapor Pressures (PSIA)	Material storage pressure (PSIA)‡	Material average storage temp. (Deg. F)‡		
VOC	90	4820	10116	14	4.21	0.01	14.10	240		
Water	10			1	8.02	11.74				
Multipurpose tank	with variable	e composition:		L 7	í es		🖄 No			
Refined Glv	operation this col Storage	s tank will serve:								
Page number: 11 of 56	Page number: Date of revision: 11 of 56 R3-3 SM2 and CP1 August 13 2021									
‡Value shown is fo	‡Value shown is for the mixture.									

CN-1403

RDA 1298



APC 6

MSOP-24

TITLE V PERMIT APPLICATION STORAGE TANKS

GENERAL IDENTIFICATION AND DESCRIPTION									
1. Facility name:									
Eastman Chemical Company, Tennessee Op	erations								
2. Process emission source (identify): PFS B-221-3									
STORAGE TANK DESCRIPTION									
3. Storage tank identification:		3a. Vent ID:							
CG-100		B1							
4. Location of the storage tank or tank farm in UTM coordinates: UTM Vertical: <u>4042800 N</u> UTM Horizontal: <u>362300 E</u>									
5. Storage tank capacity: 6. Year of ins	stallation:	7. Tank height	8. Tank diameter:						
7080 (Gallons) 1959		12.0 (Feet)	10.0 (Feet)						
9. Color of tank: Whi	te 🖄 Other	Specify Unpainted Aluminum							
10. Is this tank equipped with a submerged fill pipe?									
$\Box \text{ Open top tank} \qquad \qquad$	ed roof	Fixed roof w/internal floati	ng roof Other (specify)						
Pressurized tank Exte	ernal floating roof	Variable vapor space							
12. For fixed roof tanks:	•. • • · ·								
A. Tank configuration (check one): X Vertical (uprig	t cylinder)	Horizontal Spher	e						
\square Concerts \square Concerts \square Dome to	roof - indicate tank root	of height 1 34 (feet)							
Indicate sh	ell radius 5.0 (feet)	(reet)							
F	LOATING ROO	F TANK DESCRIPTIO)N						
13. For floating Roof tanks (both internal and externa	l) – shell condition (ch	eck one): Not Applicable							
Light rust	Dense rust		Gunite lined						
14. For External Floating Roof tanks: Not Applicab	Wellie deserve		Directo d to ula						
A. Tank construction (cneck one):	welded tank		Riveled tank						
B. Rim Seal system description (check one):									
Shoe Mounted Primary	Vapor Mounted, Prir	mary	Liquid Mounted Primary						
Shoe Primary, Rim Secondary	Vapor Primary, Rim	Secondary	Liquid Primary, Rim Secondary						
Liquid Primary w/Weather Shield	Shoe Primary and Se	secondary vapor Primary w/ weather Shield							
C. Roof type (check one):	Pontoon roof	Double Deck roof							
D Roof fitting types (indicate the number of each	type).								
D. Root mang types (indicate the number of each	rtype).								
Access Hatch (24" Diameter well)	Unslotted Guide-Po	le Well							
Bolted cover, gasketed	(8" Diameter Unslot	tted Pole, 21" Dia. Well)	Gauge-Float Well (20" Diameter)						
Unbolted cover, gasketed	Ungasketed sliding	cover	Unbolted cover, ungasketed						
onooned cover, ungasketed	Gasketed sliding co	ver	Bolted cover, gasketed						
Gauge Hatch/Sample Well (8" Dia.)	Vacuum Breaker (1)	0" Dia Well)							
Weighted Mechanical	Weighted Mechanic	cal	Roof Drain						
Actuation Gasketed	Actuation Gaskete	d	Open						
Actuation Ungasketed	Weighted Mechanic	cal	90% Closed						
Actuation Ungasketed									
Slotted Guide-Pole/Sample Well	Roof Leg (3" Dia)		Roof Leg (2 ¹ / ₂ " Dia.)						
Ungasketed Sliding Cover, without Float	Adjustable, Pontoor	1 area	Adjustable, Pontoon area						
Ungasketed Sliding Cover, with Float	Adjustable, Center a	area	Adjustable, Center area						
Gasketed Sliding Cover, with Float	Adjustable, Double-	-Deck roofs	Fixed						
	Fixed								
Page number:	Revision number:	1	Date of revision:						
12 01 56	K3-3 SM2 and CP	1	August 13, 2021						

APC 6

MSOP-24

15. For Internal H	loating Roof	tanks: Not Applica	ble							
A. Rim Seal system description:										
Liquid Mo Vapor Mo	ounted Prima ounted Primar	ry Y	Liquid N Vapor N	Mounted I Mounted P	Primary plus Primary plus	Secondary Seal Secondary Seal				
B. Number o	f Columns:			D.	Deck Typ	e (check one):	Welded	Bolted		
C. Effective	Column diam	neter:	(Feet)	E.	Total Dec	k Seam length:	(Feet)			
F. Deck Area	a:	(Square	Feet)							
G. Deck Fitti	G. Deck Fitting types (indicate the number of each type):									
Access Ha Bolted co Unbolted Unbolted Pipe Colun Pipe Colun	atch (24" Dia ver, gasketed cover, gasket cover, ungasl nn-Sliding co nn-Sliding co	.) ed keted over, gasketed over, ungasketed	Automatic Gauge Fl. Bolted cover, gasket Unbolted cover, gask Unbolted cover, ung	oat Well ed keted asketed		I-Sliding cover, gasketed I-Sliding cover, ungasketed exible fabric sleeve seal				
Ladder we Sliding co Sliding co Sample W Stub Dra Vacuum F Weighted	Ladder well Sample Pipe and Well Roof Leg or Hanger Well Sliding cover, gasketed Slotted Pipe-Sliding cover, gasketed Adjustable Sliding cover, ungasketed Slotted Pipe-Sliding cover, ungasketed Fixed Sample Well-Slit fabric seal, 10% open area Slotted Pipe-Sliding cover, ungasketed Fixed Vacuum Breaker Vacuum Breaker Vacuum Breaker Vacuum Breaker									
Weighted	Mechanical	Actuation, ungasketed	10							
Volume exp	apor space to	anks: Not Applications)	lle							
		TAN	K CONTENTS A	AND O	PERATIO	ON DESCRIPTI	ON			
17. Complete the	flowing tabl	e for materials to be s	tored in this tank:							
Material or component stored	Wt. %	Material Annual Throughput (1000 Gal./Yr.)‡	Material stored Daily Average (Gallons)‡	Com Mo weight	nponent lecular s (Lb./Lb. ſole)	Component Vapor Pressures (PSIA)	Material storage pressure (PSIA)‡	Material average storage temp. (Deg. F)‡		
VOC	100	184	3555	3	2.04	7.86	14.10	140		
Multipurpose tank	with variable	e composition:		<u> </u>	les		🛛 No			
Crude Glyce	operation this	s tank will serve:								
Page number: 13 of 56	~		Revision number: R3-3 SM2 and C	P1		Date o Augu	of revision: 1 st 13, 2021			
[‡] Value shown is for	or the mixture	e								

CN-1403

RDA 1298



APC 6

MSOP-24

TITLE V PERMIT APPLICATION STORAGE TANKS

1. Preating name: Eastman Chemical Company, Tennessee Operations 2. Process ensiston source (dontify): PFS B-2:1-3 Storage tank identification: 2. Location of the storage tank identification: 3. Storage tank identification: 4. Location of the storage tank identification: 7. Storage tank identification: 9. Color of tank: 10. Sthin tank equipped via submerget fill pripe? 9. Color of tank: 11. Type of storage tank identification: 12. Option of tanks: 13. Tor floating or of tanks: 14. Tank configuration (check one): 15. Tank tank configuration (check one): 16. Tore for of tanks: 17. Tank configuration (check one): 18. Tank torof type: (check one): 19. Tore for of tanks: 10. Tore for of tanks: 10. Tore for of tanks: 10. Tore for tanks: 10. Tore for tanks: 11. Tank configuration (check one): 12. Tore for tank configuration (check one): 13. Tank configuration (check one): 14. Tank configuration (check one): 15. Tank torof type: (check one): 15. Tank configuration (check one): <	GENERAL IDENTIFICATION AND DESCRIPTION									
Extrans Chemical Company, Tennessee Operations 2. Process mission source (dentify): PTS B-221-3 3. Storage tank identification: CG-10 4. Location of the storage tank capacity: 7. Took bright and the storage tank capacity: 9. Storage tank identification: 7. Took bright and the storage tank capacity: 10. Is that tank capacity: 11. Type of storage tank 12. Open toop tank 12. Per fixed roof tank: 13. Tork for fixed roof tank: 14. Tark configuration (check one): 15. Tork fixed roof tank: 16. The fixed roof tank: 17. Tork bright and the tank of the storage tank 18. Tork fixed roof tank: 19. Tork fixed roof tank: 12. For fixed roof tank: 13. For fixed roof tank: 14. Tank configuration (check one): 15. Tork fixed roof tank: 16. Tank toof type: (check one): 16. Tork fixed roof tank: 17. Tork bright and the storage tank 18. For fixed roof tank: 19. Tank configuration (check one): 19. Roof tanks (both internal and external) -doel the condition (check one): Not Applicable Light rune	1. Facility name:									
2. Precess entistion source (identify): PPES B-21-3 STORAGE TANK DESCRIPTION 3. Storage tank identification: Ja. Vent ID: C 4. Increation of the storage tank or tank fram in UTM conditates: UTM Vertical: 4042800 N UTM Horizontal: 362300 E 5. Storage tank openity: 6. Year of insullation: 12.0 (Fee) Normality 7080 (Gallon) 1959 1. Tank height 12.0 (Fee) No 10. If the storage tank: White Other Specify Unguined Aluminum 10. If this tank equipped with a submerged III pipe? If Yee of comparison in the storage tank: If Yee of comparison in the storage tank: <td>Eastman Chemical Company, Tennessee Op</td> <td>erations</td> <td></td> <td></td>	Eastman Chemical Company, Tennessee Op	erations								
STORAGE TANK DESCRIPTION 3. Storage tank identification: CG-101 In In Vent ID: C In 4. Location of the storage tank or tank fram in UTM coordinates: 7080 (Galons) In With In Vent ID: C In 5. Storage tank capacity: 7080 (Galons) 6. Year of task identification: 71 Task height 72 In Task height 73 Task height 74 In In 6. Coro of task: 7080 (Galons) In With Other Second Upmanted Aluminum 10.0 (Feet) In <	2. Process emission source (identify):									
STORAGE TANK DESCRIPTION 3. Storage tank identification: 3a. Vent ID: C CG-101 C 4. Location of the storage mak or tank farm in UTM coordinates: UTM Vertical: 4042800 N UTM Horizontal: 362200 E 5. Storage tank capacity: 6. Year of installation: 7. Tank height 12.0 (Feet) 8. Tank diameter: 9. Color of tank: White 20 Other Storage tank storage tank 8. Tank diameter: 10. S thit in the capaped with a subreged fill prof. Wite Other Speech (Unpained Aluminum 10.0 (Feet) 10. Is thit in the capaped with a subreged fill prof. External Hosting roof Intract on the capacity in the capacity of the capac	red D-221-3									
3. Storage tank identification: CG-101 Ja. Vent ID: CG-101 4. Location of the storage tank or ank farm in UTM coordinates: 7080 (Galtons) ITM Vertical: 4042800 N UTM Horizoatal: 202300 E 5. Storage tank capascity: 7080 (Galtons) 6. Year of installation: 70 Tank is tank equipped with a submerged fill pipe? 7. Tank height 72. Gelor of tank: 7. Tank to paired Adminutation 7. Tank to paired Adminutation Adminutation 7. Tank to paired Adminutation 7. Tank to paired Adminutation 7. Tank to paired Adminutatio	STORAGE TANK DESCRIPTION									
Cc101 C C 4 Location of the storage tank or tank firm in UTM coordinates: UTM Vortical: 4042800 N UTM Horizontal: 362300 E 5 Storage tank capacity: 6. Year of installation: 7. Tank height 8. Tank diameter: 7080 (Callons) 9. Storage tank capacity: 6. Year of installation: 7. Tank height 8. Tank diameter: 10. Sthits tank equipped with submerged fill pipe? Specity Upgainted Aluminum 10.0 (Feet) 10.0 (Feet) 10. Sthits tank equipped with submerged fill pipe? Yes No 10.0 (Feet) 11. Type of storage tank: External floating roof Write and floating roof Other (specify) 12. For fixed nor funks: External floating roof Horizontal Sphere B. Tank configuration (check one): Corn cord-indicate tank roof height 134 (feet) Indicate shell condition (check one): Not Applicable 1. Tank construction (check one): Welded tank Riveted tank Riveted tank 14. For External Floating Roof tanks: Not Applicable Liquid formary. Rim Scoodary Liquid Mounted Primary 13. For floating Roof tanks: Not Applicable Shoe Primary. Rim Scoodary Liquid Mounted Primary Shoe Romary. Rim Scoodary Liquid Mounted Primary <td>3. Storage tank identification:</td> <td></td> <td>3a. Vent ID:</td> <td></td>	3. Storage tank identification:		3a. Vent ID:							
4. Location of the storage tank capacity: 0 TM Vertical: 40/2800 N 0 TM Vertical: 40/2800 N 7. Storage tank capacity: 12.0 (Feet) 12.0 (Feet) 10.0 (Feet) 9. Color of tank: 0 White 0 Meet Specify Upganited Alimitum 10.0 (Feet) 10. Is this tank equipped with a submerged fill pipe? 12.0 (Feet) No 11.1 (Pee 5 Gate and Construction of the storage tank: 11. Type of storage tank: External floating roof Variable vapor space 10.0 (Feet) 12. Port storage tank: External floating roof Variable vapor space 10.0 (Feet) 12. For fixed roof tanks: Conor of tank cata tank roof height Lig4 (feet) 10.0 (Feet) 10.0 (Feet) 13. For floating Roof tanks (both internal and external) - shell condition (check one): Not Applicable 20.0 (Feet) 20.0 (Feet) 14. For Stace and Floating Roof tanks. Not May floate at the roof height Lig4 (feet) 20.0 (Feet) 20.0 (Feet) 14. For Stace and system description (check one): Weelded tank Riveted tank Riveted tank 14. For Stace and Floating Roof tanks: Not Applicable 20.0 (Feet) 20.0 (Feet) 20.0 (Feet)	CG-101		<u>C</u>							
5. Storage tank capacity: b. Year of mistiliator: 7. Tank height b. Tank hammeter: 7080 (cialons) 12.0 (Feet) 10.0 (Feet) 9. Color of tank: White Other Specify Uppairted Aluminum 10. Is this tank configuration (check one): Fixed roof Variable vapor space Other (specify) 11. Type of storage tank: External floating roof Other (specify) Other (specify) 12. For fixed roof tank: External floating roof Horizontal Sphere B. Tank configuration (check one): One roof-indicate tank roof bright [134] (feet) Indicate shell radius 5.0 (feet) FLOATING ROOF TANK DESCRIPTION 13. For floating Roof tanks: Not Applicable Ganite lined A. Tank construction (check one): Welded tank Riveted tank 14. For External Floating Roof tanks: Not Applicable Vapor Mounted, Primary Liquid Mounted Primary 15. Shoe Mounted Primary Kim Secondary Vapor Primary, Kim Secondary Liquid Mounted Primary, Kim Secondary 14. For External Floating Core and the number of each type; Access Hatch (24" Diameter well) Molored Gaide-Pole Well 19. Boiled cover, gasketed Unboiled cover, gasketed Gauge-Float Well (20" Diameter)	4. Location of the storage tank or tank farm in UTM	coordinates:	UTM Vertical: <u>4042800 N</u>	UTM Horizontal: <u>362300 E</u>						
2. Color Tink: 100 (Text) 100 (Text) 10. Is this tank equipped with a submerged fill pipe? 2 Ves No 11. Type of Storage tank: 2 Fixed roof winternal floating roof 0 (Der (specify) 12. For fixed roof tanks: 3 (Fixed roof winternal floating roof 0 (Der (specify) 13. For fixed roof tanks: 4 (Fixed roof floating roof 100 (Text) 14. Tank configuration (check one): 0 cone roof - indicate tank roof floating 12 (Get) Sphere 15. For floating Roof tanks (both internal and extremal) - shell condition (check one): Not Applicable Ganite lined 14. For External Floating Roof tanks (both internal) and extremal) - shell condition (check one): Not Applicable Ganite lined 14. For External Floating Roof tanks (both internal) and extremal) - shell condition (check one): Not Applicable Ganite lined 14. For External Floating Roof tanks (both internal and extremal) - shell condition (check one): Not Applicable Ganite lined 15. For floating Roof tanks (both internal and extremal) - shell condition (check one): Not Applicable Ganite lined 14. For External Floating Roof Lanks (Dot Applicable Ganite lined 14. For External Floating Roof Lanks (Dot primary Kim Secondary Vapor Primary Kim Secondary Shoe Primary, Rim Secondary Vapor Mounted, Primary, Rim Secondary	5. Storage tank capacity: 6. Year of in: 7080 (Callere) 1050	stallation:	/. Tank height	8. Tank diameter: 10.0 (Teast)						
10. Is this lank equipped with a submerged fill pipe? IV ves No 11. Type of storage tank: Fixed roof Fixed roof IV results and equipped with a submerged fill pipe? 11. Type of storage tank: Fixed roof Fixed roof IV results and equipped with a submerged fill pipe? 12. For fixed roof tanks: External floating roof IV results and equipped with a submerged fill pipe? 13. For fixed roof tanks: Cone roof - indicate tank roof height 124 (feet) Indicate suble radies 20 (feet) INDACTING ROOP TANK DESCRIPTION 13. For floating Roof tanks: Not Applicable Done roof - indicate tank roof height 124 (feet) 14. For External Floating Roof tanks: Not Applicable Riveted tank A. Tank koosthructin (check one): Welded tank Riveted tank 14. For External Floating Roof tanks: Not Applicable Liquid Mounted Primary Liquid Mounted Primary 15. Shoe Mounted Primary Vapor Mounted, Primary Liquid Mounted Primary Liquid Mounted Primary 14. For External Floating Roof tanks: Not Applicable Riveted tank Riveted tank 14. For External Floating Roof tanks: Not Applicable Ris Roo	9 Color of tank: \Box Wh	ite 🛛 Other	Specify Unpainted Aluminum	10.0 (Feet)						
11. Type of stanke 0 11. Type of stanke 0 11. Type of stanke 0	10. Is this tank equipped with a submerged fill pipe?		Yes No							
□ Open top Tank □ Fixed roof winternal floating roof □ Other (specify) 12. For fixed roof tanks: □ Tank configuration (check one): □ Vertical (upright cylinder) □ Horizontal □ Sphere 13. Tank configuration (check one): □ Cone roof - indicate tank roof height(freet) □ Sphere □ Sphere 13. For floating Roof tanks: Not Applicable	11. Type of storage tank:									
□ Pressurized tank □ External floating roof □ Variable vapor space 12. For fixed roof tanks: N Tank configuration (check one): □ Urright cylinder) □ Ilorizontal □ Sphere B. Tank roof type: (check one): □ Dome roof - indicate tank roof heightfeet) □ Sphere □ Sphere B. Tank roof type: (check one): □ Dome roof - indicate tank roof heightfeet) □ Sphere 13. For floating Roof tanks (both internal and external) - shell condition (check one): Not Applicable Cunite lined 14. For External Floating Roof tanks: Not Applicable Cunite lined 14. For External Floating Roof tanks: Not Applicable Riveted tank 15. Rim Scal system description (check one): Welded tank Riveted tank 16. Rim Scal system description (check one): Vapor Primary, Rim Secondary Liquid Mounted Primary 11. Liquid Primary Weather Shield Shoe Primary and Secondary Vapor Primary wWeather Shield 17. Roof fitting types (indicate the number of each type): Access Hatch (24" Diameter well) Double Deck roof 18. Bloeted cover, gasketed Unsolted Guide-Pole Well Gauge-Float Well (20" Diameter) Unbolted cover, gasketed 19. Bloeted cover, gasketed Unsolted Floid gover Gasketed Sliding cover Gasketed Sliding cover, w	Open top tank Size	ed roof	Fixed roof w/internal floating	g roof 🗌 Other (specify)						
12. For Insect root lanks: A. Tank configuration (check one): □ Cone roof – indicate tank roof height [] (feet) B. Tank roof type: (check one): □ Dome roof – indicate tank roof height [] (feet) □ Cone roof – indicate tank roof height [] (feet) I. For floating Roof tanks: (both internal and external) – selite loodition (check one): Not Applicable □ Gunite lined 14. For External Floating Roof tanks: Not Applicable Riveted tank 15. For floating Roof tanks: Not Applicable Riveted tank 14. For External Floating Roof tanks: Not Applicable Ciquid Primary, Rim Secondary 15. Shoe Mounted Primary Vapor Mounted, Primary, Rim Secondary Liquid Mounted Primary 15. Koe fitting types (indicate the number of each type): Access Hatch (24° Diameter well) Double Deck roof D. Roof fitting types (indicate the number of each type): Access Hatch (24° Diameter well) Ungasketed Siding cover Gauge-Float Well (20° Diameter) Unbolled cover, gasketed Unsolted Guide-Pole Well Roof Drain Gauge-Float Well (20° Diameter) Weighted Mechanical Actuation Gasketed Yautom Breaket (10° Dia. Well) Weighted Mechanical Actuation Gasketed New Primary, Rim Secondary Yautom Breaket (10° Dia. Well) Roof Drain Weighted Mechanical Actuation Ungasketed<	Pressurized tank	ernal floating roof	Variable vapor space							
A: Inik configuration (clack one): □ cone roof - indicate tark roof height(fet) B: Tark roof type: (check one): □ cone roof - indicate tark roof height(fet) Indicate shell radio \$_0(fete) □ cone roof - indicate tark roof height(fet) Indicate shell radio \$_0(fete) □ cone roof - indicate tark roof height(fet) Indicate shell radio \$_0(fete) □ cone roof - indicate tark roof height(fet) Iso provide tarks (both internal and external) - shell condition (check one): Not Applicable □ cone roof - indicate tark roof height(fet) 14. For External Floating Roof tanks: Not Applicable A. Tank construction (check one): Welded tank Riveted tank B. Rim Seal system description (check one): Shoe Primary and Secondary Liquid Primary Kim Secondary Liquid Primary Kim Secondary Shoe Primary, Rim Secondary Vapor Primary and Secondary Vapor Primary w/Weather Shield Double Cover C. Roof type (check one): Pontoon roof Double Deck roof D D. Roof fitting types (indicate the number of each type): Gauge-Float Well (20" Diameter) Unbolted cover, gasketed Meighted Mechanical Vacuum Breaker(10" Dia. Well) Unbolted cover, gasketed Gauge-Float Well (20" Diameter) Unbolted cover, gasketed Weighted Mechanical A	12. For fixed roof tanks:	t aulindar)	Unizontal Sphare							
Image: Interversion of the second	B. Tank roof type: (check one):	oof – indicate tank roof	Theight (feet)							
Indicate shell radius <u>5.0</u> (feet) ILCATING ROOF TANK DESCRIPTION 13. For floating Roof tanks: Not Applicable Light rust Counite lined Counite lined Attend Floating Roof tanks: Not Applicable A. Tank construction (check one): Welded tank Riveted tank B. Rim Seal system description (check one): Work of tanks Shoe Mounted Primary Usiguid Primary, Rim Secondary Liquid Primary, Rim Secondary Shoe Mounted Primary Shoe Primary and Secondary Vapor Mounted, Primary, Rim Secondary Liquid Primary, Rim Secondary C. Roof type (check one): Pontoon roof Double Deck roof D. Roof fitting types (indicate the number of each type): Cacess Hatch (24" Diameter well) Unbolted cover, gasketed Unslotted Guide-Pole Well (8" Diameter Unslotted Pole, 21" Dia, Well) Gauge-Float Well (20" Diameter) Unbolted cover, gasketed Gauge Hatch/Sample Well (8" Dia,) Weighted Mechanical Actuation Gasketed Vacuum Breaker (10" Dia, Well) Roof Drain Open Weighted Mechanical Actuation Gasketed Roof Leg (2 ''' Dia,) Adjustable, Conton area Adjustable, Conter area Adjustable, Conter area Adjustable, Conter area Adjustable, Conter area Adjustable, Conter area Adjustable, Conter area Adjustable,		roof – indicate tank roo	f height 1.34 (feet)							
FLOATING ROOF TANK DESCRIPTION 13. For floating Roof tanks (both internal and external) – shell condition (check one): Not Applicable Dense rust Gunite lined 14. For External Floating Roof tanks: Not Applicable A. Tank construction (check one): Welded tank Riveted tank B. Rim Seal system description (check one): Shoe Primary, Rim Secondary Vapor Mounted, Primary, Rim Secondary Liquid Mounted Primary Liquid Primary, Rim Secondary Liquid Primary, Rim Secondary Vapor Primary, Rim Secondary Vapor Primary, Rim Secondary Vapor Primary, Rim Secondary Vapor Primary, Rim Secondary C. Roof type (check onc): Pontoon roof Double Deck roof D. Roof fitting types (indicate the number of each type): Access Hatch (24" Diameter well) Unbolted cover, gasketed Unslotted Guide-Pole Well (8" Diameter Unslotted Pole, 21" Dia. Well) Ungasketed sliding cover Gauge-Float Well (20" Diameter) Unbolted cover, gasketed Gauge Hatch/Sample Well (8" Dia.) Weighted Mechanical Actuation Gasketed Vacuum Breaker (10" Dia. Well) Weighted Mechanical Actuation Ungasketed Roof Drain Open Slotted Guide-Pole/Sample Well Ungasketed Sliding Cover, withour Float Gasketed Sliding Cover, with	Indicate sh	ell radius 5.0 (feet)	8()							
13. For floating Roof tanks (both internal and external) - shell condition (check one): Not Applicable Light rust Gunite lined 14. For External Floating Roof tanks: Not Applicable A. Tank construction (check one): Welded tank Riveted tank 13. For External Floating Roof tanks: Not Applicable A. Tank construction (check one): Welded tank Riveted tank 14. For External Floating Roof tanks: Not Applicable Shoe Mounted Primary Vapor Mounted, Primary Liquid Mounted Primary 13. Kor State Welded tank Riveted tank Riveted tank 15. Rim Seal system description (check one): Vapor Mounted, Primary Liquid Mounted Primary Liquid Mounted Primary 14. Got External Floating Roof tanks: Not Primary, Rim Secondary Liquid Primary, Rim Secondary Liquid Primary, Rim Secondary 15. Roof fitting types (indicate the number of each type): Access Hatch (24" Diameter well) Double dover, gasketed Unslotted Guide-Pole Well 16. Unbolted cover, ugasketed Unslotted Guide-Pole Well (8" Diameter Unslotted Pole, 21" Dia. Well) Unbolted cover, gasketed 16. Actuation Gasketed Weighted Mechanical Roof Drain Open 17. Actuation Gasketed New Extended Roof Drain Actuation Ungasketed 16. Actuation Ungasketed Roof Leg (3" Dia.)	F	LOATING ROO	F TANK DESCRIPTION	N						
Light rust Dense rust Gunite lined 14. For External Floating Roof tanks: Not Applicable A. Tank construction (check one): Welded tank Riveted tank B. Rim Seal system description (check one): Shoe Mounted Primary Vapor Primary, Rim Secondary Liquid Mounted Primary Shoe Mounted Primary Vapor Primary, Rim Secondary Vapor Primary, Rim Secondary Liquid Primary Liquid Primary w/Weather Shield Shoe Porton roof Double Deck roof D. Roof fitting types (indicate the number of each type): Access Hatch (24" Diameter well) Unsolted Guide-Pole Well Bolted cover, gasketed Unsolted Guide-Pole Well Gauge-Float Well (20" Diameter) Unbolted cover, gasketed Ungasketed sliding cover Unbolted cover, ungasketed Gauge Hatch/Sample Well (8" Dia.) Vacum Breaker (10" Dia. Well) Roof Drain Weighted Mechanical Actuation Gasketed Yeighted Mechanical Actuation Gasketed Actuation Ungasketed Roof Leg (3" Dia.) Adjustable, Pontoon area Adjustable, Center area Adjustable, Cover, with Float Roof Leg (3" Dia.) Adjustable, Contor area Hougasketed Sliding Cover, with Float Roof Leg (3" Dia.) Adjustable, Contor area Adjustable, Double-Deck roofs Fixed Adjustable, Contor area Actuation Ungasketed Roof Leg (3" Dia.) Ad	13. For floating Roof tanks (both internal and externa	l) – shell condition (che	eck one): Not Applicable							
14. For External Floating Roof tanks: Not Applicable Riveted tank A. Tank construction (check one): Welded tank Riveted tank B. Rim Seal system description (check one): Shoe Mounted Primary Liquid Mounted Primary Shoe Mounted Primary, Rim Secondary Vapor Primary, Rim Secondary Liquid Primary, Rim Secondary Liquid Primary, Rim Secondary Vapor Primary, Rim Secondary Vapor Primary, Rim Secondary C. Roof type (check one): Pontoon roof Double Deck roof D. Roof fitting types (indicate the number of each type): Access Hatch (24" Diameter well) Unslotted Guide-Pole Well Bolted cover, gasketed Unslotted Guide-Pole Well Gauge-Float Well (20" Diameter) Unbolted cover, ungasketed Unbolted cover, gasketed Unslotted Suide gover Gaugeter (10" Diameter) Unbolted cover, ungasketed Gauge Hatch/Sample Well (8" Dia.) Vacuum Breaker (10" Dia. Well) Roof Drain Open Weighted Mechanical Actuation Gasketed Actuation Ungasketed Roof Leg (2 ''' Dia.) Actuation Ungasketed Sliding Cover, without Float Roof Leg (3" Dia.) Adjustable, Pontoon area Adjustable, Double-Deck roofs Fixed Adjustable, Double-Deck roofs Fixed	Light rust	Dense rust		Gunite lined						
A. Tank construction (check one): Weided tank Riveted tank B. Rim Seal system description (check one): Shoe Mounted Primary Liquid Mounted Primary Shoe Primary, Rim Secondary Vapor Primary, Rim Secondary Liquid Primary, Rim Secondary Liquid Primary wWeather Shield Shoe Primary and Secondary Vapor Primary wWeather Shield C. Roof type (check one): Pontoon roof Double Deck roof D. Roof fitting types (indicate the number of each type): Access Hatch (24" Diameter well) Gauge-Float Well (20" Diameter) Mobiled cover, gasketed (8" Diameter Unslotted Pole, 21" Dia. Well) Gauge-Float Well (20" Diameter) Unbolted cover, ungasketed (8" Diameter Unslotted Pole, 21" Dia. Well) Unbolted cover, gasketed Gauge Hatch/Sample Well (8" Dia.) Vacuum Breaker (10" Dia. Well) Roof Drain Veighted Mechanical Actuation Gasketed Pen Veighted Mechanical Roof Leg (3" Dia.) Actuation Ungasketed Slotted Guide-Pole/Sample Well Roof Leg (3" Dia.) Adjustable, Pontoon area Adjustable, Double-Deck roofs Fixed Adjustable, Double-Deck roofs Page number: Revision number: Roof Leg (2 ½" Dia.) Adjustable, Double-Deck roofs Fixed<	14. For External Floating Roof tanks: Not Applicat	ble Waldaddaula		Director d to ula						
B. Rim Seal system description (check one): Shoe Mounted Primary Vapor Mounted, Primary Liquid Mounted Primary Shoe Mounted Primary Rim Secondary Vapor Primary, Rim Secondary Liquid Primary, Rim Secondary Shoe Primary (Weather Shield Shoe Primary and Secondary Double Deck roof C. Roof type (check one): Pontoon roof Double Deck roof D. Roof fitting types (indicate the number of each type): Access Hatch (24" Diameter well) Unslotted Guide-Pole Well Gauge-Float Well (20" Diameter) Unbolted cover, gasketed Unslotted Guide-Pole Well Gauge-Float Well (20" Diameter) Unslotted Gover, gasketed Gauge Hatch/Sample Well (8" Dian.) Waginted Mechanical Nacuum Breaker (10" Dia. Well) Roof Drain Veighted Mechanical Actuation Gasketed Nacuum Breaker (10" Dia. Well) Roof Drain Actuation Gasketed Actuation Gasketed 90% Closed Actuation Gasketed Meighted Mechanical Actuation Gasketed Roof Leg (2 %" Dia.) Adjustable, Center area Adjustable, Contor area Adjustable, Center area Adjustable, Center area Adjustable, Center area Adjustable, Conter, with Float Revision number: Roof Leg (2 %" Dia.) Adjustable, Double-Deck roofs	A. Tank construction (check one):	welded tank		Riveled lank						
Shoe Mounted Primary Shoe Primary, Rim Secondary Liquid Primary, Rim Secondary Liquid Primary, Rim Secondary Liquid Primary, Rim Secondary Liquid Primary, Rim Secondary Vapor Primary and Secondary Vapor Primary and Secondary Vapor Primary and Secondary Vapor Primary w/Weather ShieldLiquid Mounted Primary Liquid Primary, Rim Secondary Vapor Primary w/Weather ShieldC. Roof type (check one):Pontoon roofDouble Deck roofD. Roof fitting types (indicate the number of each type): Access Hatch (24" Diameter well) Bolted cover, gasketed Unbolted cover, gasketed Unbolted cover, ungasketedUnslotted Guide-Pole Well (8" Diameter Unslotted Pole, 21" Dia. Well) Ungasketed sliding cover Gasketed sliding cover Gasketed sliding coverGauge-Float Well (20" Diameter) Unbolted cover, gasketed Bolted cover, gasketed Bolted cover, gasketed Weighted Mechanical Actuation GasketedVacuum Breaker (10" Dia. Well) Weighted Mechanical Actuation UngasketedRoof Drain OpenSlotted Guide-Pole/Sample Well Ungasketed Sliding Cover, without Float Gasketed Sliding Cover, without Float Gasketed Sliding Cover, with Float Roof Leg (2 ½" Dia.) Adjustable, Center area Adjustable, Center area Adjustable, Center area Adjustable, Center area Adjustable,	B. Rim Seal system description (check one):									
Shoe Primary, Rim Secondary Liquid Primary Weather ShieldVapor Primary, Rim Secondary Shoe Primary and SecondaryLiquid Primary, Rim Secondary Vapor Primary, Rim Secondary Duble Deck roofD. Roof Itting types (indicate the number of each type):Access Hatch (24" Dianeter Unslotted Guide-Pole Well (8" Dianeter Unslotted Pole, 21" Dia. Well) Unslotted cover, gasketed Gasketed Sliding Cover, without Float Qasketed Sliding Cover, without Float Gasketed Sliding Cover, with Float Gasketed Sliding Cover, with Float Gasketed Sliding Cover, with Float Houpasketed Sliding Cover, with Float FixedRoof Leg (2 %" Dia.) Adjustable, Ponton area Adjustable, Double-Deck roofs FixedPage number: 14 of 56Revision number: Rovision number: Rovision number:Da	Shoe Mounted Primary	Vapor Mounted, Prin	nary	Liquid Mounted Primary						
Liquid Primary w/Weather Shield Shoe Primary and Secondary Vapor Primary w/Weather Shield C. Roof type (check one): Pontoon roof Double Deck roof D. Roof fitting types (indicate the number of each type): Access Hatch (24" Diameter well) Unslotted Guide-Pole Well Gauge-Float Well (20" Diameter) Moholted cover, gasketed Unslotted Guide-Pole, 21" Dia. Well) Gauge-Float Well (20" Diameter) Unbolted cover, ungasketed Gauge Hatch/Sample Well (8" Dia.) Vacuum Breaker (10" Dia. Well) Gaote cover, gasketed Bolted cover, gasketed Weighted Mechanical Actuation Gasketed Vacuum Breaker (10" Dia. Well) Roof Drain Actuation Ungasketed Veighted Mechanical Actuation Gasketed 90% Closed Slotted Guide-Pole/Sample Well Roof Leg (3" Dia.) Adjustable, Pontoon area Adjustable, Pontoon area Adjustable, Cover, without Float Roof Leg (3" Dia.) Adjustable, Pontoon area Adjustable, Pontoon area Adjustable, Cover, with Float Roof Leg (3" Dia.) Adjustable, Pontoon area Adjustable, Pontoon area Adjustable, Double-Deck roofs Fixed Adjustable, Double-Deck roofs Fixed	Shoe Primary, Rim Secondary	Vapor Primary, Rim	Secondary	Liquid Primary, Rim Secondary						
C. Roof type (check one): Pontoon roof Double Deck roof D. Roof fitting types (indicate the number of each type): Access Hatch (24" Diameter well) Bolted cover, gasketed Unslotted Guide-Pole Well (8" Diameter Unslotted Pole, 21" Dia. Well) Gauge-Float Well (20" Diameter) Unbolted cover, ungasketed Unbolted cover, gasketed Unbolted cover, ungasketed Unslotted Guide-Pole Well (8" Diameter Unslotted Pole, 21" Dia. Well) Gauge-Float Well (20" Diameter) Unbolted cover, gasketed Unbolted cover, gasketed Bolted cover, gasketed Bolted cover, gasketed Gauge Hatch/Sample Well (8" Dia.) Weighted Mechanical Actuation Gasketed Vacuum Breaker (10" Dia. Well) Weighted Mechanical Actuation Gasketed Roof Drain Open Slotted Guide-Pole/Sample Well Ungasketed Sliding Cover, without Float Gasketed Sliding Cover, with Float Gasketed Sliding Cover, with Float Roof Leg (3" Dia.) Adjustable, Pontoon area Adjustable, Center area Adjustable, Center area Adjustable, Center area Adjustable, Double-Deck roofs Fixed Roof revision: Adjustable, Center area Adjustable, Double-Deck roofs Fixed Page number: 14 of 56 Revision number: R3-3 SM2 and CP1 Date of revision: August 13, 2021	Liquid Primary w/Weather Shield	Shoe Primary and Se	Secondary Vapor Primary w/Weather Shield							
D. Roof fitting types (indicate the number of each type): Access Hatch (24" Diameter well) Bolted cover, gasketed Unbolted cover, gasketed Unbolted cover, gasketed Unslotted Guide-Pole Well (8" Diameter Unslotted Pole, 21" Dia. Well) Ungasketed sliding cover Gasketed sliding cover Gasketed sliding cover Gauge-Float Well (20" Diameter) Unbolted cover, ungasketed Bolted cover, gasketed Gauge Hatch/Sample Well (8" Dia.) Weighted Mechanical Actuation Gasketed Vacuum Breaker (10" Dia. Well) Weighted Mechanical Actuation Gasketed Roof Drain Open Slotted Guide-Pole/Sample Well Ungasketed Sliding Cover, without Float Gasketed Sliding Cover, without Float Gasketed Sliding Cover, without Float Gasketed Sliding Cover, with Float Roof Leg (3" Dia.) Adjustable, Pontoon area Adjustable, Double-Deck roofs Fixed Roof Leg (2 ½" Dia.) Adjustable, Double-Deck roofs Fixed Page number: 14 of 56 Revision number: R3-3 SM2 and CP1 Date of revision: August 13, 2021	C. Roof type (check one):	Pontoon roof	Double Deck roof							
D. Roof lifting types (indicate the number of each type): Access Hatch (24") Diameter well) Bolted cover, gasketed Unslotted Guide-Pole Well (8" Diameter Unslotted Pole, 21" Dia. Well) Gauge-Float Well (20" Diameter) Unbolted cover, ungasketed Unbolted cover, ungasketed Ungasketed sliding cover Gasketed sliding cover Gauge-Float Well (20" Diameter) Weighted Mechanical Actuation Gasketed Vacuum Breaker (10" Dia. Well) Roof Drain Open Weighted Mechanical Actuation Ungasketed Vacuum Breaker (10" Dia. Well) Roof Drain Open Weighted Mechanical Actuation Ungasketed Weighted Mechanical Actuation Ungasketed 90% Closed Slotted Guide-Pole/Sample Well Ungasketed Sliding Cover, without Float Gasketed Sliding Cover, with Float Roof Leg (3" Dia.) Adjustable, Pontoon area Adjustable, Center area Adjustable, Double-Deck roofs Fixed Roof Leg (2 ½" Dia.) Adjustable, Double-Deck roofs Fixed Page number: 14 of 56 Revision number: R3-3 SM2 and CP1 Date of revision: August 13, 2021										
Access Hatch (24" Diameter well) Bolted cover, gasketed Unbolted cover, gasketed Unbolted cover, ungasketed Unbolted cover, ungasketedUnslotted Guide-Pole Well (8" Diameter Unslotted Pole, 21" Dia. Well) Ungasketed sliding cover Gasketed sliding cover Weighted Mechanical Actuation Gasketed Weighted Mechanical Actuation UngasketedCacum Breaker (10" Dia. Well) Weighted Mechanical Actuation Gasketed Weighted Mechanical Actuation UngasketedRoof Drain OpenSlotted Guide-Pole/Sample Well Ungasketed Sliding Cover, without Float Gasketed Sliding Cover, with Float Gasketed Sliding Cover, w	D. Roof fitting types (indicate the number of each	h type):								
Bolted cover, gasketed Unbolted cover, gasketed Unbolted cover, ungasketedChristoted Guide-Pole Well (8" Diameter Unslotted Guide-Pole (21" Dia. Well) Ungasketed sliding cover Gasketed sliding cover Gasketed sliding coverGauge-Float Well (20" Diameter) Unbolted cover, ungasketed Bolted cover, ungasketed Bolted cover, gasketed Bolted cover, gasketedGauge Hatch/Sample Well (8" Dia.) Weighted Mechanical Actuation Gasketed Weighted Mechanical Actuation UngasketedVacuum Breaker (10" Dia. Well) Weighted Mechanical Actuation GasketedRoof Drain OpenWeighted Mechanical Actuation UngasketedWeighted Mechanical Actuation Ungasketed90% ClosedSlotted Guide-Pole/Sample Well Ungasketed Sliding Cover, without Float Gasketed Sliding Cover, without Float Gasketed Sliding Cover, without Float Gasketed Sliding Cover, without Float Gasketed Sliding Cover, with FloatRoof Leg (2 ½" Dia.) Adjustable, Pontoon area Adjustable, Center area Adjustable, Center area Adjustable, Center area Adjustable, Conter area Adjustable, Conter area Adjustable, Double-Deck roofs FixedDate of revision: August 13, 2021	Access Hatch (24" Diameter well)	Unaletta d Carida Dal	1 - 337 - 11							
Unbolted cover, gasketed Unbolted cover, ungasketedUnbolted sole, Profest, Profest	Bolted cover, gasketed	(8" Diameter Unslot	ted Pole 21" Dia Well)	Gauge-Float Well (20" Diameter)						
Unbolted cover, ungasketedGasketed sliding coverUnbolted cover, gasketedGauge Hatch/Sample Well (8" Dia.)Vacuum Breaker (10" Dia. Well)Roof DrainWeighted MechanicalVacuum Breaker (10" Dia. Well)Roof DrainActuation GasketedMeighted MechanicalOpenWeighted MechanicalActuation Gasketed90% ClosedWeighted Guide-Pole/Sample WellWeighted Mechanical90% ClosedUngasketed Sliding Cover, without FloatRoof Leg (3" Dia.)Adjustable, Pontoon areaAdjustable, Center areaAdjustable, Center areaAdjustable, Center areaGasketed Sliding Cover, with FloatAdjustable, Center areaAdjustable, Double-Deck roofs FixedPage number:Revision number: R3-3 SM2 and CP1Date of revision: August 13, 2021	Unbolted cover, gasketed	Ungasketed sliding	cover	Unbolted cover, ungasketed						
Gauge Hatch/Sample Well (8" Dia.) Weighted Mechanical Actuation GasketedVacuum Breaker (10" Dia. Well) Weighted Mechanical Actuation GasketedRoof Drain OpenWeighted Mechanical Actuation UngasketedVacuum Breaker (10" Dia. Well) Weighted Mechanical Actuation GasketedRoof Drain OpenSlotted Guide-Pole/Sample Well Ungasketed Sliding Cover, without Float Gasketed Sliding Cover, without Float Gasketed Sliding Cover, without Float Gasketed Sliding Cover, without Float Gasketed Sliding Cover, with FloatRoof Leg (3" Dia.) Adjustable, Pontoon area Adjustable, Center area Adjustable, Center area Adjustable, Double-Deck roofs FixedRoof Leg (2 ½" Dia.) Adjustable, Pontoon area Adjustable, Center area Adjustable, Double-Deck roofs FixedPage number: 14 of 56Revision number: 	Unbolted cover, ungasketed	Gasketed sliding cov	ver	Unbolted cover, gasketed						
Weighted Mechanical Actuation GasketedVacuum Breaker (10" Dia. Well) Weighted Mechanical Actuation GasketedRoof Drain OpenWeighted Mechanical Actuation UngasketedActuation GasketedOpenSlotted Guide-Pole/Sample Well Ungasketed Sliding Cover, without Float Gasketed Sliding Cover, with Float Gasketed Sliding Cover, with FloatRoof Leg (3" Dia.) Adjustable, Pontoon area Adjustable, Center area Adjustable, Center area Adjustable, Double-Deck roofs FixedRoof Leg (2 ½" Dia.) Adjustable, Center area Adjustable, Center area Adjustable, Center area Adjustable, Double-Deck roofs FixedPage number: 14 of 56Revision number: R3-3 SM2 and CP1Date of revision: August 13, 2021	Gauge Hatch/Sample Well (8" Dia.)		N D. W. 11	Donou Cover, gaskeleu						
Actuation Gasketed Weighted Mechanical Actuation UngasketedWeighted Mechanical Actuation GasketedOpenWeighted Mechanical Actuation UngasketedWeighted Mechanical Actuation Ungasketed90% ClosedSlotted Guide-Pole/Sample Well Ungasketed Sliding Cover, without Float Gasketed Sliding Cover, without Float Gasketed Sliding Cover, without Float Gasketed Sliding Cover, with FloatRoof Leg (3" Dia.) Adjustable, Pontoon area Adjustable, Center area Adjustable, Center area Adjustable, Double-Deck roofs FixedRoof Leg (2 ½" Dia.) Adjustable, Pontoon area Adjustable, Center area Adjustable, Center area Adjustable, Double-Deck roofs FixedPage number: 14 of 56Revision number: R3-3 SM2 and CP1Date of revision: August 13, 2021	Weighted Mechanical	Vacuum Breaker (10)" Dia. Well)	Roof Drain						
Weighted Mechanical Actuation UngasketedHetuation Oscile Weighted Mechanical Actuation Ungasketed90% ClosedSlotted Guide-Pole/Sample Well Ungasketed Sliding Cover, without Float Gasketed Sliding Cover, with Float Gasketed Sliding Cover, with Float Gasketed Sliding Cover, with FloatRoof Leg (3" Dia.) Adjustable, Pontoon area Adjustable, Center area Adjustable, Double-Deck roofs FixedRoof Leg (2 ½" Dia.) Adjustable, Pontoon area Adjustable, Center area Adjustable, Center area Adjustable, Double-Deck roofs FixedPage number: 14 of 56Revision number: R3-3 SM2 and CP1Date of revision: August 13, 2021	Actuation Gasketed	Weighted Mechanic	al 1	Open						
Actuation UngasketedActuation Ungasketed90% ClosedSlotted Guide-Pole/Sample Well Ungasketed Sliding Cover, without Float Gasketed Sliding Cover, with FloatRoof Leg (3" Dia.) Adjustable, Pontoon area 	Weighted Mechanical	Weighted Mechanic	al							
Slotted Guide-Pole/Sample Well Ungasketed Sliding Cover, without Float Gasketed Sliding Cover, with FloatRoof Leg (3" Dia.) Adjustable, Pontoon area Adjustable, Pontoon area Adjustable, Center area Adjustable, Double-Deck roofs FixedRoof Leg (2 ½" Dia.) Adjustable, Pontoon area Adjustable, Center area Adjustable, Double-Deck roofs FixedPage number: 14 of 56Revision number: R3-3 SM2 and CP1Date of revision: August 13, 2021	Actuation Ungasketed	Actuation Ungaske	ted	90% Closed						
Ungasketed Sliding Cover, without Float Ungasketed Sliding Cover, with Float Gasketed Sliding Cover, with FloatKool Leg (3° Dia.) Adjustable, Pontoon area Adjustable, Pontoon area Adjustable, Center area Adjustable, Double-Deck roofs FixedAdjustable, Pontoon area Adjustable, Center area Adjustable, Double-Deck roofs FixedPage number: 14 of 56R3-3 SM2 and CP1Date of revision: August 13, 2021	Slotted Guide-Pole/Sample Well	Dfl- (2"D')		Roof Leg (2 ¹ / ₂ " Dia.)						
Ungasketed Sliding Cover, with Float Adjustable, Ponton area Adjustable, Center area Gasketed Sliding Cover, with Float Adjustable, Center area Adjustable, Double-Deck roofs Gasketed Sliding Cover, with Float Fixed Fixed Page number: Revision number: Date of revision: 14 of 56 R3-3 SM2 and CP1 August 13, 2021	Ungasketed Sliding Cover, without Float	Adjustable Pontoon	area	Adjustable, Pontoon area						
Gasketed Sliding Cover, without Float Adjustable, Double-Deck roofs Adjustable, Double-Deck roofs Page number: Revision number: Date of revision: 14 of 56 R3-3 SM2 and CP1 August 13, 2021	Ungasketed Sliding Cover, with Float	Adjustable. Center a	rea	Adjustable, Center area						
Page number: Revision number: Date of revision: 14 of 56 R3-3 SM2 and CP1 August 13, 2021	Gasketed Sliding Cover, without Float	Adjustable, Double-	Deck roofs	Adjustable, Double-Deck roofs						
Page number:Revision number:Date of revision:14 of 56R3-3 SM2 and CP1August 13, 2021	Gaskeleu Shullig Cover, with Float	Fixed		r ixcu						
Page number:Revision number:Date of revision:14 of 56R3-3 SM2 and CP1August 13, 2021										
14 of 56 R3-3 SM2 and CP1 August 13, 2021	Page number:	Revision number:		Date of revision:						
	14 of 56	R3-3 SM2 and CP1		August 13, 2021						

APC 6

MSOP-24

15. For Internal H	Floating Roof	tanks: Not Applica	ble							
A. Rim Seal	A. Rim Seal system description:									
Liquid Mo Vapor Mo	ounted Prima ounted Primar	ry У	Liquid N Vapor N	Mounted I Mounted P	Primary plus Primary plus	Secondary Seal Secondary Seal				
B. Number o	f Columns:			D.	Deck Typ	e (check one):	Welded	Bolted		
C. Effective	Column diam	neter:	(Feet)	E.	Total Dec	k Seam length:	(Feet)			
F. Deck Area	a:	(Square	Feet)							
G. Deck Fitti	G. Deck Fitting types (indicate the number of each type):									
Access Ha Bolted co Unbolted Unbolted Pipe Colun Pipe Colun	atch (24" Dia ver, gasketed cover, gasket cover, ungasl nn-Sliding co nn-Sliding co	.) ed ceted over, gasketed over, ungasketed	Automatic Gauge Fl. Bolted cover, gasket Unbolted cover, gasl Unbolted cover, ung	oat Well ed keted asketed		I-Sliding cover, gasketed I-Sliding cover, ungasketed exible fabric sleeve seal				
Ladder wo Sliding co Sliding co Sample W Stub Dra	ell ver, gasketed ver, ungaske /ell-Slit fabri- in, 1-inch dia	l ted c seal, 10% open area meter	Sample Pipe and Well Slotted Pipe-Sliding cover, gasketed Slotted Pipe-Sliding cover, ungasketed			Roof Leg or Hanger Well Adjustable Fixed				
Vacuum E Weighted Weighted	Breaker Mechanical A Mechanical A	Actuation, gasketed Actuation, ungasketed								
16. For variable v	vapor space ta	anks: Not Applicab	le							
v olume exp	bansion capa	TAN	K CONTENTS A	AND O	PERATIO	ON DESCRIPTI	ON			
17. Complete the	flowing tabl	e for materials to be s	ored in this tank:							
Material or component stored	Wt. %	Material Annual Throughput (1000 Gal./Yr.)‡	Material stored Daily Average (Gallons)‡	Com Mo weight M	nponent lecular s (Lb./Lb. lole)	Component Vapor Pressures (PSIA)	Material storage pressure (PSIA)‡	Material average storage temp. (Deg. F)‡		
VOC	100	184	3555	32	2.04	7.86	14.10	140		
Multipurpose tank	with variable	e composition:		_	les		🛛 No			
Crude Glyce	ol Storage	, unix will Serve.								
Page number: 15 of 56	~		Revision number: R3-3 SM2 and C	P1		Date o Augu	of revision: 1st 13, 2021			
‡Value shown is for	or the mixture	э.								

CN-1403

RDA 1298


APC 6 MSOP-24

TITLE V PERMIT APPLICATION STORAGE TANKS

	GENERAL IDENTIFICATION AND DESCRIPTION									
1.	Facility name:									
-	Eastman Chemical Company, Tennessee Op	erations								
2.	Process emission source (identify): PFS B-221-3									
	STORAGE TANK DESCRIPTION									
3.	Storage tank identification:		3a. Vent ID:							
4	WE-50	acardinataa	D	UTM 11						
4.	Storage tank canacity: 6 Vear of ins	stallation:	7 Tank height	8 Tank diameter:						
5.	1275 (Gallons) 1959	stanation.	6.0 (Feet)	6.0 (Feet)						
9.	Color of tank:	ite 🛛 Other	Specify Unpainted Stainless Stee	<u>el</u>						
10.	Is this tank equipped with a submerged fill pipe?		Yes No							
11.	Type of storage tank:	1 0								
	Open top tank Section	ed roof	Fixed roof w/internal floating	g root U Other (specify)						
12	For fixed roof tanks:									
A. '	Tank configuration (check one): X Vertical (uprig	t cylinder)	Horizontal Sphere							
В. 1	Tank roof type: (check one):	oof – indicate tank roo	of height(feet)							
	Dome r	coof – indicate tank ro	of height 0.8 (feet)							
	Indicate sh	ell radius <u>3.0</u> (feet)								
	F	LOATING ROO	OF TANK DESCRIPTION	1						
13.	For floating Roof tanks (both internal and external	l) – shell condition (cl	heck one): Not Applicable							
1.4	Light rust Dense rust Gunite lined									
14.	A Tank construction (check one):	Welded tank		Riveted tank						
	The Tank construction (check one).	Welded talk								
	B. Rim Seal system description (check one):									
	Shoe Mounted Primary	Vapor Mounted, Pr	imary	Liquid Mounted Primary						
	Shoe Primary, Rim Secondary	Vapor Primary, Rin	n Secondary	Liquid Primary, Rim Secondary						
	Liquid Primary W/Weather Shield	Shoe Primary and S	econdary	Vapor Primary w/Weather Shield						
	C. Roof type (check one):	Pontoon roof		Double Deck roof						
	D. Roof fitting types (indicate the number of each	n type):								
	Access Hatch (24" Diameter well)	Un-1-4-10-11 P	- 1 - XV - 11							
	Bolted cover, gasketed	(8" Diameter Uncl	ote well otted Pole 21" Dia Well)	Gauge-Float Well (20" Diameter)						
	Unbolted cover, gasketed	Ungasketed sliding	cover	Unbolted cover, ungasketed						
	Unbolted cover, ungasketed	Gasketed sliding co	over	Unbolted cover, gasketed						
	Gauge Hatch/Sample Well (8" Dia.)	•• • •		DOICH CUVEI, gaskelen						
	Weighted Mechanical	Vacuum Breaker (10" Dia. Well)	Roof Drain						
	Actuation Gasketed	Actuation Gasket	cai ed	Open						
	Weighted Mechanical	Weighted Mechani	cal							
	Actuation Ungasketed	Actuation Ungask	teted	90% Closed						
	Slotted Guide-Pole/Sample Well Roof Leg (2 ½" Dia.)									
	Ungasketed Sliding Cover, without Float	Adjustable, Pontoo	n area	Adjustable, Pontoon area						
	Ungasketed Sliding Cover, with Float	Adjustable, Center	area	Adjustable, Center area						
	Gasketed Sliding Cover, with Float	Adjustable, Double	e-Deck roofs	Adjustable, Double-Deck roots						
	Gasketed Shulling Cover, with Float	Fixed		T IACU						
Pag	e number:	Revision number:		Date of revision:						
16	of 56	R3-3 SM2 and CP	1	August 13, 2021						

CN-1403

APC 6

MSOP-24

15. For Internal F	loating Roof	tanks: Not Applica	ble					
A. Rim Seal	system descri	ption:						
Liquid Mo Vapor Mo	ounted Prima ounted Primar	ry Y	Liquid N Vapor N	Mounted I Mounted P	Primary plus Primary plus	Secondary Seal Secondary Seal		
B. Number o	f Columns:			D.	Deck Typ	e (check one):	Welded	Bolted
C. Effective	tive Column diameter: (Feet)			E.	Total Dec	k Seam length:	(Feet)	
F. Deck Area	a:	(Square	Feet)					
G. Deck Fitti	ng types (ind	icate the number of ea	ch type):					
Access Ha Bolted cov Unbolted o Unbolted Pipe Colur Pipe Colur	atch (24" Dia ver, gasketed cover, gasket cover, ungasl nn-Sliding co nn-Sliding co	.) ed keted over, gasketed over, ungasketed	Automatic Gauge Fl Bolted cover, gasket Unbolted cover, gask Unbolted cover, ung	oat Well red keted rasketed		n-Sliding cover, gasket n-Sliding cover, ungasl exible fabric sleeve sea	ed keted I	
Ladder well Sample Pipe and Well Roof Leg or Hanger Well Sliding cover, gasketed Slotted Pipe-Sliding cover, gasketed Adjustable Sliding cover, ungasketed Slotted Pipe-Sliding cover, ungasketed Fixed Sample Well-Slit fabric seal, 10% open area Slotted Pipe-Sliding cover, ungasketed Fixed Vacuum Breaker Vacuum Breaker Vacuum Breaker Vacuum State Astronom exclusion								g or Hanger Well le
Weighted	Mechanical A	Actuation, ungasketed						
16. For variable v Volume exp	apor space ta	anks: Not Applicabl acity (Gallons)	e					
		TAN	K CONTENTS A	AND O	PERATIO	ON DESCRIPTI	ON	
17. Complete the	flowing tabl	e for materials to be st	ored in this tank:					
Material or component stored	Wt. %	Material Annual Throughput (1000 Gal./Yr.)‡	Material stored Daily Average (Gallons)‡	Com Mo weight	nponent lecular s (Lb./Lb. lole)	Component Vapor Pressures (PSIA)	Material storage pressure (PSIA)‡	Material average storage temp. (Deg. F)‡
VOC	100	46	260	32	2.04	2.44	14.10	77
Multipurpose tank	with variable	e composition:		۲ 🗌	les		🛛 No	
18. Describe the Methanol St	operation this torage Tank	s tank will serve:						
Page number: 17 of 56			Revision number: R3-3 SM2 and C	P1		Date o Augu	of revision: 1 st 13, 2021	
‡Value shown is for	or the mixture	э.						

CN-1403



APC 6

MSOP-24

TITLE V PERMIT APPLICATION STORAGE TANKS

	GENERAL IDENTIFICATION AND DESCRIPTION								
1.	Facility name:								
	Eastman Chemical Company, Tennessee Op	erations							
2.	Process emission source (identify):								
	PES B-221-3								
		STORAGE 1	ANK DESCRIP	TION					
3.	Storage tank identification:		3a. Vent ID:						
4	AF-30	annation	EI	2000 N	UTM II				
4.	Storage tank canacity: 6 Vear of ins	coordinates:	7 Tank height	2800 N	UTM Horizontal: <u>362300 E</u>				
5.	3020 (Gallons)	danation.	8.0 (Feet)		8.0 (Feet)				
9.	Color of tank:	te 🛛 Other	Specify Unpainted St	ainless Steel					
10.	Is this tank equipped with a submerged fill pipe?		Yes	No					
11.	Type of storage tank:								
	$\Box \text{ Open top tank} \qquad \qquad \boxtimes \text{ Fixe}$	d roof	Fixed roof w/inter	rnal floating roof	Other (specify))			
12	Pressurized tank	ernal floating roof	Variable vapor sp	ace					
12. A.	For fixed roof lanks: Tank configuration (check one): X Vertical (upris	ht cylinder)	Horizontal	☐ Sphere					
B. 7	Tank roof type: (check one):	of – indicate tank ro	of height(feet)						
	🛛 Dome r	oof – indicate tank ro	bof height 1.07 (feet)						
	Indicate sh	ell radius <u>4.0</u> (feet)							
	F	LOATING RO	OF TANK DESCI	RIPTION					
13.	13. For floating Roof tanks (both internal and external) – shell condition (check one): Not Applicable								
	Light rust	Dense rust		Gu	inite lined				
14.	14. For External Floating Roof tanks: Not Applicable								
	A. Tank construction (check one):	welded tank		KI	veted tank				
	B. Rim Seal system description (check one):								
	Shoe Mounted Primary	Vapor Mounted, Pr	rimary	Lie	quid Mounted Primary				
	Shoe Primary, Rim Secondary	Vapor Primary, Rin	n Secondary	Lie	quid Primary, Rim Secondary				
	Liquid Primary w/Weather Shield	Shoe Primary and S	Secondary	Va	por Primary w/Weather Shield				
	C. Roof type (check one):	Pontoon roof		Do	ouble Deck roof				
	D. Roof fitting types (indicate the number of each	type):							
	Access Hatch (24" Diameter well)								
	Bolted cover, gasketed	Unslotted Guide-P	ole Well	Gauge-H	Float Well (20" Diameter)				
	Unbolted cover, gasketed	(8" Diameter Unsl	otted Pole, 21" Dia. We	Unbolte	d cover, ungasketed				
	Unbolted cover, ungasketed	Gasketed sliding c	g cover	Unbolte	d cover, gasketed				
	Course Hotak/Samala Wall (0" Dis)	Sushered blidning C		Bolted c	cover, gasketed				
	Weighted Mechanical	Vacuum Breaker (10" Dia. Well)	Roof Dr	ain				
	Actuation Gasketed	Weighted Mechan	ical	Open					
	Weighted Mechanical	Actuation Gasket	ted	1,					
	Actuation Ungasketed	Actuation Ungas	keted	90% Clo	osed				
	Slotted Guide Pole/Sample Well Poof Leg (2.14" Dia)								
	Ungasketed Sliding Cover, without Float	Roof Leg (3" Dia.)	Adjustal	ble, Pontoon area				
	Ungasketed Sliding Cover, with Float	Adjustable, Ponto	on area	Adjusta	ble, Center area				
	Gasketed Sliding Cover, without Float	Adjustable Doubl	e-Deck roofs	Adjusta	ble, Double-Deck roofs				
	Gasketed Sliding Cover, with Float	Fixed		Fix	ted				
Pag	e number:	Revision number:		Date of	revision:				
18	of 56	R3-3 SM2 and CI	21	August	13, 2021				
				9					

CN-1403

APC 6

MSOP-24

15. For Internal F	Floating Roof	tanks: Not Applica	ble							
A. Rim Seal	system descri	ption:								
Liquid Mo Vapor Mo	ounted Prima ounted Primar	ry Y	Liquid I Vapor M	Mounted I Mounted P	Primary plus Primary plus	Secondary Seal Secondary Seal				
B. Number o	f Columns:			D.	Deck Typ	e (check one):	Welded	Bolted		
C. Effective	Column diam	neter:	(Feet)	E.	Total Decl	k Seam length:	(Feet)			
F. Deck Area	a:	(Square								
G. Deck Fitti	G. Deck Fitting types (indicate the number of each type):									
Access Ha Bolted cov Unbolted o Unbolted o Pipe Colur Pipe Colur	atch (24" Dia ver, gasketed cover, gasket cover, ungasl nn-Sliding co nn-Sliding co	.) ed keted over, gasketed over, ungasketed	Automatic Gauge Fl Bolted cover, gasket Unbolted cover, gas Unbolted cover, ung	loat Well ted keted gasketed		n-Sliding cover, gasket n-Sliding cover, ungasl exible fabric sleeve sea	ed keted 1			
Ladder we Sliding co Sliding co Sample W Stub Drai	ell ver, gasketed ver, ungasket /ell-Slit fabriv in, 1-inch dia Breaker	l ted c seal, 10% open area meter	Sample Pipe and Well Slotted Pipe-Sliding cover, gasketed Slotted Pipe-Sliding cover, ungasketed			Roof Leg or Hanger Well Adjustable Fixed				
Weighted Weighted	Mechanical A	Actuation, gasketed Actuation, ungasketed								
16. For variable v	apor space ta	anks: Not Applicab	le							
v ofutite exp		TAN	K CONTENTS	AND O	PERATIO	ON DESCRIPTI	ON			
17. Complete the	flowing tabl	e for materials to be s	ored in this tank:							
Material or component stored	Wt. %	Material Annual Throughput (1000 Gal./Yr.)‡	Material stored Daily Average (Gallons)‡	Com Mo weight N	nponent lecular s (Lb./Lb. fole)	Component Vapor Pressures (PSIA)	Material storage pressure (PSIA)‡	Material average storage temp. (Deg. F)‡		
VOC	100	38.24	15	1	516	2.89	14.10	250		
Multipurpose tank	with variable	e composition:	1	۲ <u> </u>	les	1	No No			
18. Describe the	operation this	s tank will serve:								
Page number: 19 of 56	ge number: Date of revision: 0 of 56 R3-3 SM2 and CP1 August 13, 2021									
‡Value shown is fo	or the mixture	ð.				0				

CN-1403



TITLE V PERMIT APPLICATION STORAGE TANKS

	GENER	AL IDENTITI	CATION AND D	ESCKII HON					
1.	Facility name:								
	Eastman Chemical Company, Tennessee Op	erations							
2.	Process emission source (identify): PES B-221-3								
		STORAGE T	ANK DESCRIPTI	ON					
3.	Storage tank identification: WH-50		3a. Vent ID: F1						
4.	Location of the storage tank or tank farm in UTM	coordinates:	UTM Vertical: 40427	700 N	UTM Horizontal: 362200 E				
5.	Storage tank capacity: 6. Year of ins	stallation:	7. Tank height		8. Tank diameter:				
	105,000 (Gallons) 1967		20.0 (Feet)		30.0 (Feet)				
9.	Color of tank:	ite 🛛 Other	Specify Insulated Tank						
10.	Is this tank equipped with a submerged fill pipe?		Xes [No					
11.	Type of storage tank:		_		_				
	$\Box \text{ Open top tank} \qquad \qquad \boxtimes \text{ Fixe}$	ed roof	Fixed roof w/interna	al floating roof	Other (specify)				
10	Pressurized tank	ernal floating roof	Variable vapor spac	ce					
12.	For fixed roof tanks:	ht ordin dow)	U Hamistantal	7 Smh ana					
A. B	Tank configuration (check one): \square vertical (uprig	of _ indicate tank roo	f height (feet)	_ Sphere	ight is not relevant since the outpas height				
D.		$roof_{-}$ indicate tank ro	of height 4.02 (feet)	is measured form	n the liquid surface of the tank to the ton				
	Indicate sh	ell radius 15.0 (feet)	of height $\frac{4.02}{1000}$ (lett)	of the tank roof	in the figure surface of the tank to the top				
	F	LOATING RO	OF TANK DESCRI	IPTION					
13	For floating Poof tanks (both internal and external	1) shell condition (c)	heck one): Not Applical	hle					
15.	Light rust	Dense rust	neek one). Not Applica	Gun	ite lined				
14	14 For External Floating Roof tanks: Not Applicable								
14.	A Tank construction (check one): Welded tank Riveted tank								
	B. Rim Seal system description (check one):								
	Shoe Mounted Primary	Vapor Mounted, Pr	imary	Liqu	id Mounted Primary				
	Shoe Primary, Rim Secondary	Vapor Primary, Rir	n Secondary	Liqu	id Primary, Rim Secondary				
	Liquid Primary w/Weather Shield	Shoe Primary and S	Secondary Vapor Primary w/Weather Shield						
	C. Roof type (check one):	Pontoon roof	Double Deck roof						
	D. Roof fitting types (indicate the number of each	n type):							
	Access Hatch (24" Diameter well)	Unslotted Guide-P	ole Well						
	Bolted cover. gasketed	(8" Diameter Unsl	otted Pole, 21" Dia, Well) Gauge-Fl	oat Well (20" Diameter)				
	Unbolted cover, gasketed	Ungasketed sliding	cover	Unbolted	cover, ungasketed				
	Unbolted cover, ungasketed	Gasketed sliding c	over	Unbolted	cover, gasketed				
	-	-		Bolled Co	ver, gaskeled				
	Gauge Hatch/Sample Well (8" Dia.)	Vacuum Breaker (10" Dia. Well)	RoofDra	in				
	Weighted Mechanical	Weighted Mechan	ical	Open					
	Actuation Gasketed	Actuation Gasket	ed	- r					
	Weighted Mechanical	Weighted Mechani	ical	90% Clos	ed				
	Actuation Ongasketed								
	Slotted Guide-Pole/Sample Well Roof Leg (3" Dia) Roof Leg (2 ¹ / ₂ " Dia.)								
	Ungasketed Sliding Cover, without Float	Adjustable, Pontoc	on area	Adjustabl	e, Pontoon area				
	Ungasketed Sliding Cover, with Float	Adjustable, Center	area	Adjustabl	e, Center area				
	Gasketed Sliding Cover, without Float	Adjustable, Double	e-Deck roofs	Aujustabl	d				
	Gasketed Sliding Cover, with Float	Fixed		TIXC	u				
				_					
Page	e number:	Revision number:	1	Date of re	vision:				
20 0	01 36	K3-3 SM2 and CF	'1	August 1	13, 2021				
CN-	.1403				PDA 1209				

MSOP-24

APC 6

MSOP-24

15. For Internal F	loating Roof	tanks: Not Applical	ole						
A. Rim Seal s	system descri	ption:							
Liquid Mo Vapor Mo	ounted Primar unted Primar	ry y	Liquid N Vapor N	Mounted F Mounted P	rimary plus rimary plus	Secondary Seal Secondary Seal			
B. Number of	f Columns:			D.	D. Deck Type (check one):		Welded	Bolted	
C. Effective (Column diam	eter:	(Feet)	E.	Total Deck Seam length:		(Feet)		
F. Deck Area	1:	Feet)							
G. Deck Fittin	ng types (ind	icate the number of ea	ch type):						
Access Ha Bolted cov Unbolted o Unbolted o Pipe Colur Pipe Colur	ttch (24" Dia ver, gasketed cover, gasket cover, ungask nn-Sliding co nn-Sliding co	.) ed ceted over, gasketed over, ungasketed	Automatic Gauge Fle Bolted cover, gasket Unbolted cover, gask Unbolted cover, ung	oat Well ed ceted asketed		a-Sliding cover, gasket a-Sliding cover, ungask exible fabric sleeve sea	ed teted I		
Ladder we Sliding co Sliding co Sample W Stub Drai Vacuum B Weighted	ll ver, gasketed ver, ungasket 'ell-Slit fabrid in, 1-inch dia Breaker Mechanical	ted c seal, 10% open area meter	Sample Pipe and Well Slotted Pipe-Sliding cover, gasketed Slotted Pipe-Sliding cover, ungasketed				Roof Leg or Hanger Well Adjustable Fixed		
Weighted	Mechanical A	Actuation, ungasketed							
 For variable v Volume exp 	apor space ta	anks: Not Applicable acity (Gallons)	2						
÷		TAN	K CONTENTS A	AND OI	PERATIO	ON DESCRIPTI	ON		
17. Complete the	flowing table	e for materials to be st	ored in this tank:						
Material or component stored	Wt. %	Material Annual Throughput (1000 Gal./Yr.)‡	Material stored Daily Average (Gallons)‡	Com Mol weights M	ponent ecular s (Lb./Lb. lole)	Component Vapor Pressures (PSIA)	Material storage pressure (PSIA)‡	Material average storage temp. (Deg. F)‡	
VOC	100	52,500	25,685	3'	7.34	2.32	14.10	212	
Multinumose tank	with variable	composition.	<u> </u>	П У	'es		No		
18. Describe the of Ester Proces	operation this s Tank	s tank will serve:							
Page number: 21 of 56			Revision number: R3-3 SM2 and C	P1		Date o Augu	of revision: 1 st 13, 2021		
[†] Value shown is f	or the mixtu	e .							

CN-1403



APC 6

MSOP-24

TITLE V PERMIT APPLICATION STORAGE TANKS

GENERAL IDENTIFICATION AND DESCRIPTION									
1. Facility name:									
Eastman Chemical Company, Tennessee Op	erations								
2. Process emission source (identify): DES D 221 2									
STORAGE TANK DESCRIPTION									
3. Storage tank identification:		3a. Vent ID:							
XG-50		F2							
4. Location of the storage tank or tank farm in UTM	coordinates:	UTM Vertical: 4042800 N	UTM Horizontal: 362300 E						
5. Storage tank capacity: 6. Year of ins	stallation:	7. Tank height	8. Tank diameter:						
7080 (Gallons) 1966		12.0 (Feet)	10.0 (Feet)						
9. Color of tank:	ite 🛛 Other	Specify Unpainted Aluminur	<u>1</u>						
10. Is this tank equipped with a submerged fill pipe?									
$\square \text{ Open top tank} \qquad \qquad \square \text{ Fixe}$	ed roof	☐ Fixed roof w/internal floa	ting roof Other (specif	v)					
Pressurized tank	ernal floating roof	Variable vapor space		57					
12. For fixed roof tanks:									
A. Tank configuration (check one): X Vertical (uprig	ght cylinder)	☐ Horizontal ☐ Sph	ere						
B. Tank tool type. (check one).	roof – indicate tank ro	of height 1 34 (feet)							
Indicate sh	ell radius 5.0 (feet)	(1001)							
F	LOATING RO	OF TANK DESCRIPTI	ON						
13. For floating Roof tanks (both internal and external) – shell condition (check one): Not Applicable									
Light rust	Light rust Dense rust Gunite lined								
14. For External Floating Root tanks: Not Applicable A Tank construction (check one): Welded tank									
A. Tank construction (check one).	welded tallk		Rivered tank						
B. Rim Seal system description (check one):									
Shoe Mounted Primary	Vapor Mounted, Pr	rimary	Liquid Mounted Primary						
Shoe Primary, Rim Secondary	Vapor Primary, Rin	n Secondary	Liquid Primary, Rim Secondary						
Liquid Primary W/ weather Shield	Shoe Primary and S	Secondary	vapor Primary W/ weather Shield						
C. Roof type (check one):	Pontoon roof		Double Deck roof						
D. Roof fitting types (indicate the number of each	h type):								
Access Hatch (24" Diameter well)									
Bolted cover, gasketed	Unslotted Guide-P	Pole Well	Gauge-Float Well (20" Diameter)						
Unbolted cover, gasketed	(8" Diameter Unsl	otted Pole, 21" Dia. Well)	Unbolted cover, ungasketed						
Unbolted cover, ungasketed	Gasketed sliding c	over	Unbolted cover, gasketed						
Gauge Hatch/Sample Well (8" Dia)	-8-		Bolted cover, gasketed						
Weighted Mechanical	Vacuum Breaker (10" Dia. Well)	Roof Drain						
Actuation Gasketed	Weighted Mechan	10al ted	Open						
Weighted Mechanical	Weighted Mechan	ical							
Actuation Ungasketed	Actuation Ungasl	keted	90% Closed						
Slotted Guide-Pole/Sample Well Roof Leg (2 ¹ / ₂ " Dia.) Roof Leg (2 ¹ / ₂ " Dia.)									
Ungasketed Sliding Cover, without Float Ungasketed Sliding Cover, with Float Adjustable, Pontoon area									
Ungasketed Sliding Cover, without Float	Adjustable, Center	r area	Adjustable, Center area						
Gasketed Sliding Cover, with Float	Adjustable, Doubl	e-Deck roofs	Fixed						
	Fixed								
	~								
Page number:	Revision number:	1	Date of revision:						
22 01 30	K3-3 SM2 and CI	71	August 13, 2021						

APC 6

MSOP-24

15. For Internal H	Floating Roof	tanks: Not Applicab	le							
A. Rim Seal	system descri	ption:								
Liquid Mo Vapor Mo	ounted Primar	ry y	Liquid N Vapor N	Mounted F Mounted P	Primary plus rimary plus	Secondary Seal Secondary Seal				
B. Number o	f Columns:			D.	Deck Type	e (check one):	Welded	Bolted		
C. Effective	Column diam	eter:	(Feet)	E.	Total Decl	x Seam length:	(Feet)			
F. Deck Area	sek Area: (Square Feet)									
G. Deck Fitti	G. Deck Fitting types (indicate the number of each type):									
Access Ha Bolted co Unbolted Unbolted Pipe Colur Pipe Colur	atch (24" Dia. ver, gasketed cover, gasket cover, ungask nn-Sliding co nn-Sliding co	.) ed keted over, gasketed over, ungasketed	Automatic Gauge Fle Bolted cover, gasket Unbolted cover, gask Unbolted cover, ung	oat Well ed ceted asketed		n-Sliding cover, gasket n-Sliding cover, ungasl exible fabric sleeve sea	ed teted I			
Ladder we Sliding co Sliding co Sample W Stub Dra Vacuum F Weighted Weighted	Ladder wellSample Pipe and WellRoof Leg or Hanger WellSliding cover, gasketedSlotted Pipe-Sliding cover, gasketedAdjustableSliding cover, ungasketedSlotted Pipe-Sliding cover, ungasketedFixedSample Well-Slit fabric seal, 10% open area Stub Drain, 1-inch diameterSlotted Pipe-Sliding cover, ungasketedFixedVacuum Breaker Weighted Mechanical Actuation, gasketed Weighted Mechanical Actuation, gasketedVacuum BreakerSlotted Pipe-Sliding cover, ungasketed									
16. For variable v	vapor space ta	anks: Not Applicable	2							
Volume exp	bansion capa	acity (Gallons) TAN	K CONTENTS A	AND OI	PERATIO	ON DESCRIPTI	ON			
17. Complete the	flowing table	e for materials to be st	ored in this tank:							
Material or component stored	Wt. %	Material Annual Throughput (1000 Gal./Yr.)‡	Material stored Daily Average (Gallons)‡	Com Mol weights M	iponent lecular s (Lb./Lb. lole)	Component Vapor Pressures (PSIA)	Material storage pressure (PSIA)‡	Material average storage temp. (Deg. F)‡		
VOC	100	184	3555	32	2.04	7.86	14.10	140		
Multipurpose tank	Multipurpose tank with variable composition:									
18. Describe the Crude Glyce	operation this ol Process T	s tank will serve: Sank								
Page number: 23 of 56			Revision number: R3-3 SM2 and C	P1		Date o Augu	of revision: 1 st 13, 2021			
[‡] Value shown is fo	or the mixture	2.								

CN-1403



APC 6 MSOP-24

TITLE V PERMIT APPLICATION STORAGE TANKS

ULITE	AL IDENTITI	ICATION AND DESC.								
1. Facility name: Eastman Chemical Company, Tennessee Op	perations									
2. Process emission source (identify): PES B-221-3										
	STORAGE TANK DESCRIPTION									
3. Storage tank identification: XG-51		3a. Vent ID: G								
4. Location of the storage tank or tank farm in UTM	l coordinates:	UTM Vertical: 4042800 N	UTM Horizontal: <u>362300 E</u>							
5.Storage tank capacity:6.Year of in7080 (Gallons)1966	stallation:	7. Tank height 12.0 (Feet)	8. Tank diameter: 10.0 (Feet)							
9. Color of tank:	ite 🛛 Other	Specify Unpainted Aluminu	<u>im</u>							
10. Is this tank equipped with a submerged fill pipe?		Yes N	0							
11. Type of storage tank: □ Open top tank □ Fix. □ Pressurized tank □ Ext	ed roof ernal floating roof	Fixed roof w/internal flo	Dating roof Other (specify)							
12. For fixed roof tanks: A. Tank configuration (check one): Descendent rooting roof - indicate tank roof height										
F	FLOATING RO	OF TANK DESCRIPT	ION							
13. For floating Roof tanks (both internal and external) – shell condition (check one): Not Applicable Light rust Dense rust Gunite lined										
14. For External Floating Roof tanks: Not Applicable A. Tank construction (check one): Welded tank Riveted tank										
 B. Rim Seal system description (check one): Shoe Mounted Primary Shoe Primary, Rim Secondary Liquid Primary w/Weather Shield 	Vapor Mounted, Pr Vapor Primary, Rin Shoe Primary and S	rimary m Secondary Secondary	Liquid Mounted Primary Liquid Primary, Rim Secondary Vapor Primary w/Weather Shield							
C. Roof type (check one):	Pontoon roof		Double Deck roof							
D. Roof fitting types (indicate the number of eac	h type):									
Access Hatch (24" Diameter well) Bolted cover, gasketed Unbolted cover, gasketed Unbolted cover, ungasketed Gauge Hatch/Sample Well (8" Dia.) Weighted Mechanical Actuation Gasketed Weighted Mechanical Actuation Ungasketed Slotted Guide-Pole/Sample Well Ungasketed Sliding Cover, without Float Gasketed Sliding Cover, with Float Gasketed Sliding Cover, with Float	Unslotted Guide-F (8" Diameter Unsl Ungasketed sliding Gasketed sliding of Vacuum Breaker (Weighted Mechan Actuation Gasker Weighted Mechan Actuation Ungas Roof Leg (3" Dia. Adjustable, Pontoo Adjustable, Center Adjustable, Doubl Fixed	Pole Well lotted Pole, 21" Dia. Well) g cover cover (10" Dia. Well) lical ted lical keted) on area r area e-Deck roofs	Gauge-Float Well (20" Diameter) Unbolted cover, ungasketed Unbolted cover, gasketed Bolted cover, gasketed Roof Drain Open 90% Closed Roof Leg (2 ½" Dia.) Adjustable, Pontoon area Adjustable, Center area Adjustable, Double-Deck roofs Fixed							
Page number: 24 of 56	Revision number: R3-3 SM2 and CI	21	Date of revision: August 13, 2021							

CN-1403

APC 6

MSOP-24

15. For Internal F	Floating Roof	tanks: Not Applicat	ole						
A. Rim Seal	system descri	iption:							
Liquid Mo Vapor Mo	ounted Prima ounted Primar	ry 'Y	Liquid N Vapor N	Mounted I Mounted P	Primary plus Primary plus	Secondary Seal Secondary Seal			
B. Number o	f Columns:			D.	Deck Type	e (check one):	Welded	Bolted	
C. Effective	Column diam	neter:	(Feet)	E.	Total Decl	k Seam length:	(Feet)		
F. Deck Area	a:	(Square	Feet)						
G. Deck Fitti	ng types (ind	icate the number of ea	ch type):						
Access Ha Bolted co Unbolted Unbolted Pipe Colur Pipe Colur	atch (24" Dia ver, gasketed cover, gasket cover, ungasl nn-Sliding co nn-Sliding co	.) ed keted over, gasketed over, ungasketed	Automatic Gauge Fl. Bolted cover, gasket Unbolted cover, gask Unbolted cover, ung	oat Well ed keted asketed		n-Sliding cover, gasket n-Sliding cover, ungasl exible fabric sleeve sea	ed xeted I		
Ladder we Sliding co Sliding co Sample W Stub Drai	ell ver, gasketed ver, ungaske /ell-Slit fabri- in, 1-inch dia	l ted c seal, 10% open area meter	Sample Pipe and Well Slotted Pipe-Sliding cover, gasketed Slotted Pipe-Sliding cover, ungasketed			Roof Leg or Hanger Well Adjustable Fixed			
Vacuum E Weighted Weighted	Breaker Mechanical Mechanical	Actuation, gasketed Actuation, ungasketed							
16. For variable v	apor space ta	anks: Not Applicabl	e						
Volume exp	bansion capa	acity (Gallons) TAN	K CONTENTS 4	AND O	PERATIO	ON DESCRIPTI	ON		
17. Complete the	flowing tabl	e for materials to be st	ored in this tank:						
Material or component stored	Material or component stored % Material Annual Throughput (1000 Gal./Yr.)†			Com Mo weight N	nponent lecular s (Lb./Lb. [ole)	Component Vapor Pressures (PSIA)	Material storage pressure (PSIA)‡	Material average storage temp. (Deg. F)‡	
VOC	100	184	3555	3	2.04	7.86	14.10	140	
Multipurpose tank	with variable	e composition:		<u> </u>	l es	·	🛛 No		
18. Describe the Crude Glyce	operation this	s tank will serve: Fank							
Page number: 25 of 56	Page number: Revision number: Date of revision: 25 of 56 R 3-3 SM2 and CP1 August 13 2021								
‡Value shown is fo	or the mixture	e.					,		

CN-1403



APC 6 MSOP-24

TITLE V PERMIT APPLICATION STORAGE TANKS

	GENERAL IDENTIFICATION AND DESCRIPTION									
1.	Facility name:									
-	Eastman Chemical Company, Tennessee Op	erations								
2.	Process emission source (identify): PFS B-221-3									
		STORAGE T	ANK DESCRIPTION							
3.	Storage tank identification:		3a. Vent ID:							
4	Location of the storage tank or tank farm in UTM	coordinates:	UTM Vertical: 4042710 N	LITM Horizontal: 362247 F						
- . 5.	Storage tank canacity: 6. Year of ins	stallation:	7. Tank height	8. Tank diameter:						
5.	38071 (Gallons) 1988		20.0 (Feet)	18.0 (Feet)						
9.	Color of tank:	ite 🛛 Other	Specify Insulated Tank							
10.	Is this tank equipped with a submerged fill pipe?		Yes No							
11.	Type of storage tank:	1 0								
	Open top tank Fixed Fix	d root amal floating roof	☐ Fixed roof w/internal floatin	ng root Uther (specify)						
12.	For fixed roof tanks:	inar noating 1001								
Α.	Tank configuration (check one): 🛛 Vertical (uprig	ght cylinder)	Horizontal Spher	e						
В. 1	Tank roof type: (check one):	oof – indicate tank roo	of height (feet)							
	Dome r	oof – indicate tank ro	of height <u>2.41</u> (feet)							
	Indicate sh	ell radius <u>9.0</u> (feet)								
	F	LOATING ROO	OF TANK DESCRIPTIO	DN						
13.	For floating Roof tanks (both internal and external	l) – shell condition (cl	heck one): Not Applicable	Cumita lined						
14	Ligni rusi For External Floating Poof tankay Not Applicab	Dense rust		Gunite linea						
14.	A. Tank construction (check one):	Welded tank		Riveted tank						
	The Turk construction (check one).	Welded talk								
	B. Rim Seal system description (check one):									
	Shoe Mounted Primary	Vapor Mounted, Pr	imary	Liquid Mounted Primary						
	Shoe Primary, Rim Secondary	Vapor Primary, Rin	n Secondary	Liquid Primary, Rim Secondary						
	Liquid Primary w/Weather Shield	Shoe Primary and S	Secondary	Vapor Primary w/Weather Shield						
	C. Roof type (check one):	Pontoon roof		Double Deck roof						
	D. Roof fitting types (indicate the number of each	n type):								
	Access Hatch (24" Diameter well)									
	Bolted cover, gasketed	Unslotted Guide-P	ole Well	Gauge-Float Well (20" Diameter)						
	Unbolted cover, gasketed	(8" Diameter Unslo	otted Pole, 21" Dia. Well)	Unbolted cover, ungasketed						
	Unbolted cover, ungasketed	Gasketed sliding of	g cover	Unbolted cover, gasketed						
	Gauga Hatak/Sampla Wall (0" Dis)	Sushered briding of	- ·	Bolted cover, gasketed						
	Gauge Hatch/Sample Well (8" Dia.)	Vacuum Breaker (10" Dia. Well)	Roof Drain						
	Actuation Gasketed	Weighted Mechani	ical	Open						
	Weighted Mechanical	Actuation Gasket	ed	o here						
	Actuation Ungasketed	Weighted Mechani Actuation Ungask	ical ceted	90% Closed						
	Slotted Guide-Pole/Sample Well Roof Leg (2 ½" Dia.)									
	Ungasketed Sliding Cover, without Float	Adjustable Dates		Adjustable, Pontoon area						
	Ungasketed Sliding Cover, with Float	Adjustable Center	area	Adjustable, Center area						
	Gasketed Sliding Cover, without Float	Adjustable. Double	e-Deck roofs	Adjustable, Double-Deck roofs						
	Gasketed Sliding Cover, with Float	Fixed		Fixed						
Pag	e number:	Revision number:		Date of revision:						
26 0	of 56	R3-3 SM2 and CP	21	August 13, 2021						

CN-1403

APC 6

MSOP-24

15. For Internal I	Floating Roof	tanks: Not Applicat	le					
A. Rim Seal	system descri	ption:						
Liquid Mo Vapor Mo	ounted Primar	ry y	Liquid N Vapor N	Mounted F Mounted P	Primary plus Primary plus	Secondary Seal Secondary Seal		
B. Number o	f Columns:			D.	Deck Type	e (check one):	Welded	Bolted
C. Effective	Column diam	eter:	(Feet)	E.	Total Decl	x Seam length:	(Feet)	
F. Deck Are	a:	(Square)	Feet)					
G. Deck Fitti	ing types (ind	icate the number of ea	ch type):					
Access Ha Bolted co Unbolted Unbolted Pipe Colum Pipe Colum	atch (24" Dia. ver, gasketed cover, gasket cover, ungask mn-Sliding co mn-Sliding co	.) ed keted over, gasketed over, ungasketed	Automatic Gauge Fle Bolted cover, gasket Unbolted cover, gask Unbolted cover, ung	oat Well ed ceted asketed	n-Sliding cover, gasket n-Sliding cover, ungasl exible fabric sleeve sea	ed keted I		
Ladder wellSample Pipe and WellSliding cover, gasketedSlotted Pipe-Sliding cover, gasketedSliding cover, ungasketedSlotted Pipe-Sliding cover, ungasketedSample Well-Slit fabric seal, 10% open area Stub Drain, 1-inch diameterSlotted Pipe-Sliding cover, ungasketedVacuum Breaker Weighted Mechanical Actuation, gasketedSlotted Pipe-Sliding cover, ungasketed						Roof Leg Adjustab Fixed	or Hanger Well le	
16 For variable	wapor space ta	anks: Not Applicable						
Volume exp	pansion capa	acity (Gallons)						
17.0 1.4.4	a :	TAN	K CONTENTS A	AND OI	PERATIO	ON DESCRIPTI	ON	
17. Complete the	llowing table	e for materials to be st	ored in this tank.					
Material or component stored	Wt. %	Material Annual Throughput (1000 Gal./Yr.)‡	Material stored Daily Average (Gallons)‡	Com Mol weights M	nponent lecular s (Lb./Lb. lole)	Component Vapor Pressures (PSIA)	Material storage pressure (PSIA)‡	Material average storage temp. (Deg. F)‡
VOC	100	8363	19035	14	4.29	0.10	14.10	300
Multipurpose tank	with variable	e composition:		□ Y	les		🛛 No	
18. Describe the Refined Gly	operation this col Storage	s tank will serve:						
Page number: 27 of 56			Revision number: R3-3 SM2 and C	P1		Date o Augu	of revision: 1st 13, 2021	
[‡] Value shown is f	or the mixture	2.						

+ v alde sh CN-1403



TITLE V PERMIT APPLICATION STORAGE TANKS CENERAL IDENTIFICATION AND DESCRIPTION

	GEI(ER								
1.	Facility name:								
	Eastman Chemical Company, Tennessee Op	erations							
2.	Process emission source (identify): PES B-221-3								
	STORAGE TANK DESCRIPTION								
3.	Storage tank identification: WH-51		3a. Vent ID: J2						
4.	Location of the storage tank or tank farm in UTM	coordinates:	UTM Vertical: 40427	00 N	UTM Horizontal: 362200 E				
5.	Storage tank capacity: 6. Year of ins	stallation:	7. Tank height		8. Tank diameter:				
	519,130 (Gallons) 2021		40.0 (Feet)		47.0 (Feet)				
9.	Color of tank:	ite 🛛 Other	Specify Insulated Tank						
10.	Is this tank equipped with a submerged fill pipe?		Xes [No					
11.	Type of storage tank:								
	\Box Open top tank \Box Fixe	ed roof	Fixed roof w/interna	l floating roof	Other (specify)				
	Pressurized tank Exte	ernal floating roof	Variable vapor space	9					
12.	For fixed roof tanks:	1. 1. 1							
A. B	Tank configuration (check one): X vertical (uprig	indicate tank roc	Horizontal L	Sphere					
D	Tank toor type. (check one). \Box Cone to \Box	oof indicate tank ro	of height 6.30 (feet)	is massured for	the liquid surface of the tenk to the ten				
	Indicate sh	ell radius 23.5 (feet)	of height 0.50 (left)	of the tank roof	if the figure surface of the tank to the top				
	F	LOATING ROC	DE TANK DESCRI	PTION					
13	For floating Roof tanks (both internal and external	D = shell condition (c)	heck one): Not Applicat	le					
15.	Light rust	Dense rust	neek one). Not Applicat	Gun	ite lined				
14.	For External Floating Roof tanks: Not Applicab	le		C un					
	A. Tank construction (check one):	Welded tank		Rive	eted tank				
	B. Rim Seal system description (check one):								
	Shoe Mounted Primary	Vapor Mounted, Pr	imary	Liqu	uid Mounted Primary				
	Shoe Primary, Rim Secondary	Vapor Primary, Rin	m Secondary Liquid Primary, Rim Secondary						
	Liquid Primary w/Weather Shield	Shoe Primary and S	Secondary Vapor Primary w/Weather Shield						
	C. Roof type (check one):	Pontoon roof	Double Deck roof						
	D. Roof fitting types (indicate the number of each	n type):							
	Access Hatch (24" Diameter well)	Unslotted Guide-P	ole Well	~ ~					
	Bolted cover, gasketed	(8" Diameter Unsl	otted Pole, 21" Dia. Well)	Gauge-Fl	loat Well (20" Diameter)				
	Unbolted cover, gasketed	Ungasketed sliding	g cover	Unbolted	cover, ungasketed				
	Unbolted cover, ungasketed	Gasketed sliding co	over	Bolted co	over, gasketed				
	Gauga Hatah/Sampla Wall (9" Die)	Vogume Dessierer (10" Die Well						
	Weighted Mechanical	Weighted Machan	io Dia. well)	Roof Dra	in				
	Actuation Gasketed	Actuation Gasket	ed	Open					
	Weighted Mechanical	Weighted Mechani	ical	000/ 61					
	Actuation UngasketedActuation Ungasketed90% Closed								
	Slotted Guide Pole/Sample Wall	Poof Leg (3" Die)		Roof Leg	g (2 ½" Dia.)				
Slotted Guide-Pole/Sample Well Root Leg (5" Dia.)				Adjustab	le, Pontoon area				
	Ungasketed Sliding Cover, with Float	Adjustable. Center	area	Adjustab	le, Center area				
	Gasketed Sliding Cover, without Float	Adjustable, Double	e-Deck roofs	Adjustab	le, Double-Deck roots				
	Gasketed Sliding Cover, with Float	Fixed		Fixe	ca				
Page	e number:	Revision number:	1	Date of re	evision:				
28 0	06 10	K3-3 SM2 and CP	'1	August	13, 2021				
CN-	1403				PDA 1208				

MSOP-24

APC 6

MSOP-24

15. For Internal F	15. For Internal Floating Roof tanks: Not Applicable							
A. Rim Seal s	A. Rim Seal system description:							
Liquid Mo Vapor Mo	Liquid Mounted PrimaryLiquid Mounted Primary plus Secondary SealVapor Mounted PrimaryVapor Mounted Primary plus Secondary Seal							
B. Number of	f Columns:			D.	Deck Type	e (check one):	Welded	Bolted
C. Effective (Column diam	neter:	(Feet)	E.	Total Decl	Seam length:	(Feet)	
F. Deck Area	a:	(Square)	Feet)					
G. Deck Fittin	ng types (ind	icate the number of ea	ch type):					
Access Ha Bolted cov Unbolted o Unbolted o Pipe Colur Pipe Colur	Access Hatch (24" Dia.)Automatic Gauge Float WellColumn WellBolted cover, gasketedBolted cover, gasketedBuilt-up Column-Sliding cover, gasketedUnbolted cover, gasketedUnbolted cover, gasketedBuilt-up Column-Sliding cover, ungasketedUnbolted cover, ungasketedUnbolted cover, ungasketedPipe Column-Flexible fabric sleeve sealPipe Column-Sliding cover, ungasketedFipe Column-Sliding cover, ungasketedFipe Column-Flexible fabric sleeve seal					ed keted Il		
Ladder wellSample Pipe and WellSliding cover, gasketedSlotted Pipe-Sliding cover, gasketedSliding cover, ungasketedSlotted Pipe-Sliding cover, ungasketedSample Well-Slit fabric seal, 10% open areaSlotted Pipe-Sliding cover, ungasketedStub Drain, 1-inch diameterVacuum Breaker				, gasketed , ungasketed		Roof Leg Adjustab Fixed	g or Hanger Well le	
Weighted	Mechanical A	Actuation, ungasketed						
16. For variable v Volume exp	apor space ta	anks: Not Applicabl acity (Gallons)	3					
•		TAN	K CONTENTS A	AND OI	PERATIO	ON DESCRIPTI	ON	
17. Complete the	flowing tabl	e for materials to be st	ored in this tank:					
Material or component stored	Wt. %	Material Annual Throughput (1000 Gal./Yr)‡	Material stored Daily Average (Gallons)‡	Com Mol weights M	nponent lecular s (Lb./Lb. lole)	Component Vapor Pressures (PSIA)	Material storage pressure (PSIA)‡	Material average storage temp. (Deg. F)‡
VOC	99.4	52,925	145,000	20	0.23	0.00	14.10	140
Methanol	0.6			32	2.04	0.47		
					7.22		N	
18. Describe the one Ester Proces	operation this	s tank will serve:			les			
Page number: 29 of 56			Revision number: R3-3 SM2 and C	P1		Date o Augu	of revision: 13, 2021	
[†] Value shown is f	or the mixtu	re						

CN-1403



TITLE V PERMIT APPLICATION CONTROL EQUIPMENT – WET COLLECTION SYSTEMS

	GENERAL IDENTIFICATION AND DESCRIPTION							
1.	Facility name:	anaggaa Onarationg	2.	Emission source (ide	ntify):			
3.	Stack ID or flow diagram point identi:	fication(s):		PES D-221-5				
	E							
		WET COLLECTIC)N I	DESCRIPTION				
4.	. Describe the device in use. List the key operating parameters of this device and their normal operating range.							
	Device Description:	WE-37 Scrubber is a single-pass wate	er scr	ubber with a packed be	ed.			
	Key Operating Parameter(s):	Inlet water flow rate						
	Normal Operating Range(s):	Greater than or equal to 4.7 gpm						
5.	Manufacturer and model number (if a	vailable):	6.	Year of installation:				
7.	List of pollutant(s) to be controlled an	d the expected control efficiency for eau	ch po	llutant.				
/.		a me expected control efficiency for ear	en po	induint.				
	Pollutant	Efficien	ncy (%	%)	Source of data			
	VOC	/	0		Performance Test			
8.	Discuss how collected material and ef	fluent is handled for reuse or disposal.						
0	Liquid effluent is sent by closed p	upe to the on-site wastewater treater	ment	t facility.				
9.	Water	uioxide sidily, etc.j.						
10.	If this control equipment is in series w	ith some other control equipment, state	and	specify the overall effic	ciency.			
Pag	e number:	Revision number:			Date of revision:			
30 0	of 56	R3-3 SM2 and CP1			August 13, 2021			
CN-	1412					RDA 1298		

APC 17 MSOP-24



TITLE V PERMIT APPLICATION CONTROL EQUIPMENT – WET COLLECTION SYSTEMS

	GENERAL IDENTIFICATION AND DESCRIPTION							
1.	Facility name:		2.	Emission source (id	entify):			
3	Eastman Chemical Company, 1er	fication(s):		PES B-221-3				
5.	F	neurion(b).						
		WET COLLECTIO)N I	DESCRIPTION				
4.	Describe the device in use. List the keep	ey operating parameters of this device a	ind th	eir normal operating r	ange.			
	Device Description:	WE-38 Scrubber is a single-pass wat	er scr	rubber with a packed b	ed.			
	Key Operating Parameter(s):	Inlet water flow rate						
	Normal Operating Range(s):	Greater than or equal to 1.3 gpm						
5.	Manufacturer and model number (if a	vailable):	6.	Year of installation:				
	Superior Welding Company or eq	uivalent		1987 or later				
7.	List of pollutant(s) to be controlled an	d the expected control efficiency for ea	ch po	ollutant.				
	Pollutant	Efficien	ncy (9	%)	Source of data			
	VOC	7	8		Performance Test			
8	Discuss how collected material and ef	fluent is handled for reuse or disposal						
0.	 Discuss how collected material and effluent is handled for reuse or disposal. Liquid effluent is sent by closed nine to the on-site wastewater treatment facility. 							
9.	Scrubbing medium (water, sodium hy-	droxide slurry, etc.):						
1.0	Water							
10.	If this control equipment is in series w	71th some other control equipment, state	and	specify the overall eff	ciency.			
Page	number:	Revision number:			Date of revision:			
31 0	f 56	R3-3 SM2 and CP1			August 13, 2021			
CN-1	1412					RDA 1298		



TITLE V PERMIT APPLICATION CONTROL EQUIPMENT – WET COLLECTION SYSTEMS

	GENERAL IDENTIFICATION AND DESCRIPTION							
1.	Facility name:		2. Emission source (i	dentify):				
3	Eastman Chemical Company, Ter	fication(s):	PES B-221-3					
5.	J	incation(s).						
		WET COLLECTIO	DN DESCRIPTION					
4.	Describe the device in use. List the keep	ey operating parameters of this device an	nd their normal operating	range.				
	Device Description:	CE-39 Scrubber 1s a single-pass water	r scrubber with a packed b	bed.				
	Key Operating Parameter(s):	Inlet water flow rate						
	Normal Operating Range(s):	Greater than or equal to 4.0 gpm						
5.	Manufacturer and model number (if a	vailable):	6. Year of installation	1:				
7.	List of pollutant(s) to be controlled an	nd the expected control efficiency for eac	ch pollutant.					
	F	······································	F					
	Pollutant	Efficien	ncy (%)	Source of data				
	VOC	99	9	Performance Test				
-								
8.	Discuss how collected material and ef	fluent is handled for reuse or disposal.						
0	Liquid effluent is sent by closed p	sipe to the on-site wastewater treatm	ent facility.					
9.	Scrubbing medium (water, sodium hy Water	aroxiae siurry, etc.):						
10.	If this control equipment is in series w	vith some other control equipment, state	and specify the overall ef	ficiency.				
<u> </u>	-							
Page	e number:	Revision number:		Date of revision:				
CN-	1412	K3-3 SIVIZ and CP1		August 13, 2021	RDA 1298			



TITLE V PERMIT APPLICATION CONTROL EQUIPMENT – WET COLLECTION SYSTEMS GENERAL IDENTIFICATION AND DESCRIPTION

		GENERAL IDENTIFICAT	101	AND DESCRI	1101			
1.	Facility name: Eastman Chemical Company, Ter	nnessee Operations	2.	Emission source (ide PES B-221-3	entify):			
3.	 Stack ID or flow diagram point identification(s): 11 							
		WET COLLECTIO)N I	DESCRIPTION				
4.	Describe the device in use. List the keep	ey operating parameters of this device a	nd th	eir normal operating ra	inge.			
				11 14 1 11				
	Device Description: IL-51 Scrubber is a single-pass water scrubber with a packed bed.							
	Key Operating Parameter(s):	Inlet water flow rate						
	Normal Operating Range(s):	Greater than or equal to 1.5 gpm						
5.	Manufacturer and model number (if a Eastman	vailable):	6.	Year of installation:				
7.	List of pollutant(s) to be controlled an	d the expected control efficiency for ea	ch po	ollutant.				
	- · · ·			0/1				
	VOC	Efficiency 9	<u>1cy (*</u> 9	%)	ASPEN Model			
			-					
0	Disgues how collected metarial and of	Fluent is handled for rouse or dispessel						
о.	Water from the scrubber is manage	ged at the on-site wastewater treatm	ent f	facility.				
9.	Scrubbing medium (water, sodium hy	droxide slurry, etc.):		-				
10	Water	vith some other control equipment state	and	specify the overall offi	ciency			
10.	ii uns control equipment is ill series w	ini some other control equipment, state	and	specify the overall ellip	cicility.			
Pag	e number:	Revision number:			Date of revision:			
33	of 56	R3-3 SM2 and CP1			August 13, 2021	DD + 1000		
CN-	-1412					KDA 1298		



TITLE V PERMIT APPLICATION COMPLIANCE CERTIFICATION - MONITORING AND REPORTING DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE

All a required the result of the result of t	All sources that are subject to 1200-03-0902(11) of the Tennessee Air Pollution Control Regulations are required to certify compliance with all applicable requirements by including a statement within the permit application of the methods used for determining compliance. This statement must include a description of the monitoring, recordkeeping, and reporting requirements and test methods. In addition, the application must include a schedule for compliance certification submittals during the permit term. These submittals must be no less frequent than annually and may need to be more frequent if specified by the underlying applicable requirement or the Technical Secretary.								
		GENERAL IDENTIFICATION AND DESCRI	PTION						
1.	Facility	name: Eastman Chemical Company, Tennessee Operations							
2.	Process	emission source, fuel burning installation, or incinerator (identify): PES B-221-3							
3.	Stack ID	0 or flow diagram point identification(s): See APC 10 Attachment							
		METHODS OF DETERMINING COMPLIA	NCE						
4.	This sou (and spe	urce as described under Item #2 of this application will use the following method(s) for determined a operating conditions from an existing permit). Check all that apply and attach the appropriation of the appropriate operation op	ing compliance with applicable requirements ate form(s)						
		Continuous Emission Monitoring (CEM) - APC 20 Pollutant(s):							
		Emission Monitoring Using Portable Monitors - APC 21 Pollutant(s):							
		Monitoring Control System Parameters or Operating Parameters of a Process - APC 22 Pollutant(s):							
		Monitoring Maintenance Procedures - APC 23 Pollutant(s):							
		Stack Testing - APC 24 Pollutant(s):							
		Fuel Sampling & Analysis (FSA) - APC 25 Pollutant(s):							
		Recordkeeping - APC 26 Pollutant(s):							
		VOC Other (please describe) - APC 27 Pollutant(s):							
		Visible Emissions, VOC, CO							
5.	Complia	ance certification reports will be submitted to the Division according to the following schedule:							
	Start dat	Within 60 days of each 12-month period ending September 30							
	And eve	~ 365 days thereafter.							
6.	Compliance monitoring reports will be submitted to the Division according to the following schedule:								
	Start dat	Within 60 days of each six-month period ending March 31 and September 30							
	And eve	ry ~ <u>180</u> days thereafter.							
Page 34 c	e number: of 56	Revision number: R3-3 SM2 and CP1	Date of revision: August 13, 2021						
CN-	-1414		RDA 1298						

MSOP-24



The the j	The monitoring of a control system parameter or a process parameter shall be acceptable as a compliance demonstration method provided that a correlation between the parameter value and the emission rate of a particular pollutant is established.						
	GENERAL IDENTIFICATION AND DESCRIPTION						
1.	Facility name: Eastman Chemical Company, Tennessee Op	perations 2.	Stack ID or flow diagr E	am point identification(s):			
3.	Emission source: PES B-221-3						
		MONITORING DI	ESCRIPTION				
4.	Pollutant(s) being monitored: VOC						
5.	Description of the method of monitoring and esta	blishment of correlation betwee	en the parameter value and	the emission rate of a particular pollutant:			
	Requirements listed in 40 CFR Part 63 Subpart FFFF (see Eastman Form APC 30 Attachment) will ensure proper operation of the scrubber associated with Vent E.						
6.	Compliance demonstration frequency (specify the	e frequency with which complia	nce will be demonstrated)	:			
	As specified in Subpart FFFF	· · · ·	,				
Pag	e number:	Revision number:		Date of revision:			
35 c CN-	of 56 1417	K3-3 SM2 and CP1		August 13, 2021 RD.	A 1298		



The the	The monitoring of a control system parameter or a process parameter shall be acceptable as a compliance demonstration method provided that a correlation between the parameter value and the emission rate of a particular pollutant is established.						
	GENERAL IDENTIFICATION AND DESCRIPTION						
1.	Facility name: Eastman Chemical Company, Tennessee O	operations	2. Stack ID or flow diag F	gram point identification(s):			
3.	Emission source: PES B-221-3						
		MONITORING	DESCRIPTION				
4.	Pollutant(s) being monitored: VOC						
5.	Description of the method of monitoring and est	ablishment of correlation bet	ween the parameter value an	d the emission rate of a particular pollutant:			
	Requirements listed in 40 CFR Part 63 Sub associated with Vent F.	ppart FFFF (see Eastman F	Form APC 30 Attachment	t) will ensure proper operation of the scrubber			
6.	Compliance demonstration frequency (specify the	ne frequency with which com	pliance will be demonstrated	1):			
	As specified in Subpart FFFF						
Pag	e number:	Revision number:		Date of revision:			
36 CN-	of 56 1417	R3-3 SM2 and CP1		August 13, 2021			
				120111200			



The the	The monitoring of a control system parameter or a process parameter shall be acceptable as a compliance demonstration method provided that a correlation between the parameter value and the emission rate of a particular pollutant is established.						
	GENERAL IDENTIFICATION AND DESCRIPTION						
1.	Facility name: Eastman Chemical Company, Tennessee C	Operations	 Stack ID or flow diag J 	ram point identification(s):			
3.	Emission source: PES B-221-3						
		MONITORING I	DESCRIPTION				
4.	Pollutant(s) being monitored: VOC						
5.	Description of the method of monitoring and est	ablishment of correlation betw	een the parameter value and	d the emission rate of a particular pollutant:			
	Requirements listed in 40 CFR Part 63 Subpart FFFF (see Eastman Form APC 30 Attachment) will ensure proper operation of the scrubber associated with Vent J.						
6.	Compliance demonstration frequency (specify th	he frequency with which comp	liance will be demonstrated	():			
-	As specified in Subpart FFFF	, , , , , , , , , , , , , , , , , , ,		, 			
P	-						
Page 37 d	e number: of 56	Revision number: R3-3 SM2 and CP1		Date of revision: August 13, 2021			
CN-	1417			RDA 1	298		



The the	monitoring of a control system parameter or a parameter value and the emission rate of a parti	process parameter shall be accep cular pollutant is established.	otable as a compliance demon	stration method provided that a correlation between				
	GENERAL IDENTIFICATION AND DESCRIPTION							
1.	Facility name: Eastman Chemical Company, Tennessee	Operations	2. Stack ID or flow diagr J1	am point identification(s):				
3.	Emission source: PES B-221-3							
	MONITORING DESCRIPTION							
4.	Pollutant(s) being monitored: VOC							
5.	Description of the method of monitoring and o	establishment of correlation betw	ween the parameter value and	the emission rate of a particular pollutant:				
	Requirements listed in 40 CFR Part 63 S associated with Vent J1.	ubpart FFFF (see Eastman F	orm APC 30 attachment)	will ensure proper operation of the scrubber				
6.	Compliance demonstration frequency (specify	the frequency with which com	pliance will be demonstrated)	:				
	As specified in Subpart FFFF	1)	······································					
Pag 38	e number: of 56	Revision number: R3-3 SM2 and CP1		Date of revision: August 13, 2021				



APC 26 MSOP-24

The reco	The monitoring of a maintenance procedure shall be acceptable as a compliance demonstration method provided that a correlation between the parameter value recorded and the applicable requirement is established.						
	GENERAL IDENTIFICATION AND DESCRIPTION						
1. 3.	Facility name: Eastman Chemical Company, Tennessee Operations Emission source (identify): DES B 221 2	2. Stack ID or flow diagram E, F, J, J1	m point identification(s):				
	MONITO	DRING DESCRIPTION					
4.	Pollutant(s) being monitored:						
5.	VOC Material or parameter being monitored:						
	Crude Glycol Production Rate						
6.	Method of monitoring and recording:						
	Recordkeeping: Maintain a log of the daily crude glycol pr Limitation: Less than or equal to CBI.	oduction rate.					
7.	Compliance demonstration frequency (specify the frequency with v Daily	hich compliance will be demonstrated):					
Pag	e number: Revision number	r: E	Date of revision:				
39 o	f 56 R3-3 SM2 and	CP1 A	August 13, 2021				
UN-	1421		KDA 1298				



APC 26 MSOP-24

GENERAL IDENTIFICATION AND DESCRIPTION 1. Facility name: 2. Stack ID or flow diagram point identification(s): Eastman Chemical Company, Tennessee Operations E 3. Emission source (identify): PES B-221-3 MONITORING DESCRIPTION 4. Pollutant(s) being monitored:
1. Facility name: 2. Stack ID or flow diagram point identification(s): Eastman Chemical Company, Tennessee Operations E E 3. Emission source (identify): PES B-221-3 MONITORING DESCRIPTION 4. Pollutant(s) being monitored:
MONITORING DESCRIPTION 4. Pollutant(s) being monitored:
4. Pollutant(s) being monitored:
VOC
5. Material or parameter being monitored:
Operating Hours
6. Method of monitoring and recording:
Recordkeeping: Maintain a log of the 12-month rolling total operating hours for Vent E. Limitation: Less than or equal to 1,030 hours.
7. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated):
Monthly
Page number: Date of revision: 40 = 556 P2 2 SM0 and CP1
40 01 50 K3-5 SM2 and CP1 August 13, 2021 CN-1421 RDA 129



APC 26 MSOP-24

The reco	e monitoring of a maintenance procedure shall be acceptable as a orded and the applicable requirement is established.	compliance demor	nstrat	ion method provided that a correlation between the para	meter value
	GENERAL IDE	NTIFICATIO	ON A	ND DESCRIPTION	
1.	Facility name: Eastman Chemical Company, Tennessee Operations	2.	St Z	ack ID or flow diagram point identification(s): Z1	
3.	Emission source (identify): B-221-3				
	MON	ITORING DE	ESCI	RIPTION	
4.	Pollutant(s) being monitored: VOC				
5.	Material or parameter being monitored: Equipment leak detection and repair				
6.	Method of monitoring and recording: See APC 26 Attachment				
7.	Compliance demonstration frequency (specify the frequency w Quarterly	vith which complian	ance w	ill be demonstrated):	
Pag	e number: Revision nu	mber:		Date of revision:	
CN	-1421 K3-5 SM2	anu UF I		August 13, 2021	RDA 1298

ΕΛSTΜΛΝ

MSOP-24

Fugitive Equipment Leak Detection and Repair

Quarterly Monitoring Protocol

A leak inspection of all equipment in air contaminant service (contains or contacts a process fluid that is at least 10% air contaminant by weight) that is not "in heavy liquid service" or "in vacuum service" shall be performed once per calendar quarter. For this inspection, detection methods incorporating sight (e.g., looking for drips), sound (e.g., hissing sounds indicative of a leak), or smell (e.g., strong odors traceable to piping leaks) shall be used as appropriate. "Equipment" includes piping, pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, flanges, and equipment closures including manways, body flanges, and blind flanges. "In heavy liquid service" means when less than 20 weight percent of the process fluid consists of air contaminants having pure component vapor pressures greater than 0.044 psia at 68 degrees F, and the process fluid is not in the gaseous state at operating conditions. "In vacuum service" means equipment that is operating at an internal pressure which is at least 0.7 psia below ambient pressure. Equipment that is covered by insulation or obstructed from sight when standing on existing floors or walkways is exempt from this inspection. Equipment that is subject to a federally required work practice standard (e.g., 40 CFR Part 60, Subpart VV, 40 CFR Part 63, Subpart H, 40 CFR Part 265, Subpart BB) is exempt from this inspection. Equipment that is in air contaminant service less than 300 hours in a calendar quarter is exempt from this inspection for that quarter.

Annual Monitoring Protocol

A leak inspection of all equipment in air contaminant service (contains or contacts a process fluid that is at least 10% air contaminant by weight) that is not "in heavy liquid service" or "in vacuum service" shall be performed once per calendar year. For this inspection, detection methods incorporating sight (e.g., looking for drips), sound (e.g., hissing sounds indicative of a leak), or smell (e.g., strong odors traceable to piping leaks) shall be used as appropriate. "Equipment" includes piping, pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, flanges, and equipment closures including manways, body flanges, and blind flanges. "In heavy liquid service" means when less than 20 weight percent of the process fluid consists of air contaminants having pure component vapor pressures greater than 0.044 psia at 68 degrees F, and the process fluid is not in the gaseous state at operating conditions. "In vacuum service" means equipment that is operating at an internal pressure which is at least 0.7 psia below ambient pressure. Equipment that is covered by insulation or obstructed from sight when standing on existing floors or walkways is exempt from this inspection. Equipment that is subject to a federally required work practice standard (e.g., 40 CFR Part 60, Subpart VV, 40 CFR Part 63, Subpart H, 40 CFR Part 265, Subpart BB) is exempt from this inspection. Equipment that is in air contaminant service less than 720 hours in a calendar year is exempt from this inspection for that year.

Leak Repair Requirements

When a leak is detected, an initial attempt at repair shall be made no later than 10 calendar days after the leak is detected. Repair or replacement of leaking equipment shall be completed within 30 calendar days after detection of each leak, except as provided below.

Delay of repair of leaking equipment will be allowed if the repair is technically infeasible without a process unit shutdown or if repair personnel would be exposed to an immediate danger if attempting a repair without a process shutdown. Repair of this equipment shall occur by the end of the next process unit shutdown. Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in air contaminant service. Delay of repair for valves, connectors, and agitators is also allowed if the owner or operator determines that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Delay of repair beyond a process unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the second process unit shutdown will not be allowed unless the third process unit shutdown occurs sooner than 6 months after the first process unit shutdown. Delay of repair of pumps for up to 6 months after leak detection is allowed if the pump is replaced with a dual mechanical seal system, a pump with no externally actuated shaft penetrating the pump housing, or a new system that the permittee has determined will provide better performance.

Recordkeeping Requirements

Records must be maintained that identify piping systems or process areas subject to this plan. Records of all inspections must be kept documenting the inspection was conducted and the date of the inspection. If no leaks are detected during the inspection, the record must indicate this result.

When a leak is detected during the quarterly inspection, the following information shall be recorded:

- a) Component identifier or description of location and operator name, initials, or identification number.
- b) The date the leak was detected.
- c) The date the initial attempt at repair is made.
- d) The date of successful repair of the leak. "Successful repair" means the leak is no longer detected using the inspection procedure outlined in item 6(a).
- e) "Repair delayed" and the reason for the delay if a leak is not repaired within 30 days after discovery of the leak.

Page Number:	Revision Number:	Date of Revision:
42 of 56	R3-3 SM2 and CP1	August 13, 2021



APC 26 MSOP-24

The reco	The monitoring of a maintenance procedure shall be acceptable as a compliance demonstration method provided that a correlation between the parameter value ecorded and the applicable requirement is established.					
	GENERAL IDE	NTIFICATIO	N AND DESCRIP	TION		
1.	Facility name: Eastman Chemical Company, Tennessee Operations	3.	Stack ID or flow diag ZZ2, ZZ3	ram point identification(s):		
3.	Emission source (identify): B-221-3					
	MON	ITORING DE	SCRIPTION			
4.	Pollutant(s) being monitored: VOC					
5.	Material or parameter being monitored: Equipment leak detection and repair					
6.	Method of monitoring and recording: See APC 26 Attachment					
7.	Compliance demonstration frequency (specify the frequency w Annually	ith which compliar	nce will be demonstrated):		
Pag 43 d	e number: Revision nu of 56 R3-3 SM2	mber: and CP1		Date of revision: August 13, 2021		
CN-	1421				RDA 1298	

ΕΛSTΜΛΝ

MSOP-24

Fugitive Equipment Leak Detection and Repair

Quarterly Monitoring Protocol

A leak inspection of all equipment in air contaminant service (contains or contacts a process fluid that is at least 10% air contaminant by weight) that is not "in heavy liquid service" or "in vacuum service" shall be performed once per calendar quarter. For this inspection, detection methods incorporating sight (e.g., looking for drips), sound (e.g., hissing sounds indicative of a leak), or smell (e.g., strong odors traceable to piping leaks) shall be used as appropriate. "Equipment" includes piping, pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, flanges, and equipment closures including manways, body flanges, and blind flanges. "In heavy liquid service" means when less than 20 weight percent of the process fluid consists of air contaminants having pure component vapor pressures greater than 0.044 psia at 68 degrees F, and the process fluid is not in the gaseous state at operating conditions. "In vacuum service" means equipment that is operating at an internal pressure which is at least 0.7 psia below ambient pressure. Equipment that is covered by insulation or obstructed from sight when standing on existing floors or walkways is exempt from this inspection. Equipment that is subject to a federally required work practice standard (e.g., 40 CFR Part 60, Subpart VV, 40 CFR Part 63, Subpart H, 40 CFR Part 265, Subpart BB) is exempt from this inspection. Equipment that is in air contaminant service less than 300 hours in a calendar quarter is exempt from this inspection for that quarter.

Annual Monitoring Protocol

A leak inspection of all equipment in air contaminant service (contains or contacts a process fluid that is at least 10% air contaminant by weight) that is not "in heavy liquid service" or "in vacuum service" shall be performed once per calendar year. For this inspection, detection methods incorporating sight (e.g., looking for drips), sound (e.g., hissing sounds indicative of a leak), or smell (e.g., strong odors traceable to piping leaks) shall be used as appropriate. "Equipment" includes piping, pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, flanges, and equipment closures including manways, body flanges, and blind flanges. "In heavy liquid service" means when less than 20 weight percent of the process fluid consists of air contaminants having pure component vapor pressures greater than 0.044 psia at 68 degrees F, and the process fluid is not in the gaseous state at operating conditions. "In vacuum service" means equipment that is operating at an internal pressure which is at least 0.7 psia below ambient pressure. Equipment that is covered by insulation or obstructed from sight when standing on existing floors or walkways is exempt from this inspection. Equipment that is subject to a federally required work practice standard (e.g., 40 CFR Part 60, Subpart VV, 40 CFR Part 63, Subpart H, 40 CFR Part 265, Subpart BB) is exempt from this inspection. Equipment that is in air contaminant service less than 720 hours in a calendar year is exempt from this inspection for that year.

Leak Repair Requirements

When a leak is detected, an initial attempt at repair shall be made no later than 10 calendar days after the leak is detected. Repair or replacement of leaking equipment shall be completed within 30 calendar days after detection of each leak, except as provided below.

Delay of repair of leaking equipment will be allowed if the repair is technically infeasible without a process unit shutdown or if repair personnel would be exposed to an immediate danger if attempting a repair without a process shutdown. Repair of this equipment shall occur by the end of the next process unit shutdown. Delay of repair of equipment for which leaks have been detected is allowed for equipment that is isolated from the process and that does not remain in air contaminant service. Delay of repair for valves, connectors, and agitators is also allowed if the owner or operator determines that emissions of purged material resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Delay of repair beyond a process unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the second process unit shutdown will not be allowed unless the third process unit shutdown occurs sooner than 6 months after the first process unit shutdown. Delay of repair of pumps for up to 6 months after leak detection is allowed if the pump is replaced with a dual mechanical seal system, a pump with no externally actuated shaft penetrating the pump housing, or a new system that the permittee has determined will provide better performance.

Recordkeeping Requirements

Records must be maintained that identify piping systems or process areas subject to this plan. Records of all inspections must be kept documenting the inspection was conducted and the date of the inspection. If no leaks are detected during the inspection, the record must indicate this result.

When a leak is detected during the quarterly inspection, the following information shall be recorded:

- a) Component identifier or description of location and operator name, initials, or identification number.
- b) The date the leak was detected.
- c) The date the initial attempt at repair is made.
- d) The date of successful repair of the leak. "Successful repair" means the leak is no longer detected using the inspection procedure outlined in item 6(a).
- e) "Repair delayed" and the reason for the delay if a leak is not repaired within 30 days after discovery of the leak.

Page Number:	Revision Number:	Date of Revision:
44 of 56	R3-3 SM2 and CP1	August 13, 2021



TITLE V PERMIT APPLICATION COMPLIANCE DEMONSTRATION BY OTHER METHODS

		GENERAL IDENTIFIC	CATION AND DESCRIPTION	
•	Facility name:		2. Stack ID or flow diagram point identification(s):	
	Eastman Chemical Company, Tenne Emission source (identify):	ssee Operations	Entire Source	
	PES B-221-3			
		MONITORI	NG DESCRIPTION	
	Pollutant(s) being monitored: Visible Emissions			
	Description of the method of monitoring	:		
	Opacity will be determined by EPA	Method 9, as published in th	e Federal Register, Volume 39, No. 219 on September 11, 2013.	
-	Compliance demonstration frequency (sp	becify the frequency with which	compliance will be demonstrated):	
	The opacity matrix decision tree for frequency of visible emissions evalu The following emissions units within	visible emission evaluation l ations (VEEs) for each emis n the source <u>do</u> require an in	EPA Method 9, dated September 11, 2013, was used to determine the sion unit within the source. itial or periodic VEEs:	
	Emissions Unit	Vent ID / Flow Diagram Point	Frequency of VEEs	
	N/A	N/A	N/A	
	Emissions Unit	Diagram Point	Justification	
	Entire Source	Entire Source	Each allowable emission greater than	
g	e number: of 56	Revision number: R3-3 SM2 and CP1	Date of revision: August 13, 2021	
N-	1 4/3/3			
	-1422		RI	DA 129



APC 27 MSOP-24

TITLE V PERMIT APPLICATION COMPLIANCE DEMONSTRATION BY OTHER METHODS

	GENERAL IDENTIFICATION AND DESCRIPTION								
1.	Facility name:			2. Stack ID or flow diagram point iden	ntification(s):				
	Eastman Chemical Company, T	ennessee Operation	IS	See table below					
3.	Emission source (identify):								
	PES B-221-3								
		Μ	IONITORING	DESCRIPTION					
4.	Pollutant(s) being monitored:								
	See table below								
5.	Description of the method of monito	oring:							
	emission source, fuel burning in pollutant, by <u>annual certificatio</u> Secretary, be considered to mee and 1200-03-1004(2)(b)(1), an where generally applicable requ reporting requirements, or excep shall not relieve any emissions u subparagraph 1200-03-0201(1)	istallation, or incine <u>in of compliance</u> as it the monitoring and id the compliance re- irrements of the state pt where any applic- unit or activity from)(dd).	rator, and which required in item d related recordk equirements of su e implementatior able procedures a a any applicable s	has a potential to emit less than 5 to 1200-03-0902(11)(d)1.(ii)(I), may, eeping and reporting requirements of ibpart 1200-03-0902(11)(e)3.(i) for a plan specifically impose monitoring and methods are required pursuant to tandard or requirement under Chapte	at the discretion of the Technical is use the discretion of the Technical is subpart 1200-03-0902(11)(e)1.(iii) that regulated air pollutant except and related record keeping and rule 1200-03-1004. This provision ers 1200-03-11 and 1200-03-31, and				
		Pollutant	Vent l	D or Flow Diagram Point					
		CO	Е		_				
	VOC A1, B, B1, C, D, D1, E1, F1, F2, G, H1, J2, X								

6. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated):

Annually

Page number:	Revision number:	Date of revision:
46 of 56	R3-3 SM2 and CP1	August 13, 2021

CN-1422



EMISSIONS FROM PROCESS EMISSION SOURCE / FUEL BURNING INSTALLATION / INCINERATOR GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Eastman Chemical Con	1. Facility name: 2. Stack ID or flow diagram point identification(s): Eastman Chemical Company, Tennessee Operations 2. Stack ID or flow diagram point identification(s):						
3. Process emission source / PES B-221-3	Fuel burning installation / Inciner	ator (identify):					
EMISSIONS SU	MMARY TABLE - CRI	FERIA AND FUGITIVI	E EMISSIONS SELECTEI	POLLUTANTS			
4. Complete the following <u>er</u> references.	nissions summary for regulated ai	r pollutants. Fugitive emission	s shall be included. Attach calculati	ons and emission factor			
	Maximum Allow	vable Emissions ¹	Actual En	missions ²			
Air Pollutant	Tons per Year	Reserved for State use (Pounds per Hour - Item 7, APC 30)	Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)			
PM-2.5 ³	0.00		N/A				
(Fugitive Emissions)	0.00		N/A				
PM-10 ³	0.00		N/A				
(Fugitive Emissions)	0.00		N/A				
Particulate Matter (TSP)	0.00		N/A				
(Fugitive Emissions	0.00		N/A				
Sulfur Dioxide	0.00		N/A				
(Fugitive Emissions)	0.00		N/A				
Volatile Organic Compounds	55.27		N/A				
(Fugitive Emissions)	21.08		N/A				
Carbon Monoxide	0.24		N/A				
(Fugitive Emissions)	0.00		N/A				
Lead	0.00		N/A				
(Fugitive Emissions)	0.00		N/A				
Nitrogen Oxides	0.00		N/A				
(Fugitive Emissions)	0.00		N/A				
Total Reduced Sulfur	0.00		N/A				
(Fugitive Emissions)	0.00		N/A				
Mercury	0.00		N/A				
(Fugitive Emissions)	0.00		N/A				
		(Continued on next page)					
Page number: 47 of 56	Revision R3-3 SM	Number: 12 and CP1	Date of Revision: August 13, 2021				

CN1423

RDA 1298

APC 28

MSOP-24

			(Conti	inued from previous page)			
		Maximum Allow	able Eı	missions ¹		Actual Emi	issions ²
AIR POLLUTANT To		s per Year (eserved for State use (Pounds per Hour - Item 7, APC 30)		Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Asbestos		0.00				N/A	
(Fugitive Emissions)		0.00				N/A	
Beryllium		0.00				N/A	
(Fugitive Emissions)		0.00				N/A	
Vinyl Chloride		0.00				N/A	
(Fugitive Emissions)		0.00				N/A	
Fluorides		0.00				N/A	
(Fugitive Emissions)		0.00				N/A	
Gaseous Fluorides		0.00				N/A	
(Fugitive Emissions)		0.00			N/A		
Greenhouse Gases in CO ₂ Equivalents		1,129				N/A	
EMI	SSIONS S	UMMARY TA	BLE ·	– FUGITIVE HAZA	RDO	US AIR POLLUTAN	NTS
5. Complete the following <u>en</u> Attach calculations and em	nissions sumn nission factor	nary for regulated ai references.	<u>r pollut</u>	tants that are hazardous air	polluta	<u>nt(s)</u> . Fugitive emissions sh	all be included.
		Maximum Allowable Emissions ¹			Actual Emissions ²		
Air Pollutant & CAS	4	Tons per Yea	r	Reserved for State use (Pounds per Hour - Item 7, APC 30)		Tons per Year	Reserved for State use (Pounds per Hour- Item 8, APC 30)
Total Particulate Hazardous Air	Pollutants*	0.00				N/A	
Total Gaseous Hazardous Air Po	ollutants*	33.96				N/A	
Methanol (CAS# 67-56-1)		12.88				N/A	
(Fugitive Emissions)		21.08				N/A	
6. Page number: 48 of 56		Revision Number R 3-3 SM2 and 0		er: CP1		Date of Revision: August 13, 2021	

1. The term "maximum allowable emissions" as used here represents the "allowable emissions" as defined in subparagraph 1200-3-26-.02(2)(d). These emission rates are intended solely for the purposes of fee computation and in no way are to be considered the setting of binding emission limitations.

2. "Not applicable" (N/A) is indicated unless the responsible official chooses to pay annual emission fees based on actual emissions rather than allowable emissions pursuant to subparagraph 1200-3-26-.02(9)(b).

3. PM-2.5 and PM-10 emissions are also included in particulates (TSP) Emissions and should not be counted in annual emission fee calculations.

4. An asterisk (*) is placed next to each pollutant that is also included in the totals in Item 4.

CN-1423



TITLE V PERMIT APPLICATION CURRENT EMISSIONS REQUIREMENTS AND STATUS

		GENERAL IDENTIFICATION AND I	DESCRIPTION		
1. Facility name: Eastman Chemical Compar	ny, Tennessee Oper	rations	2. Emission source number: PES B-221-3		
3. Describe the process emission Glycol Plants	source / fuel burning	installation / incinerator:			
		EMISSIONS AND REQUIRE	EMENTS		
4. Identify if only a part of 5. the source is subject to this requirement	Pollutant	 Applicable requirement(s): TN Air Pollution Control Regulations, 40 CFR, permit restrictions, air quality based standards 	7. Limitations	8. Maximum actual emissions	9. Compliance status (In/Out)
1. Entire Source Vi	isible Emissions	TAPCR 1200-03-0501: General Visual Emissions Standards Condition E4-1 of construction permit 968220P	20% Opacity	N/A	In
2. Flow Diagram Point Ai ZZ1 (Equipment Leaks)	ir Contaminants	 TAPCR 1200-3-707(2): Process Gaseous Emission Standard for sources constructed or modified after April 3, 1972 - Reasonable and proper control equipment and technology. Condition E4-2 of construction permit 968220P 	Quarterly Leak Inspection and Repair Fugitive emissions from equipment leaks are estimated at: VOC – 11.23 tons/yr	N/A	In
3. Flow Diagram Point Ai ZZ2 (Equipment Leaks)	ir Contaminants	TAPCR 1200-3-707(2): Process Gaseous Emission Standard for sources constructed or modified after April 3, 1972 - Reasonable and proper control equipment and technology.	Annual Leak Inspection and Repair Fugitive emissions from equipment leaks are estimated at: VOC – 3.83 tons/yr	N/A	In
See APC 30 Attachment for addition	ional Emissions and R	Requirements		·	·
10. Other applicable requirements	(new requirements th	at apply to this source during the term of this permit)			
11. Page number:		Revision number:	Date of revisi	ion:	
49 of 56 CN-1425		K3-3 SM2 and CP1	August 13,	2021	RDA 1298

APC 30

MSOP-24

Eastman Chemical Company Tennessee Operations 200 South Wilcox Dr Kingsport, TN 37660 Telephone: (423) 229-2000

ΕΛSTΜΛΝ

APC 30 - Emissions and Requirements Table Continued

	EMISSIONS AND REQUIREMENTS							
4. Identify if only a part of the source is subject to this requirement	5. Pollutant	 Applicable requirement(s): TN Air Pollution Control Regulations, 40 CFR, permit restrictions, air quality based standards 	7. Limitations	8. Maximum actual emissions	9. Compliance status (In/Out)			
 Flow Diagram Point ZZ3 (Equipment Leaks) 	Air Contaminants	TAPCR 1200-3-707(2): Process Gaseous Emission Standard for sources constructed or modified after April 3, 1972 - Reasonable and proper control equipment and technology.	Quarterly Leak Inspection and Repair Fugitive emissions from equipment leaks are estimated at: VOC - 6.02 tons/yr	N/A	In			
 Entire Source, excluding fugitive equipment leaks from pumps, valves, flanges, etc. 	VOC	TAPCR 1200-3-707(2): Process Gaseous Emission Standard for sources constructed or modified after April 3, 1972 - Reasonable and proper control equipment and technology.Condition E4-1 of construction permit 968220P	55.27 tons/yr (12-month moving total)	45.56 tons/yr (12-month moving total)	In			
6. Vents E, F, and J	VOC	TAPCR 1200-3-707(2): Process Gaseous Emission Standard for sources constructed or modified after April 3, 1972 - Reasonable and proper control equipment and technology.Condition E4-7 of construction permit 968220P	30.12 lb/hr (24-hr avgerage)	11.66 lb/hr (24-hr average)	In			
7. J1	VOC	TAPCR 1200-03-0707(2): Process Gaseous Emission Standard for sources constructed or modified after April 3, 1972 - Reasonable and proper control equipment and technology	95% control efficiency at design rating	N/A	In			
 Entire Source, excluding fugitive equipment leaks from pumps, valves, flanges, etc. 	СО	TAPCR 1200-3-707(2): Process Gaseous Emission Standard for sources constructed or modified after April 3, 1972 - Reasonable and proper control equipment and technology.Condition E4-3 of construction permit 968220P	0.24 tons/yr (12-month moving total)	0.24 tons/yr (12-month moving total)	In			
9 Entire Source, excluding fugitive equipment leaks from pumps, valves, flanges, etc.	Methane	TAPCR 1200-3-707(2): Process Gaseous Emission Standard for sources constructed or modified after April 3, 1972 - Reasonable and proper control equipment and technology.Condition E4-5 of construction permit 968220P	53.78 tons/yr (12-month moving total)	31.21 tons/yr (12-month moving total)	In			
10. Portion of Source Subject to NSPS	VOC	40 CFR 60 Subpart A – General Provisions	See Item 6	N/A	In			

Page number:	Revision Number:	Date of Revision:
50 of 56	R3-3 SM2 and CP1	August 13, 2021

Eastman Chemical Company Tennessee Operations 200 South Wilcox Dr Kingsport, TN 37660 Telephone: (423) 229-2000



APC 30 Attachment

MSOP-24

APC 30 - Emissions and Requirements Table Continued

EMISSIONS AND REQUIREMENTS						
4.	Identify if only a part of the source is subject to this requirement	5. Pollutant	6. Applicable requirement(s): TN Air Pollution Control Regulations, 40 CFR, permit restrictions, air quality based standards	7. Limitations	8. Maximum actual emissions	9. Compliance status (In/Out)
11.	Portion of Source Subject to VVa	VOC	 40 CFR 60 Subpart VVa – Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After November 7, 2006. A listing of specific applicability determinations for 40 CFR Parts 60 and 63 in effect as of the issuance date of this permit is attached to this form. Changes that result in a change of applicability shall follow the applicable procedures in Section C of the Title V permit and include an update to the APC 30 Attachment. 	See Item 6	N/A	In
12.	Portion of Source Subject to NNN	VOC	 40 CFR 60 Subpart NNN – Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry Distillation Columns A listing of specific applicability determinations for 40 CFR Parts 60 and 63 in effect as of the issuance date of this permit is attached to this form. Changes that result in a change of applicability shall follow the applicable procedures in Section C of the Title V permit and include an update to the APC 30 attachment. 	See Item 6	N/A	In
13.	Vents J and J1	VOC	 40 CFR Part 64 – Compliance Assurance Monitoring 40 CFR 64.2(b)(1)(i) – Exempt emission limitations or standards proposed by the Administrator after November 15, 1990 – Vent Subject to Group 1 MACT control device requirements. 	See Item 6	N/A	In
14.	Miscellaneous Organic Manufacturing Chemical Process Units	HAPs	40 CFR 63 Subpart A - General Provisions	See Item 6	N/A	In
15.	Miscellaneous Organic Manufacturing Chemical Process Units: Glycol	HAPs	 40 CFR Part 63 Subpart FFFF - National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing A listing of specific applicability determinations for 40 CFR Parts 60 and 63 in effect as of the submittal date of this permit application is attached to this APC 30 form. Changes that result in a change of applicability shall follow the applicable procedures in Section C of this permit and include an update to the APC 30 Attachment. 	See Item 6	N/A	In

Page number:	Revision Number:	Date of Revision:
51 of 56	R3-3 SM2 and CP1	August 13, 2021


APC 30 Attachment

APC 30 - Emissions and Requirements Table Continued

	EMISSIONS AND REQUIREMENTS						
4.	Identify if only a part of the source is subject to this requirement	5.	Pollutant	6. Applicable requirement(s): TN Air Pollution Control Regulations, 40 CFR, permit restrictions, air quality based standards	7. Limitations	8. Maximum actual emissions	9. Compliance status (In/Out)
16.	Portions of Source Subject to Subpart RRR	VOC		40 CFR 60 Subpart RRR – Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry Reactor Processes	See Item 6	N/A	In
				A listing of specific applicability determinations for 40 CFR Parts 60 and 63 in effect as of the issuance date of this permit is attached to this form. Changes that result in a change of applicability shall follow the applicable procedures in Section C of the Title V permit and include an update to the APC 30 attachment.			

Page number:	Revision Number:	Date of Revision:
52 of 56	R3-3 SM2 and CP1	August 13, 2021

ΕΛSTΜΛΝ

Specific Applicability Determinations B-221-3

40 CFR Part 60 Subpart VVa (Form Version 1)					
Identification	Category	Rule Citation			
Glycol Methanol Production Process Unit – Applicable portions of Flow Diagram Point ZZ1, ZZ2, and ZZ3 in VOC	Sources Complying with Subpart H Each affected facility that commences construction, reconstruction, or modification after November 7, 2006, and complies with 40 CFR part 63 subpart H to comply.	Applicability: §60.480a(a), (b), (e)(2), and (f) Standards: N/A			
service		Test Methods and Procedures: §60.485a(d), (e), (f)			
		Recordkeeping Requirements: §60.486a(i) and (j)			
		Reporting Requirements: N/A			

40 CFR Part 60 Subpart NNN (Form Version 2)					
Identification	Category	Rule Citation			
DC-29 Degasser (Triangle 1) DC-30 Degasser (Triangle 13)	<u>TRE between 1.0 and 8.0; No Recovery Device</u> Each affected facility that is part of a process unit that produces	Applicability: §60.660(a) and (b)			
	any of the chemicals listed in §60.667 as a product, co-product, by-product, or intermediate, for which construction, modification,	Standards: §60.662(c)			
	or reconstruction commenced after December 30, 1983, has a TRE index value greater than 1.0 but less than or equal to 8.0, and does not use a recovery device to maintain the TRE above 1.0.	Monitoring of Emissions & Operations: N/A			
		Test Methods & Procedures: §60.664(a), (e), (f), and (g)			
		Reporting & Recordkeeping: §60.665(a), (h), (k), (l), and (p)			

40 CFR Part 60 Subpart RRR (Form Version 2)					
Identification	Category	Rule Citation			
WE-23 Condenser (Triangle 7) Affected Facility ¹	TRE between 1.0 and 8.0; Condenser Each affected facility that is part of a process unit that produces any of the chemicals listed in §60.707 as a product, co-product, by-product, or intermediate, for which construction, modification, or reconstruction commenced after lune 29, 1990, has a TRE	Applicability: §60.700(a), (b) Standards: §60.702(c)			
	index value greater than 1.0 but less than or equal to 8.0, and uses a condenser to comply with §60.702(c).	Monitoring of Emissions & Operations: §60.703(d)(2)(i)			
		Test Methods & Procedures: §60.704(a), (e), (f)			
		Reporting & Recordkeeping: §60.705(a), (b)(4)(ii), (b)(4)(v), (f)(2), (g), (k), (l)			

Inlcudes the WE-23 Condenser and all reactors routed to the condenser.

Page number:	Revision Number:	Date of Revision:
53 of 56	R3-3 SM2 and CP1	August 13, 2021

l



MSOP-24

Specific Applicability Determinations B-221-3

40 CFR Part 63 Subpart FFFF (MON)					
(Form Version 2)					
Identification	Category	Rule Citations			
	What This Subpart Covers				
Affected Source	Purpose of this subpart	§63.2430			
Affected Source	Applicability	§63.2435			
Affected Source	Definition of affected source	§63.2440(a) and (b)			
Emission Limits,	Work Practice Standards, and Compliance Requirements: Gener	ral Requirements			
MON subject points, as applicable	Sources subject to any emission limits and work practice standards	§63.2450(a)			
	in tables 1 through 7 or any requirements specified in §63.2455				
	through §63.2490 (or the alternative means of compliance in				
	§63.2495, §63.2500, or §63.2505)				
Emis	sion Limits, Work Practice Standards, and Compliance Requirem	ients:			
	Wastewater Streams and Liquid Streams in Open Systems				
Affected Source	Liquid or solid organic materials discarded from an MCPU to	§63.2485(a), (m)			
	water or wastewater, except materials from equipment leaks,	Table 7: Item 1			
	activities included in maintenance or SSM plans, spills, or samples				
	of a size necessary for the method of analysis.				
	Notifications, Reports, and Records				
MON subject points, as applicable	Notifications	§63.2445(c), §63.2515			
MON subject points, as applicable	Reporting	§63.2450(1), §63.2520			
MON subject points, as applicable	Recordkeeping	§63.2525			
Other Requirements and Information					
MON subject points, as applicable	General Provisions Applicability	§63.2540			
		Table 12			
Affected Source	Implementation and Enforcement	§63.2545			
Affected Source	Definitions	§63.2550			

Page number:	Revision Number:	Date of Revision:
54 of 56	R3-3 SM2 and CP1	August 13, 2021



Specific Applicability Determinations B-221-3

Glycol MCPU

40 CFR Part 63 Subpart FFFF (MON) (Form Version 2)					
Identification	(FOFIII VEFSIOI 2)	Dula Citations			
Identification	Compliance Dates	Kule Citations			
Glycol MCPU	Existing sources	863 2445(b)			
Emission Limits V	Vork Practice Standards and Compliance Requirements: Cer	neral Requirements			
Triangles 1 2 3 4 5 6 7 8 9 10	Emission stream using a control device (other than a flare) for	863 2450(e)			
11 13 (Vents $E = D$)	compliance	ş05.2 150(C)			
Group 1 Tanks associated with J1	compriance				
Triangles 1, 2, 3, 4, 5, 6, 7, 8, 9, 10,	Emission stream with continuous parameter monitoring	§63.2450(k), §63.2450(1)			
11, 13 (Vents E, F, J)		J			
Group 1 Tanks associated with J1					
Triangles 1, 2, 3, 4, 5, 6, 7, 8, 9, 10,	Emission stream using a performance test for compliance	§63.2450(g)			
11, 13 (Vents E, F, J)	demonstrations				
WE-50 (Vent D) XG-51 (Vent G)	Surge control vessel or bottoms receiver that does not meets	§63.2450(r)			
XF-50 (Vent E1) CG-100 (Vent J)	the capacity and vapor pressure thresholds for a Group 1				
WH-50 (Vent F1) CG-101 (Vent	storage tank				
XG-50 (Vent F2) J1)					
Emission Limits, We	ork Practice Standards, and Compliance Requirements: Cont	inuous Process Vents			
Triangles 1, 2, 3, 4, 5, 6, 7, 8, 9, 10,	Group 1 continuous process vent that reduces HAP emissions	§63.2455(a), (b)			
11, 13 (Vents E, F, J)	by ≥ 98 wt% or to an outlet concentration of ≤ 20 ppmv (as	Table 1: Item 1(a)(i)			
	HAP or TOC) by venting emissions through a closed-vent				
	system to any combination of control devices (except a flare).				
Triangle FG	Gas stream that is not continuous process vent:	§63.2550			
	Gas stream routed to a fuel gas system				
Emission Limi	ts, Work Practice Standards, and Compliance Requirements:	Storage Tanks			
XH-50 (Vent JI)	Group I storage tank with a maximum true vapor pressure of	(3.24/0(a), (c), (d))			
XH-51 (vent J1) CH 100 (Vent J1)	total HAP at the storage temperature less than /6.6 kPa (11.1	Table 4: Item $I(b)(1)$			
CH = 100 (Vent J1) $CH = 101 (Vent J1)$	WW except as specified in 863 2470				
SM1 (Vent Y)	Group 2 storage tank	863 2470(a)			
SM1 (Vent X) SM2 (Vent X)	Group 2 storage tank	903.2470(a)			
Fmission Limit	ts Work Practice Standards and Compliance Requirements:	Transfer Racks			
UD-50 Loading Station (Vent A1)	Group 2 transfer rack	863 2475(a)			
Emission Limits	Work Practice Standards and Compliance Requirements: R	auinment Leaks			
Applicable portions of Flow Diagram	Fauinment that is in HAP service at an existing source and	863 2480(a) (b) (d)			
Point 771 772 and 773 in HAP	complying with the requirements of 40 CFR 63 Subpart H	Table 6: Item $1(b)$			
service	except as specified in 863 2480(b) and (d)				
Emissi	on Limits. Work Practice Standards, and Compliance Require	ements:			
Wastewater Streams and Liquid Streams in Open Systems					
Hexagons W1, W2, W3, and W4	Group 2 wastewater stream	§63.2485(a), (b), (c), (j)			
	-	Table 7: Item 1			
MON maintenance wastewater	Maintenance wastewater stream	§63.2485(a)			
streams as applicable		Table 7: Item 2			
Emission Limits, Work Practice Standards, and Compliance Requirements: Heat Exchange Systems					
Applicable heat exchange systems in	Heat exchange system, as defined in §63.101	§63.2490(a), (b), (c)			
the Glycol MCPU		Table 10			

Page number:	Revision Number:	Date of Revision:
55 of 56	R3-3 SM2 and CP1	August 13, 2021



Specific Applicability Determinations B-221-3

Tritan™ MCPU

40 CFR Part 63 Subpart FFFF (MON)						
(Form Version 2)						
Identification	Category	Rule Citations				
	Compliance Dates					
Tritan [™] MCPU	Existing sources	§63.2445(b)				
Emission Limits, V	Vork Practice Standards, and Compliance Requirements: Ger	neral Requirements				
Group 1 Tanks associated with J1	Emission stream using a control device (other than a flare) for	§63.2450(e)				
	compliance					
Group 1 Tanks associated with J1	Emission stream with continuous parameter monitoring	§63.2450(k), §63.2450(1)				
Emission Limi	Emission Limits, Work Practice Standards, and Compliance Requirements: Storage Tanks					
TB-50 (Vent J1)	Group 1 storage tank with a maximum true vapor pressure of	§63.2470(a), (c), (d)				
TL-50 (Vent J1)	total HAP at the storage temperature less than 76.6 kPa (11.1	Table 4: Item 1(b)(i)				
TZ-50 (Vent J1)	psi) and complies with the requirements of 40 CFR 63 Subpart					
	WW, except as specified in §63.2470					

END OF APPLICATION FORMS (B-221-3)

Page number:	Revision Number:	Date of Revision:
56 of 56	R3-3 SM2 and CP1	August 13, 2021



Tennessee Operations 200 South Wilcox Dr Kingsport, TN 37662 Telephone: (423) 229-2000

Title V Operating Permit Application

Application Attachment(s)

MSOP-24

PES B-221-3

Glycol Plants

Attachment	Page #
Calculations	2-25
Supplemental Tank Information	27
Design Evaluation and Monitoring Plan - Condenser CH-E-30 and Scrubber TL-C-51	28-31

Page number:	Revision Number:	Date of Revision:
1 of 31	R3-3 SM2 and CP1	August 13, 2021

Application Attachment

Calculations

Page number:	Revision Number:	Date of Revision:
2 of 31	R3-3 SM2 and CP1	August 13, 2021

				PES# B-221-3 Tank UD-50 Em Pt Al
	Tank Emiss	ion Calculatio	n Sheet	
COMPONENT	Component Weight Percent	Component Molecular Weight (LB/LBMOL)	Component Partial Pressure (PSIA)	Emissions (TPY)
VOC	100.00	38.29	8.28	1.82
HAPs (Included With METHANOL	VOCs Above) 0.75	32.04	7.94	1.46
Total HAD	0.75		7.94	1.46
Inputs:			- 265	
Inputs: Operating Hours/Yea Batch Filling:	r: 8760 c 9000	Operating Days/ Davg Gal/Fill	Year: 365 24.00 Avg 1	Fill/Year
Inputs: Operating Hours/Yea Batch Filling: Continuous Inert Ga Saturation of Gas:	r: 8760 (9000 s or Nitrogen Flo 100.0 %	Operating Days/ D Avg Gal/Fill W:	Year: 365 24.00 Avg 1 0.0330 SCFM	Fill/Year
Inputs: Operating Hours/Yea Batch Filling: Continuous Inert Ga Saturation of Gas: Average Distance Fr This Tank is FULL Vanor Control/Recov	r: 8760 0 9000 s or Nitrogen Flo 100.0 % om Liquid To Top Y INSULATED S&R ery Device:	Operating Days/) Avg Gal/Fill w: of Tank: NONE	Year: 365 24.00 Avg 1 0.0330 SCFM 4.0 Feet	Fill/Year
Inputs: Operating Hours/Yea Batch Filling: Continuous Inert Ga Saturation of Gas: Average Distance Fr This Tank is FULL Vapor Control/Recov	r: 8760 0 9000 s or Nitrogen Flo 100.0 % om Liquid To Top Y INSULATED S&R ery Device:	Operating Days/) Avg Gal/Fill w: of Tank: NONE	Year: 365 24.00 Avg 1 0.0330 SCFM 4.0 Feet	Fill/Year
Inputs: Operating Hours/Yea Batch Filling: Continuous Inert Ga Saturation of Gas: Average Distance Fr This Tank is FULL Vapor Control/Recov Results of AP-42 (54	r: 8760 0 9000 s or Nitrogen Flo 100.0 % om Liquid To Top Y INSULATED S&R ery Device: th Edition,1997) En	Operating Days/) Avg Gal/Fill w: of Tank: NONE NONE	Year: 365 24.00 Avg 1 0.0330 SCFM 4.0 Feet	Fill/Year
Inputs: Operating Hours/Yea Batch Filling: Continuous Inert Ga Saturation of Gas: Average Distance Fr This Tank is FULL Vapor Control/Recov Results of AP-42 (50 Total Inerts Rate i VOC Emission Estima VOC Emission Estima	r: 8760 0 9000 s or Nitrogen Flo 100.0 % om Liquid To Top Y INSULATED S&R ery Device: th Edition,1997) En n Moles/Hour = tes From Continuo tes From Breathin tes From Working:	Operating Days/ D Avg Gal/Fill w: of Tank: NONE nissions Estimat 0.12 If N us Inert Gas F ug:	Year: 365 24.00 Avg 1 0.0330 SCFM 4.0 Feet tion Method: 2, Inerts = 10w:	<pre>Fill/Year 3.36 Pounds/Ho 1.22 Tons/Year 0.30 Tons/Year 0.30 Tons/Year</pre>

Page number:	Revision Number:	Date of Revision:
3 of 31	R3-3 SM2 and CP1	August 13, 2021

				PES# B-221- Tank JT-53 Em Pt B
	Tank Emissi	ion Calculation	n Sheet	
COMPONENT	Component Weight Percent	Component Molecular Weight (LB/LBMOL)	Component Partial Pressure (PSIA)	Emissions (TPY)
VOC	90.00	144.21	0.01	0.07
WATER	10.00	18.02	11.74	11.59
Total HAP				
Inputs:				
Operating Hours/Year: Batch Filling: Continuous Inert Gas or	8760 0 12000 Nitrogen Flo	perating Days/) Avg Gal/Fill w:	Year: 365 402.00 Avg 0.1333 SCFM	Fill/Year
	100.0 %			
Saturation of Gas: Average Distance From L This Tank is FULLY IN	iquid To Top	of Tank:	4.0 Feet	
Saturation of Gas: Average Distance From L This Tank is FULLY IN Vapor Control/Recovery	iquid To Top SULATED S&R Device:	of Tank:	4.0 Feet	
Saturation of Gas: Average Distance From I This Tank is FULLY IN Vapor Control/Recovery	iquid To Top SULATED S&R Device:	of Tank:	4.0 Feet	
Saturation of Gas: Average Distance From I This Tank is FULLY IN Vapor Control/Recovery Results of AP-42 (5th Ba	iquid To Top SULATED S&R Device: dition,1997) Em	of Tank: missions Estimat	4.0 Feet	
Saturation of Gas: Average Distance From I This Tank is FULLY IN Vapor Control/Recovery Results of AP-42 (5th Ba Total Inerts Rate in Mo VOC Emission Estimates VOC Emission Estimates	iquid To Top SULATED S&R Device: dition,1997) Bu les/Hour = From Continuo From Breathin	of Tank: missions Estimat 0.22 If N us Inert Gas F g:	4.0 Feet tion Method: 2, Inerts = low:	6.06 Pounds/H 0.05 Tons/Yea 0.00 Tons/Yea
Saturation of Gas: Average Distance From I This Tank is FULLY IN Vapor Control/Recovery Results of AP-42 (5th Bo Total Inerts Rate in Mo VOC Emission Estimates VOC Emission Estimates	iquid To Top SULATED S&R Device: dition,1997) He les/Hour = From Continuo From Breathin From Working:	of Tank: missions Bstimat 0.22 If N us Inert Gas F g:	<pre>4.0 Feet tion Method: 2, Inerts = low:</pre>	6.06 Pounds/H 0.05 Tons/Yea 0.00 Tons/Yea 0.02 Tons/Yea

Page number:	Revision Number:	Date of Revision:
4 of 31	R3-3 SM2 and CP1	August 13, 2021

				Em Pt Bl
	Tank Emiss	ion Calculatio	n Sheet	
COMPONENT	Component Weight Percent	Component Molecular Weight (LB/LBMOL)	Component Partial Pressure (PSIA)	Emissions (TPY)
voc	100.00	32.04	8.08	1.02
HAPs (Included Wit	h VOCs Above)			
METHANOL	30.00	32.04	8.08	1.02
Total HAP	30.00		8.08	1.02
Inputs:	8760		W 365	
Inputs: Operating Hours/Ye Continuous Filling	ar: 8760 (: 513	Operating Days/ 5 Average Gallo	Year: 365 ons Withdrawn	/24 Hours
Inputs: Operating Hours/Ye Continuous Filling Continuous Inert G Saturation of Gas: Average Distance F	ar: 8760 (: 51) as or Nitrogen Flo 0.0 % rom Liquid To Top	Operating Days, 5 Average Gallo ow: of Tank:	Year: 365 ons Withdrawn 0.0000 SCFM 5.0 Feet	/24 Hours
Inputs: Operating Hours/Ye Continuous Filling Continuous Inert G Saturation of Gas: Average Distance F This Tank is FUL Vapor Control/Reco Average Daily Leve	ar: 8760 (: 51 as or Nitrogen Flo 0.0 % rom Liquid To Top LY INSULATED S&R very Device: 1 Fluctuation of T	Operating Days, 5 Average Gallo ow: of Tank: NONE Tank: 15.00 Inc	Year: 365 ons Withdrawn 0.0000 SCFM 5.0 Feet thes	/24 Hours
Inputs: Operating Hours/Ye Continuous Filling Continuous Inert G Saturation of Gas: Average Distance F This Tank is FUL Vapor Control/Reco Average Daily Leve Results of AP-42 (3)	ar: 8760 (: 51 as or Nitrogen Flo 0.0 % rom Liquid To Top LY INSULATED S&R very Device: 1 Fluctuation of T 5th Edition,1997) Ba	Operating Days, 5 Average Gallo ow: of Tank: NONE Tank: 15.00 Inc missions Estima	Year: 365 ons Withdrawn 0.0000 SCFM 5.0 Feet thes	/24 Hours
Inputs: Operating Hours/Ye Continuous Filling Continuous Inert G Saturation of Gas: Average Distance F This Tank is FUL Vapor Control/Reco Average Daily Leve Results of AP-42 (C Total Inerts Rate VOC Emission Estim VOC Emission Estim	ar: 8760 (: 51% as or Nitrogen Flo 0.0 % rom Liquid To Top LY INSULATED S&R very Device: 1 Fluctuation of T Sth Edition, 1997) End in Moles/Hour = ates From Continuo ates From Breathin ates From Working:	Operating Days, 5 Average Gallo ow: of Tank: NONE Tank: 15.00 Inc missions Estima 0.01 If N ous Inert Gas F ig:	Year: 365 ons Withdrawn 0.0000 SCFM 5.0 Feet thes tion Method: 2, Inerts = 10w:	/24 Hours 0.18 Pounds/Hours 0.18 Pounds/Hours 0.00 Tons/Year 0.18 Tons/Year 0.84 Tons/Year

Page number:	Revision Number:	Date of Revision:
5 of 31	R3-3 SM2 and CP1	August 13, 2021

Tank Emission Calculation Sheet Component Component Component Derivation Component Derivation Weight Weight Component Weight Weight Component Weight (PSILA) Emissions Component Component Pressure Weight (PSILA) Emissions Component Component Component Pressure Weight (PSILA) Emissions Component Emissions Method 1.02 Method 0.00 COM Method 8.000 COM Imports 0.01 Saturation of Gas: 0.01 Saturation of Gas: 0.01 Saturation of Gas: 0.01 Fres					Site PES‡ Tank Em Pt	TED B-221-3 CG-101 C
Low power in the second seco		Tank Emiss	ion Calculatio	n Sheet		
NOC 100.00 32.04 8.08 1.02 HAPS (Included With VOCS Above) METHANOL 30.00 32.04 8.08 1.02 Jotal HAP 30.00 32.04 8.08 1.02 Intal HAP 30.00 32.04 8.08 1.02 Intal HAP 30.00 8.08 1.02 Intal HAP 30.00 8.08 1.02 Saturation of Gas: 0.09 8 Average Distance From Liquid To Top of Tank: 6.0 Feet This Tank is FULLY INSULATED SAR NONE Average Daily Level Fluctuation of Tank: 15.00 Inches NONE Results of AP-42 (5th Edition, 1997) Emissions Estimation Method: 0.01 Tans/Ve Total Inerts Rate in Moles/Hour = 0.01 If N2, Inerts = 0.18 Founds/ 0.00 Tans/Ve VOC Emission Estimates From Continuous Inert Gas Flow: 0.00 Tans/Ve VOC Emission Estimates From Working: 0.84 Tons/Ve	COMPONENT	Component Weight Percent	Component Molecular Weight (LB/LBMOL)	Component Partial Pressure (PSIA)	Emissions (TPY)	ţ
HAPs (Included With VOCs Above) METRANOL 30.00 32.04 6.08 1.02 Total HAP 30.00 6.08 1.02 Intal HAP 30.00 6.08 1.02 Imputs: 0 0 0.08 1.02 Operating Hours/Year: 8760 Operating Days/Year: 365 Continuous Filling: 5.15 Average Gallons Withdrawn/24 Hours Continuous Inert Gas or Nitrogen Flow: 0.0000 SCFM Saturation of Gas: 0.0 \$ Average Distance From Liquid To Top of Tank: 6.0 Feet This Tank is FULLY INSULATED SGR Vapor Contol/Recovery Device: NONE Average Daily Level Fluctuation of Tank: 15.00 Inches 0.18 Pounds/ VOC Emission Estimates From Continuous Inert Gas Flow: 0.108 Pounds/ VOC Emission Estimates From Breathing: 0.18 Tons/Ye VOC Emission Estimates From Working: 0.34 Tons/Ye	JOC	100.00	32.04	8.08	1.02	
Imputs: 30.00 8.08 1.02 Operating Hours/Year: 8760 Operating Days/Year: 365 Continuous Filling: 515 Average Gallons Withdrawn/24 Hours Continuous Inert Gas or Nitrogen Flow: 0.0000 SCFM Saturation of Gas: 0.0% Average Distance From Liquid To Top of Tank: 6.0 Feet This Tank is FULLY INSULATED S&R Vapor Control/Recovery Device: NONE Average Daily Level Fluctuation of Tank: 15.00 Inches Results of AP-42 (5th Edition, 1997) Emissions Estimation Method: 0.00 Tons/Ye Y0C Emission Estimates From Continuous Inert Gas Flow: 0.00 Tons/Ye Y0C Emission Estimates From Working: 0.18 Tons/Ye	APs (Included Wi ŒTHANOL	th VOCs Above) 30.00	32.04	8.08	1.02	
Inputs: Operating Hours/Year: 8760 Operating Days/Year: 365 Continuous Filling: 515 Average Gallons Withdrawn/24 Hours Continuous Inert Gas or Nitrogen Flow: 0.0000 SCFM Saturation of Gas: 0.0 % Average Distance From Liquid To Top of Tank: 6.0 Feet This Tank is FULLY INSULATED S&R Vapor Control/Recovery Device: NONE Average Daily Level Fluctuation of Tank: 15.00 Inches Results of AP-42 (Sth Edition, 1997) Emissions Estimation Method: Total Inerts Rate in Moles/Hour = 0.01 If N2, Inerts = 0.18 Pounds/ VOC Emission Estimates From Continuous Inert Gas Flow: 0.00 Tons/Ye 0.02 0.18 Tons/Ye VOC Emission Estimates From Working: 0.84 Tons/Ye	Cotal HAP	30.00		8.08	1.02	
Operating Hours/Tear. 0.0000 Operating Days/Tear. 0.0000 Continuous Filling: 515 Average Gallons Withdrawn/24 Hours Continuous Inert Gas or Nitrogen Flow: 0.0000 SCFM Saturation of Gas: 0.0 % Average Distance From Liquid To Top of Tank: 6.0 Feet This Tank is FULLY INSULATED S&R Vapor Control/Recovery Device: NONE Average Daily Level Fluctuation of Tank: 15.00 Inches Results of AP-42 (5th Edition, 1997) Emissions Estimation Method: Total Inerts Rate in Moles/Hour = 0.01 If N2, Inerts = 0.18 Pounds/ VOC Emission Estimates From Dreathing: 0.18 Tons/Ye 0.18 Tons/Ye VOC Emission Estimates From Working: 0.84 Tons/Ye	Inputs:	8760 (·V 365		
Continuous Inert Gas or Nitrogen Flow: 0.0000 SCFM Saturation of Gas: 0.0 % Average Distance From Liquid To Top of Tank: 6.0 Feet This Tank is FULLY INSULATED S&R Vapor Control/Recovery Device: NONE Average Daily Level Fluctuation of Tank: 15.00 Inches Results of AP-42 (5th Edition,1997) Emissions Estimation Method: Total Inerts Rate in Moles/Hour = 0.01 If N2, Inerts = 0.18 Pounds/ VOC Emission Estimates From Continuous Inert Gas Flow: 0.00 Tons/Ye VOC Emission Estimates From Breathing: 0.18 Tons/Ye VOC Emission Estimates From Working: 0.84 Tons/Ye	Continuous Fillin	g: 51	5 Average Gallo	ons Withdrawn	/24 Hours	
Average Distance From Liquid To Top of Tank: 6.0 Feet This Tank is FULLY INSULATED S&R Vapor Control/Recovery Device: NONE Average Daily Level Fluctuation of Tank: 15.00 Inches Results of AP-42 (5th Edition, 1997) Emissions Estimation Method: Total Inerts Rate in Moles/Hour = 0.01 If N2, Inerts = 0.18 Pounds/ VOC Emission Estimates From Continuous Inert Gas Flow: 0.00 Tons/Ye VOC Emission Estimates From Breathing: 0.18 Tons/Ye VOC Emission Estimates From Working: 0.84 Tons/Ye	Continuous Inert Saturation of Gas	Gas or Nitrogen Flo : 0.0 %)W :	0.0000 SCFM		
Average Daily Level Fluctuation of Tank: 15.00 Inches Results of AP-42 (5th Edition,1997) Emissions Estimation Method: Total Inerts Rate in Moles/Hour = 0.01 If N2, Inerts = 0.18 Pounds/ VOC Emission Estimates From Continuous Inert Gas Flow: 0.00 Tons/Ye VOC Emission Estimates From Breathing: 0.18 Tons/Ye VOC Emission Estimates From Working: 0.84 Tons/Ye	Average Distance : This Tank is FU Vapor Control/Rec	From Liquid To Top LLY INSULATED S&R overy Device:	of Tank: NONE	6.0 Feet		
Results of AP-42 (5th Edition,1997) Emissions Estimation Method: Total Inerts Rate in Moles/Hour = 0.01 If N2, Inerts = 0.18 Pounds/ VOC Emission Estimates From Continuous Inert Gas Flow: 0.00 Tons/Ye VOC Emission Estimates From Breathing: 0.18 Tons/Ye VOC Emission Estimates From Working: 0.84 Tons/Ye	Average Daily Lev	el Fluctuation of I	ank: 15.00 Inc	hes		
Total Inerts Rate in Moles/Hour = 0.01 If N2, Inerts = 0.18 Pounds/ VOC Emission Estimates From Continuous Inert Gas Flow: 0.00 Tons/Ye VOC Emission Estimates From Breathing: 0.18 Tons/Ye VOC Emission Estimates From Working: 0.84 Tons/Ye	Results of AP-42	(5th Edition,1997) E	missions Estima	tion Method:		
	Total Inerts Rate VOC Emission Estin VOC Emission Estin VOC Emission Estin	in Moles/Hour = mates From Continuc mates From Breathir mates From Working:	0.01 If N Dus Inert Gas F Ag:	2, Inerts = 'low:	0.18 P 0.00 T 0.18 T 0.84 T	ounds/Hou ons/Year ons/Year ons/Year

Page number:	Revision Number:	Date of Revision:
6 of 31	R3-3 SM2 and CP1	August 13, 2021

				Em Pt D	
	Tank Emiss	ion Calculatio	n Sheet		
COMPONENT	Component Weight Percent 100.00	Component Molecular Weight (LB/LBMOL) 32.04	Component Partial Pressure (PSIA) 2.44	Emissions (TPY) 0.05	
HAPs (Included Wit METHANOL	th VOCs Above) 100.00	32.04	2.44	0.05	
Total HAP	100.00		2.44	0.05	
Inputs:					
Inputs: Operating Hours/Ye Batch Filling:	ear: 8760 (64)	Operating Days/ 0 Avg Gal/Fill	Year: 365 72.00 Avg 1	Fill/Year	
Inputs: Operating Hours/Ye Batch Filling: Continuous Inert (Saturation of Gas	ear: 8760 (64) Gas or Nitrogen Flo : 0.0 %	Dperating Days/ D Avg Gal/Fill WW:	Year: 365 72.00 Avg 1 0.0000 SCFM	Fill/Year	
Inputs: Operating Hours/Ye Batch Filling: Continuous Inert (Saturation of Gas Average Distance I This Tank is FU Vapor Control/Rec	ear: 8760 (64) Gas or Nitrogen Flo : 0.0 % From Liquid To Top LLY INSULATED S&R overy Device:	Operating Days/ O Avg Gal/Fill w: of Tank: NONE	Year: 365 72.00 Avg 0.0000 SCFM 4.8 Feet	Fill/Year	
Inputs: Operating Hours/Ye Batch Filling: Continuous Inert (Saturation of Gas Average Distance) This Tank is FU Vapor Control/Reco	ear: 8760 (64) Gas or Nitrogen Flo : 0.0 % From Liquid To Top LLY INSULATED S&R overy Device:	Dperating Days/ D Avg Gal/Fill w: of Tank: NONE	Year: 365 72.00 Avg 0.0000 SCFM 4.8 Feet	Fill/Year	
Inputs: Operating Hours/Ye Batch Filling: Continuous Inert (Saturation of Gas Average Distance) This Tank is FU Vapor Control/Reco Results of AP-42	ear: 8760 (64) Gas or Nitrogen Flo : 0.0 % From Liquid To Top LLY INSULATED S&R overy Device: (Sth Edition,1997) En	Operating Days/ O Avg Gal/Fill w: of Tank: NONE missions Estimat	Year: 365 72.00 Avg 3 0.0000 SCFM 4.8 Feet	Fill/Year	
Inputs: Operating Hours/Ye Batch Filling: Continuous Inert (Saturation of Gas Average Distance) This Tank is FU Vapor Control/Reco Vapor Control/Reco Vapor Control/Reco Vapor Emission Estin VOC Emission Estin	ear: 8760 (64) Gas or Nitrogen Flo : 0.0 % From Liquid To Top LLY INSULATED S&R overy Device: (Sth Edition,1997) E in Moles/Hour = mates From Continuo mates From Breathir mates From Working:	Operating Days/ 0 Avg Gal/Fill w: of Tank: NONE missions Estimat 0.00 If N ous Inert Gas F	Year: 365 72.00 Avg 1 0.0000 SCFM 4.8 Feet tion Method: 2, Inerts = low:	Fill/Year 0.06 Pounds 0.00 Tons/Y 0.01 Tons/Y 0.04 Tons/Y	/Hou: ear ear ear

Page number:	Revision Number:	Date of Revision:
7 of 31	R3-3 SM2 and CP1	August 13, 2021

PES # B-221-3	Vent ID D1
Emissions Unit Description	Other Emission Not Otherwise Captured (such as emissions not captured from open vessels,
Scheduling Basis for Emissions	: 8760 hrs/yr
Conditions Shown	: Maximum

Special Physical Property Notes: N/A

Assumptions Used:

Forecasted trailer and drum fillings for various products loaded in area. Air displaced from filling containers is at saturated conditions. Displaced air temperature at liquid loading temperature.

Describe the method used to calculate emissions:

Determined emissions from open dome loading of trailers and drum filling based on air displacement from the containers at saturated conditions. A total volume displacement of air was calculated from each loading scenario. The emissions were calculated from total volume of air displaced at saturated conditions. A physical property database was used for determining vapor pressures at loading temperature conditions.

Component	Total Emissions (tons/yr)
VOC	2.05
Methanol*	0.10

*Methanol included in VOC

Page number:	Revision Number:	Date of Revision:
8 of 31	R3-3 SM2 and CP1	August 13, 2021

Emissions Unit Description: Process equipment shown in the diagram below

Scheduling Basis for Emissions: 1030 hrs/yr

Conditions Shown: Maximum

Inherent Process Equipment? No



Component	S1 (lb/hr)	S2 (lb/hr)	S3 (lb/hr)	S4 (lb/hr)	Emissions (tons/yr)
VOC	41.25	0.00	36.68	4.57	2.35
Methanol*	34.25	0.00	33.57	0.68	0.35
СО	0.47	0.00	0.00	0.47	0.24
CO2e	-	-	-	-	795.4
Methane	30.33	0.00	0.59	29.73	15.31
Water	0.0	2350	2348.9	1.1	-

*HAP is included with total VOC

Page number:	Revision Number:	Date of Revision:
9 of 31	R3-3 SM2 and CP1	August 13, 2021

Additional control device data:

WE-37 scrubber is 10.75 inches in diameter and has 6 cubic feet of packing.

Describe the method used to estimate control efficiency:

Assumed that WE-37 scrubber achieves 98% control efficiency for methanol and methane, ~45% control efficiency for non-HAP VOC based on process model (ASPEN©) of the scrubber and data from MON Performance Test (2/1/2008).

Describe the method used to calculate emissions:

Took grab sample of inlet to determine component concentrations and used handheld device to determine flow rate (both measurements taken on 7/21/2021). Test results extrapolated for maximum production.

Page number:	Revision Number:	Date of Revision:
10 of 31	R3-3 SM2 and CP1	August 13, 2021

				Site TED PES‡ B-221-3 Tank XF-50 Em Pt El
	Tank Emiss	ion Calculatio	n Sheet	
COMPONENT	Component Weight Percent	Component Molecular Weight (LB/LBMOL)	Component Partial Pressure (PSIA)	Emissions (TPY)
70C	100.00	36.64	2.48	0.02
APs (Included With ÆTHANOL Total HAP	1 VOCs Above) 0.50 0.50	32.04	2.41 2.41	0.02
Inputs: Operating Hours/Yea Batch Filling:	ar: 8760 c 1500)perating Days/) Avg Gal/Fill	Year: 365 10.00 Avg B	Fill/Year
Continuous Inert Ga	as or Nitrogen Flo	w:	0.0000 SCFM	
Saturation of Gas: Average Distance Fr This Tank is FULI	0.0 % com Liquid To Top LY INSULATED S&R	of Tank:	4.0 Feet	
Vapor Control/Recov	ery bevice.	IONE		
Results of AP-42 (5	th Edition,1997) En	missions Estimat	tion Method:	
Total Inerts Rate i VOC Emission Estima VOC Emission Estima VOC Emission Estima	in Moles/Hour = Ates From Continuo Ates From Breathin Ates From Working:	0.00 If N us Inert Gas F g:	2, Inerts = low:	0.03 Pounds/Hou 0.00 Tons/Year 0.01 Tons/Year 0.01 Tons/Year

Page number:	Revision Number:	Date of Revision:
11 of 31	R3-3 SM2 and CP1	August 13, 2021

Vent ID F

Emissions Unit Description: Process equipment and tank shown in the diagram below

Scheduling Basis for Emissions: 8760 hrs/yr

Conditions Shown: Maximum

Inherent Process Equipment? No



Component	S1 (lb/hr)	S2 (lb/hr)	S3 (lb/hr)	S4 (lb/hr)	Emissions (tons/yr)
VOC	23.34	0.00	18.15	6.19	27.11
Methanol*	14.65	0.00	14.50	0.15	0.66
CO2e	-	-	-	-	333.9
Methane	3.63	0.00	0.00	3.63	15.90
Water	0.0	625	618.4	6.6	-

*HAP is included with total VOC

Page number:	Revision Number:	Date of Revision:
12 of 31	R3-3 SM2 and CP1	August 13, 2021

Additional control device data:

WE-38 scrubber is 6.625 inches in diameter and has 2.2 cubic feet of packing.

Describe the method used to estimate control efficiency:

MON Performance Test on 3/14/2008 used to confirm control efficiency greater than or equal to 98%.

Describe the method used to calculate emissions:

Process model (ASPEN©) used to calculate VOC loading to the scrubber. Test results extrapolated for maximum production.

Page number:	Revision Number:	Date of Revision:
13 of 31	R3-3 SM2 and CP1	August 13, 2021

				Site TED PES# B-221-3 Tank WH-50 Em Pt Fl
	Tank Emiss	ion Calculatio	n Sheet	
COMPONENT	Component Weight Percent	Component Molecular Weight (LB/LBMOL)	Component Partial Pressure (PSIA)	Emissions (TPY)
voc	100.00	37.24	2.36	2.37
HAPs (Included With	VOCs Above)	32 04	2 27	1 97
	0.75	32.04	2.27	1.07
Inputs:				
Operating Hours/Yea	ar: 8760 c	perating Days/	Year: 365	(24 Hours
Continuous Inert Ga	s or Nitrogen Flo	W:	0.0330 SCFM	24 hours
Saturation of Gas: Average Distance Fr This Tank is FULI	100.0 % com Liquid To Top Y INSULATED S&R	of Tank:	15.0 Feet	
Vapor Control/Recov Average Daily Level	very Device: . Fluctuation of T	NONE ank: 24.00 Inc	hes	
Results of AP-42 (5	th Edition,1997) E	missions Estimat	tion Method:	
Contraction Dates in	n Moles/Hour =	0.10 If N	2, inerts =	2.34 Pounds/Hou:
VOC Emission Estima	tes From Continuo	us Inert Gas F	TOM:	0.16 Tons/Year
VOC Emission Estima VOC Emission Estima VOC Emission Estima	ates From Continuo ates From Breathin ates From Working:	us Inert Gas F g:	TOM:	0.32 Tons/Year 1.89 Tons/Year

Page number:	Revision Number:	Date of Revision:
14 of 31	R3-3 SM2 and CP1	August 13, 2021

				Site PES‡ Tank Em Pt	TED B-221-3 XG-50 F2
	Tank Emiss	ion Calculatio	n Sheet		
COMPONENT	Component Weight Percent	Component Molecular Weight (LB/LBMOL)	Component Partial Pressure (PSIA)	Emissions (TPY)	1
VOC	100.00	32.04	8.08	1.02	
HAPs (Included Wit METHANOL Total HAP	h VOCs Above) 30.00 30.00	32.04	8.08	1.02	
Inputs: Operating Hours/Ye	ar: 8760 ()perating Days/	Year: 365		
Continuous Filling Continuous Inert G	as or Nitrogen Flo	5 Average Gallo w:	ons Withdrawn/ 0.0000 SCFM	/24 Hours	
Saturation of Gas: Average Distance F This Tank is FUL Vapor Control/Reco Average Daily Leve	0.0 % rom Liquid To Top LY INSULATED S&R very Device: 1 Fluctuation of T	of Tank: NONE ank: 15.00 Inc	6.0 Feet		
Results of AP-42 (Total Inerts Rate VOC Emission Estim VOC Emission Estim VOC Emission Estim	5th Edition,1997) En in Moles/Hour = lates From Continuo lates From Breathin lates From Working:	missions Bstimm 0.01 If N us Inert Gas F g:	tion Method: 2, Inerts = low:	0.18 P 0.00 T 0.18 T 0.84 T	ounds/Hour ons/Year ons/Year ons/Year

Page number:	Revision Number:	Date of Revision:
15 of 31	R3-3 SM2 and CP1	August 13, 2021

				Site PES‡ Tank Em Pt	B-221-3 XG-51 G
	Tank Emissi	ion Calculatio	n Sheet		
MPONENT	Component Weight Percent	Component Molecular Weight (LB/LBMOL)	Component Partial Pressure (PSIA)	Emissions (TPY)	
3	100.00	32.04	8.08	1.02	
Ps (Included With VOC	S Above)	32 04	8.08	1.02	
THRIOD	00.00	32.04	0.00	1.02	
nputs:	9760		265		
perating Hours/Year: ontinuous Filling:	515	perating Days/ 5 Average Gallo	ns Withdrawn	/24 Hours	
ontinuous Inert Gas or aturation of Gas:	Nitrogen Flo 0.0 %	w:	0.0000 SCFM		
verage Distance from 1 his Tank is FULLY IN apor Control/Recovery verage Daily Level Flu	nquid to top ISULATED S&R Device: Actuation of T	of lank: NONE ank: 15.00 Inc	hes		
esults of AP-42 (5th B otal Inerts Rate in Mo OC Emission Estimates OC Emission Estimates OC Emission Estimates	dition,1997) B bles/Hour = From Continuo From Breathin From Working:	missions Bstima 0.01 If N us Inert Gas F g:	tion Method: 2, Inerts = low:	0.18 Po 0.00 To 0.18 To 0.84 To	unds/Houm ns/Year ns/Year ns/Year
DC Emission Estimates	From Working:			0.84 To	ns

Page number:	Revision Number:	Date of Revision:
16 of 31	R3-3 SM2 and CP1	August 13, 2021

				PES# B-221-3 Tank CB-102 Em Pt H1
	Tank Emissi	on Calculation	n Sheet	
COMPONENT	Component Weight Percent	Component Molecular Weight (LB/LBMOL)	Component Partial Pressure (PSIA)	Emissions (TPY)
VOC	100.00	144.29	0.10	0.46
HAPs (Included With VO	Cs Above)			
Total HAP				
Inputs:	8760 O	perating Days/	Year: 365	
operating nours/rear.				
Batch Filling:	13100 r Nitrogen Flor	Avg Gal/Fill	638.00 AVg 0.0000 SCEM	Fill/Year
Batch Filling: Continuous Inert Gas o Saturation of Gas:	13100 r Nitrogen Flow 100.0 %	Avg Gal/Fill	0.0000 SCFM	Fill/Year
Batch Filling: Continuous Inert Gas o Saturation of Gas: Average Distance From 1 This Tank is FULLY I	13100 r Nitrogen Flow 100.0 % Liquid To Top c NSULATED S&R	Avg Gal/Fill «: of Tank:	638.00 Avg 0.0000 SCFM 10.0 Feet	Fill/Year
Batch Filling: Continuous Inert Gas o Saturation of Gas: Average Distance From This Tank is FULLY I Vapor Control/Recovery	13100 r Nitrogen Flow 100.0 % Liquid To Top c NSULATED S&R Device:	Avg Gal/Fill «: of Tank: NONE	638.00 Avg 0.0000 SCFM 10.0 Feet	Fill/Year
Results of AP-42 (5th H Total Inerts Bate in M	13100 r Nitrogen Flow 100.0 % Liquid To Top o NSULATED S&R Device: dition,1997) Em ples/Hour =	Avg Gal/Fill v: of Tank: NONE issions Estimat 0.34 Tf M	<pre>638.00 Avg 0.0000 SCFM 10.0 Feet :ion Method: 2. Inerts =</pre>	9.61 Pounds/Hos
Results of AP-42 (5th P Total Inerts Rate in M VOC Emission Estimates VOC Emission Estimates	13100 r Nitrogen Flow 100.0 % Liquid To Top o NSULATED S&R Device: Mition,1997) Em oles/Hour = From Continuou From Breathing From Working:	Avg Gal/Fill v: of Tank: NONE issions Bstimat 0.34 If N is Inert Gas F y:	638.00 Avg 0.0000 SCFM 10.0 Feet :ion Method: 2, Inerts = low:	9.61 Pounds/Hou 0.00 Tons/Year 0.01 Tons/Year 0.45 Tons/Year

Page number:	Revision Number:	Date of Revision:
17 of 31	R3-3 SM2 and CP1	August 13, 2021

Emissions Unit Description: Process equipment and tank shown in the diagram below

Scheduling Basis for Emissions: 8760 hrs/yr

Conditions Shown: Maximum

Inherent Process Equipment? No



Component	S1 (lb/hr)	S2 (lb/hr)	S3 (lb/hr)	S4 (lb/hr)	Emissions (tons/yr)
VOC	87.3	0.00	86.4	0.9	3.9
Methanol*	85.1	0.00	84.4	0.7	3.1
Water	7.7	2000	1977.8	14.5	-

*HAP is included with total VOC

Page number:	Revision Number:	Date of Revision:
18 of 31	R3-3 SM2 and CP1	August 13, 2021

Vent ID J

Additional control device data:

CE-39 scrubber is 14 inches in diameter and has a 15-foot packed bed.

Assumptions Used:

HMB for SER 4028 used as basis for scrubber input.

Describe the method used to estimate control efficiency:

Control efficiency of 99% is based on process model (ASPEN©) using water as scrubber medium for removing methanol.

Describe the method used to calculate emissions:

An in-house software program was used to estimate tank emissions using AP-42 method to determine input to condenser/scrubber.

Page number:	Revision Number:	Date of Revision:
19 of 31	R3-3 SM2 and CP1	August 13, 2021

PES #

Emissions Unit Description: Process equipment and tank shown in the diagram below

Scheduling Basis for Emissions: 8760 hrs/yr

Conditions Shown: Maximum

Inherent Process Equipment? No



Component	S1 (lb/hr)	S2 (lb/hr)	S3 (lb/hr)	S4 (lb/hr)	S5 (lb/hr)	S6 (lb/hr)	S7 (lb/hr)	Emissions (tons/yr)
VOC	9.95	2.10	7.85	0.00	0.03	2.82	0.75	0.13
Methanol*	9.92	2.10	7.82	0.00	0.03	2.82	0.75	0.13
Water	0.2	0.00	0.2	848	2.5	845.5	0.0	-

*HAP is included with total VOC

Page number:	Revision Number:	Date of Revision:
20 of 31	R3-3 SM2 and CP1	August 13, 2021

Additional control device data:

TL-51 scrubber is 6 inches in diameter and has a 10-foot packed bed.

Assumptions Used:

Operating conditions (including temperature, throughput, etc.) for tanks CH-100, CH-101, XH-50, XH-51, TB-50, TL-50, and TZ-50.

Describe the method used to estimate control efficiency:

Control efficiency of 99% is based on process model (ASPEN©) using water as scrubber medium for removing methanol.

Describe the method used to calculate emissions:

An in-house software program was used to estimate tank emissions using AP-42 method to determine input to condenser/scrubber.

Page number:	Revision Number:	Date of Revision:
21 of 31	R3-3 SM2 and CP1	August 13, 2021

Site: TED Source/PES: B-221-3 Tank: WH-51 Emission Point: J2 Rev Level: OPA

General Information

Description: ESTER STORAGE TANK

Temperature:	140 °F	Shape:	Vertical
Annual Throughput:	52,925,000 gal/yr	Material:	Stainless Steel
Fill Mode:	Continuous	Capacity:	519,130 gal

Material Stored

Component	Weight %	Molecular Weight (lb/lbMol)	Partial Pressure (psia)	Emissions (tpy)
METHANOL	0.56	32.04	0.47	0.54
VOC	99.44	200.23	0.003	0.02
Total	100.00			0.56

Estimated Emissions / Losses

VOC from Purge Rate	0.1449 ton/yr
VOC from Breathing	0.0000 ton/yr
VOC from Working	0.4210 ton/yr
Total VOC Emissions	0.5659 ton/yr
Version	AP-42, Fifth Edition, Jun. 2020

Page number:	Revision Number:	Date of Revision:
22 of 31	R3-3 SM2 and CP1	August 13, 2021

PES #	B-221-3	Vent ID	Х
Emis	ssions Unit Description:	filters, conveyors, and material handling operations)	en vessels,
Scheduli	ng Basis for Emissions:	8760 hrs/yr	
	Conditions Shown:	Maximum	

Special Physical Property Notes:

Only one data point for vapor pressure was found for additive (50 mmHg at 70 °F). This was used as the vapor pressure.

Assumptions Used:

- ASPEN predicted activity coefficients of ~1 for both components at the given concentrations (using UNIFAQ estimations)
- Assumed very little pressure drop through flame arrester (0.1 psi)
- Assumed complete saturation of nitrogen
- 32 °F and 1 atm were taken as the basis for standard conditions
- Assumes 365 days of operation
- Emission are for both SM1 and SM2 combined

Describe the method used to calculate emissions:

Aspen modeling using assumptions noted above.

Component	Total Emissions (tons/yr)		
VOC	0.48		
Methanol*	0.10		

*Methanol included in VOC

Page number:	Revision Number:	Date of Revision:
23 of 31	R3-3 SM2 and CP1	August 13, 2021

PES # B-221-3

 Process Unit Description (if subset of PES):
 Glycol Plants

 Date of Last Revision:
 7/30/2021
 Air Pollutant(s):
 VOC

Equipment Type	Service	Count (# of Points)	Factor (TPY/Point)	Factor Basis	Emission Rate (TPY)
Pumps	LLS	16	0.15000	TNO	2.40
	HLS	6	0.00230	TNO	0.02
Valves	G/V	136	0.00410	TNO	0.56
	LLS	178	0.00160	TNO	0.29
	HLS	192	0.00051	TNO	0.10
Connectors	G/V or LLS	838	0.00140	TNO	1.18
	HLS	513	0.00021	TNO	0.11
PRVs	All	24	0.12000	TNO	2.88
Sampling Connections	All	11	0.01100	TNO	0.18
Total Annual Emissions (at 100% VOC)				7.72	
Other Fugitive Emissions* 0.77				0.77	
			Total An	nual Emissions	8.49

Equipment Leak Estimation Worksheet

G/V Gas/vapor service: process material in gaseous state at operating conditions

LLS Light liquid service: fluid vapor pressure greater than 0.044 psi (2.25 torr) @ 20°C.

HLS Heavy liquid service: fluid vapor pressure less than or equal to 0.044 psi (2.25 torr) @ 20°C

TNO Factors for use at TNO developed from a 1994/1995 screening study based on EPA Method 21 screening and correlation equation methodology (EPA-453/R-93-026, "Protocol for Equipment Leak Emission Estimates", June 1993)

SOCMI Emission factors taken from EPA guidance document "Protocol for Equipment Leak Emission Estimates" (EPA-453/R-95-017, November 1995)

Subpart ** Factors taken from EPA "Protocol for Equipment Leak Emission Estimates" (EPA-453/R-95-0176, November 1995) for equipment subject to 40 CFR ** Subpart **

*Other fugitive emissions includes non-traditional fugitive emissions, e.g. equipment closures including manways, body flanges, and blind flanges, etc.. These are estimated at 10% of the traditional fugitive equipment leak emissions.

Assumptions/Conditions:

- 1. Numbers of valves and connectors based on non-spare pumps only.
- 2. Numbers of G/V valves and connectors assumed to be 25% of respective LLS equipment.
- 3. HAP emissions assumed to be 100% of total annual fugitive emissions.

VOC Breakdown by Hazardous Air Pollutant (if applicable):

НАР	Emission Rate (TPY)
Methanol	8.49

Page number:	Revision Number:	Date of Revision:
24 of 31	R3-3 SM2 and CP1	August 13, 2021

3.71

Total Annual Emissions

 Process Unit Description (if subset of PES):
 B-220 Tank Farm

 Date of Last Revision:
 7/30/2021
 Air Pollutant(s):
 VOC

Count Factor **Emission Rate** Factor **Equipment Type** Service (# of Points) (TPY) (TPY/Point) Basis LLS TNO 0.75 Pumps 5 0.15000 HLS 8 TNO 0.02 0.00230 2 Valves G/V TNO 0.01 0.00410 LLS 96 0.00160 TNO 0.16 HLS 256 0.00051 TNO 0.14 405 G/V or LLS 0.00140 TNO 0.57 Connectors HLS 1080 0.00021 TNO 0.23 **PRVs** All 11 0.12000 TNO 1.32 15 Sampling Connections All 0.01100 TNO 0.17 3.37 Total Annual Emissions (at 100% VOC) 0.34 Other Fugitive Emissions*

Equipment Leak Estimation Worksheet

G/V Gas/vapor service: process material in gaseous state at operating conditions

LLS Light liquid service: fluid vapor pressure greater than 0.044 psi (2.25 torr) @ 20°C.

HLS Heavy liquid service: fluid vapor pressure less than or equal to 0.044 psi (2.25 torr) @ 20°C

TNO Factors for use at TNO developed from a 1994/1995 screening study based on EPA Method 21 screening and correlation equation methodology (EPA-453/R-93-026, "Protocol for Equipment Leak Emission Estimates", June 1993)

SOCMI Emission factors taken from EPA guidance document "Protocol for Equipment Leak Emission Estimates" (EPA-453/R-95-017, November 1995)

Subpart ** Factors taken from EPA "Protocol for Equipment Leak Emission Estimates" (EPA-453/R-95-0176, November 1995) for equipment subject to 40 CFR ** Subpart **

*Other fugitive emissions includes non-traditional fugitive emissions, e.g. equipment closures including manways, body flanges, and blind flanges, etc.. These are estimated at 10% of the traditional fugitive equipment leak emissions.

Assumptions/Conditions:

- 1. Numbers of valves and connectors based on non-spare pumps only.
- 2. Numbers of G/V valves and connectors assumed to be 25% of respective LLS equipment.
- 3. HAP emissions assumed to be 100% of total annual fugitive emissions.

VOC Breakdown by Hazardous Air Pollutant (if applicable):

HAP	Emission Rate (TPY)
Methanol	3.71

Page number:	Revision Number:	Date of Revision:
25 of 31	R3-3 SM2 and CP1	August 13, 2021

PES # B-221-3

Process Unit Description (if subset of PES): <u>B-221 Tank Farm</u> Date of Last Revision: 7/30/2021 Air Pollutant(s): VOC

Equipment Type	Service	Count (# of Points)	Factor (TPY/Point)	Factor Basis	Emission Rate (TPY)
Pumps	LLS	4	0.15000	TNO	0.60
	HLS	7	0.00230	TNO	0.02
Valves	G/V	26	0.00410	TNO	0.11
	LLS	246	0.00160	TNO	0.40
	HLS	224	0.00051	TNO	0.12
Connectors	G/V or LLS	540	0.00140	TNO	0.76
	HLS	598	0.00021	TNO	0.13
PRVs	All	11	0.12000	TNO	1.32
Sampling Connections	All	8	0.01100	TNO	0.09
Total Annual Emissions (at 100% VOC)				3.55	
Other Fugitive Emissions*				0.36	
Total Annual Emissions				3.91	

Equipment Leak Estimation Worksheet

G/V Gas/vapor service: process material in gaseous state at operating conditions

LLS Light liquid service: fluid vapor pressure greater than 0.044 psi (2.25 torr) @ 20°C.

- HLS Heavy liquid service: fluid vapor pressure less than or equal to 0.044 psi (2.25 torr) @ 20°C
- TNO Factors for use at TNO developed from a 1994/1995 screening study based on EPA Method 21 screening and correlation equation methodology (EPA-453/R-93-026, "Protocol for Equipment Leak Emission Estimates", June 1993)
- SOCMI Emission factors taken from EPA guidance document "Protocol for Equipment Leak Emission Estimates" (EPA-453/R-95-017, November 1995)
- Subpart ** Factors taken from EPA "Protocol for Equipment Leak Emission Estimates" (EPA-453/R-95-0176, November 1995) for equipment subject to 40 CFR ** Subpart **

*Other fugitive emissions includes non-traditional fugitive emissions, e.g. equipment closures including manways, body flanges, and blind flanges, etc.. These are estimated at 10% of the traditional fugitive equipment leak emissions.

Assumptions/Conditions:

- 1. Numbers of valves and connectors based on non-spare pumps only.
- 2. Numbers of G/V valves and connectors assumed to be 25% of respective LLS equipment.
- 3. HAP emissions assumed to be 100% of total annual fugitive emissions.

VOC Breakdown by Hazardous Air Pollutant (if applicable):

НАР	Emission Rate (TPY)
Methanol	3.91

Page number:	Revision Number:	Date of Revision:
26 of 31	R3-3 SM2 and CP1	August 13, 2021

Application Attachment

Supplemental Tank Information

The following table lists tanks that are vented through a control or recovery device and, consequently, an APC 6 form is not included with this application.

Tank ID	Vent ID	Year of Construction	Capacity (gal)	Process/ Storage?	Contents ¹	Total VOC Vapor Pressure (psia)	Total HAP Vapor Pressure (psia)
CH-100	J1	<1969	47000	Storage	VOC (Methanol)	10.52	10.52
CH-101	J1	<1969	47000	Storage	VOC (Methanol)	10.52	10.52
TB-50	J1	1978	18425	Storage	VOC (Methanol)	3.10	3.10
TL-50	J1	1978	18425	Storage	VOC (Methanol)	3.10	3.10
TZ-50	J1	1978	18425	Storage	VOC (Methanol)	3.10	3.10
XH-50	J1	<1969	47000	Storage	VOC (Methanol)	10.52	10.52
XH-51	J1	<1969	47000	Storage	VOC (Methanol)	10.52	10.52

¹HAPs, where present, are included in parentheses following VOC designation.

Page number:	Revision Number:	Date of Revision:
27 of 31	R3-3 SM2 and CP1	August 13, 2021

Application Attachment

Design Evaluation and Monitoring Plan – Condenser CH-E-30 and Scrubber TL-C-51

Page number:	Revision Number:	Date of Revision:
28 of 31	R3-3 SM2 and CP1	August 13, 2021

40 CFR Part 63 Subpart FFFF (MON MACT) Design Evaluation and Monitoring Plan – Condenser CH-E-30 and Scrubber TL-C MSOP-24; PES B-221-3; Vent J1

The following vessels in the Glycol MCPU vent through a closed vent system to Scrubber TL-C-51.

• Group 1 Storage Tanks CH-100, CH-101, XH-50, and XH-51 vent through a closed vent system to Condenser CH-E-30 and then to Scrubber TL-C-51. These three tanks are identical and have identical contents

The following vessels in the Tritan[™] MCPU vent through a closed vent system to Scrubber TL-C-51.

• Group 1 Storage Tanks TB-50, TL-50, and TZ-50 vent through a closed vent system to Scrubber TL-C-51. These three tanks are identical and have identical contents.

1. Design Evaluations [40 CFR §63.985(b)(1)(i)]

A. Condenser CH-E-30 [40 CFR §63.985(b)(1)(i)(E)]

Though condenser CH-E-30 serves four tanks, only one tank of the four is filled at a time. The gas stream entering the condenser at maximum fill conditions is:

9.92 lb/hr HAP	35.5%
10.99 lb/hr N2	62.9%
0.20 lb/hr H2O	1.4%
0.03 lb/hr MCHM	0.2%
21.14 lb/hr Total	

Emissions were calculated at maximum expected fill rate and permitted tank temperature, based on the one tank fill at a time operating scenario for the condenser. For this case, calculated emissions also include expected emissions due to instrument purges on the three non-fill tanks, and purge emissions were assumed to be at 100% saturation regardless of tank level. The maximum flow rate from Condenser CH-E-30 under fill conditions is 13.09 lb/hr (2.1 lb/hr MeOH).

Condenser CH-E-30 is a shell and tube condenser with a design effective surface area of 31 ft², and it receives no vapors, gases, or liquids other than the vent streams from tanks CH-100, CH-101, XH-50 and XH-51. Engineering calculations were performed using an engineering model known as ASPEN©, and Condenser CH-E-30 was modeled as a one-stage flash.

B. Scrubber TL-C-51 [40 CFR §63.985(b)(1)(i) and 40 CFR §63.2470(c)(1)]

Only one tank in each tank group (tanks venting to Condenser CH-E-30 and tanks venting directly to Scrubber TL-C-51) is filled at a time. The vapor inlet stream to Scrubber TL-C-51 under maximum fill conditions and maximum condenser outlet temperature is 277 lb/hr.

The maximum fill gas stream from condenser CH-E-30 (Tanks CH-100, CH-101, XH-50, and XH-51):

2.10 lb/hr HAP	16.0%
10.99 lb/hr N2	84.0%
13.09 lb/hr Total	

Page number:	Revision Number:	Date of Revision:
29 of 31	R3-3 SM2 and CP1	August 13, 2021

40 CFR Part 63 Subpart FFFF (MON MACT) Design Evaluation and Monitoring Plan – Condenser CH-E-30 and Scrubber TL-C MSOP-24; PES B-221-3; Vent J1

The maximum fill gas stream from tanks TB-50, TL-50, and TZ-50 is:

0.75 lb/hr HAP	6.8%
4.53 lb/hr N2	93.2%
5.82 lb/hr Total	

The combined scrubber inlet stream for the maximum fill case is:

2.85 lb/hr HAP	18.4%
13.32 lb/hr N2	81.6%
13.09 lb/hr Total	

Emissions were calculated for the operating scenario consisting of the simultaneous fill, at maximum expected fill rates and tank temperatures, of one tank from each tank group. For this case, calculated emissions also include expected emissions due to instrument purges on the non-fill tanks, and purge emissions were assumed to be at 100% saturation regardless of tank level. Engineering calculations were performed using an engineering model known as ASPEN©.

Scrubber TL-C-51 contains 10 ft of packing and was modeled using two ideal stages. Engineering calculations were performed using an engineering model known as ASPEN[©]. The series of control devices Condenser CH-E-30 and Scrubber TL-C-51 achieves greater than 95% HAP removal efficiency.

2. Monitoring Plans [40 CFR §63.996(c)]

The parameters to be monitored are condenser outlet temperature and scrubber water flow rate.

Condenser Outlet Temperature	Scrubber Water Flow Rate
≥ 50 °C	≥ 1.5 gpm

The outlet temperature of Condenser CH-E-30 will be maintained at or below 50 °C, which is a conservative estimate of the attainable outlet vent temperature of Condenser CH-E-30 based on engineering knowledge of local river water temperatures.

The minimum design water flow for adequate packing wetting in a 6" scrubber is 0.5 gpm. The lowest modeled scrubber water flow of 1.5 gpm is based on the minimum flow for packing wetting with the addition of a safety factor. The model described above predicts a HAP removal efficiency greater than 95% at a water flow of 1.5 gpm.

For convenience, the gas flow to the scrubber will always be assumed to be equal to the maximum gas flow, and scrubber water flow will be monitored in lieu of liquid to gas ratio. The maximum flow gas stream was during tank fill conditions was determined to be equal to the vapor displacement created by the volume of liquid fill, assuming no change in tank pressure. This volume of nitrogen was then assumed to be 100% saturated with the tank contents at maximum expected tank temperatures. The average flow gas stream was determined using an in-house program based on AP-42 which accounts for working, breathing and purge losses under varying level and fill conditions.

Page number:	Revision Number:	Date of Revision:
30 of 31	R3-3 SM2 and CP1	August 13, 2021

40 CFR Part 63 Subpart FFFF (MON MACT) Design Evaluation and Monitoring Plan – Condenser CH-E-30 and Scrubber TL-C MSOP-24; PES B-221-3; Vent J1

Both monitored parameters described above are measured and recorded by the DCS at frequencies much greater than every 15 minutes. The data is maintained for five years. 24-hour block averages are calculated and maintained for five years. The 24-hour block averages do not include periods of monitoring system breakdowns, repairs, calibration checks, zero and high-level checks, startups, shutdowns, malfunctions, and periods where the process is not in operation. Records of the excluded periods are also maintained for five years.

The operating day is defined as midnight to midnight.

Page number:	Revision Number:	Date of Revision:
31 of 31	R3-3 SM2 and CP1	August 13, 2021