

PUBLIC NOTICE

Eastman Chemical Company has applied to the Tennessee Department of Environment and Conservation, Division of Air Pollution Control for renewal of their major source (Title V) operating permit subject to the provisions of Tennessee Air Pollution Control Regulations 1200-03-09-.02(11) (Title V Regulations). A major source operating permit is required by both the Federal Clean Air Act and Tennessee's air pollution control regulations. However, it should be noted that this facility has a current major source operating permit.

The applicant is Eastman Chemical Company with a site address of 200 South Wilcox Drive. They have applied for renewal of their existing major source (Title V) operating permit for their co-polyester monomer manufacturing operation (MSOP-19).

EPA has agreed to treat this draft Part 70 permit as a proposed Part 70 permit and to perform its 45-day review provided by the law concurrently with the public notice period. If any substantive comments are received, EPA's 45-day review period will cease to be performed concurrently with the public notice period. In this case, EPA's 45-day review period will start once the public notice period has been completed and EPA receives notification from the Tennessee Air Pollution Control Division that comments have been received and resolved. The status regarding EPA's 45-day review of these permits and the deadline for submitting a citizen's petition can be found at the following website address:

<https://www.epa.gov/caa-permitting/tennessee-proposed-title-v-permits>

Copies of the application materials and draft permits are available for public inspection during normal business hours at the following locations:

Johnson City Environmental Field Office
Division of Air Pollution Control
2305 Silverdale Road
Johnson City, TN 37601
APC.JCEFO@tn.gov

and

Tennessee Department of Environment and Conservation
Division of Air Pollution Control
Davy Crockett Tower, 7th Floor
500 James Robertson Parkway
Nashville, TN 37243

Electronic copies of the draft permits are available by accessing the TDEC internet site located at:

<https://www.tn.gov/environment/ppo-public-participation/ppo-public-participation/ppo-air.html>

Questions concerning the source(s) may be addressed to Mario Ornelas at (865) 851-4156 or by e-mail at Mario.Ornelas@tn.gov.

Interested parties are invited to review these materials and comment. In addition, a public hearing may be requested at which written or oral presentations may be made. To be considered, written comments or requests for a public hearing must be received no later than 4:30 PM on February 26, 2026. To assure that written comments are received and addressed in a timely manner, written comments must be submitted using one of the following methods:

1. **Mail, private carrier, or hand delivery:** Address written comments to Ms. Michelle W. Owenby, Director, Division of Air Pollution Control, Davy Crockett Tower, 500 James Robertson Parkway 7th Floor, Nashville, Tennessee 37243.
2. **E-mail:** Submit electronic comments to air.pollution.control@tn.gov.

A final determination will be made after weighing all relevant comments.

Individuals with disabilities who wish to review information maintained at the above-mentioned depositories should contact the Tennessee Department of Environment and Conservation to discuss any auxiliary aids or services needed to facilitate such review. Such contact may be in person, by writing, telephone, or other means, and should be made no less than ten days prior to the end of the public comment period to allow time to provide such aid or services. Contact the Tennessee Department of Environment and Conservation ADA Coordinator, Davy Crockett Tower, 5th Floor, 500 James Robertson Parkway, Nashville, TN 37243, 1-(866)-253-5827. Hearing impaired callers may use the Tennessee Relay Service, 1-(800)-848-0298.

From: [Air.Pollution Control](#)
To: [APC Permitting](#)
Subject: FW: 82-0003 - MSOP-19 Title V Permit Application - R4-0 Renewal
Date: Monday, November 18, 2024 10:45:41 AM
Attachments: [Title V Permit Application \(MSOP-19\) \(R4-0 Renewal\).zip](#)

From: Gerhard Marburger (US) <gmarburger@eastman.com> **On Behalf Of** Eastman Corporate Environmental Affairs
Sent: Monday, November 18, 2024 5:09 AM
To: Air.Pollution Control <Air.Pollution.Control@tn.gov>
Cc: Chelsea Meadows <Chelsea.Meadows@tn.gov>; Matthew Hayes <Matthew.Hayes@tn.gov>
Subject: [EXTERNAL] 82-0003 - MSOP-19 Title V Permit Application - R4-0 Renewal

This Message Is From an External Sender

This message came from outside your organization.

Please exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email - STS-Security

Attached Title V permit application **does contain CBI** and those application pages that contain CBI to be considered are being submitted separately in hardcopy form via USPS Certified Mail. The tracking number for this CBI package is 7020 2450 0001 8627 4484

If you have any questions concerning this submittal, please contact Sharon Wellman at (423) 229-2412 or by email at swellman@eastman.com

Gerhard Marburger | Eastman
GHSE Environmental Operations
Environmental Technologist
Office: +1 423.229.1362

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.

Submittal Number: R4-0 Renewal

Date of Submittal: November 18, 2024

Summary: Eastman is submitting this permit renewal application as required. As was submitted in the approved construction permit application submitted on July 13, 2023, this application allows for increased annual production capacity from the monomer production facility represented by PES B-545-1. Physical changes include increased cooling capacity and fugitive equipment changes, i.e. valves and connectors. These changes are related to the physical changes authorized by construction permit applications for PES B-272-1,2,3,4 (MSOP-11) and PES B-255-1 (MSOP-09) that were previously submitted on December 30, 2021. As such, Eastman is including a PSD Avoidance Limit Request Form for VOC with the General Forms of this application. In addition to the changes on the construction permit application this permit renewal application adds non-traditional fugitive VOC emissions and corrects minor errors in the HAP No-Standard VOC emissions totals.

Old Page #	New Page #	Description of Change
General Forms		
2	2	Table of Contents: Updated page numbers based on changes described below.
3-4	3-4	APC Index: <ul style="list-style-type: none"> • Updated Sections 2 through 4 (form counts) based on changes described below. • Updated Section 5 based on new responsible official.
5	5	APC 1: <ul style="list-style-type: none"> • Updated to new form, 4-2024 • Updated Responsible Official, Technical Contact, and Billing Contact.
7	7	APC 02: <ul style="list-style-type: none"> • Updated Item 1 to reference individual PES files for flow diagrams. • Updated Item 2 to add the following sources to the list of Insignificant Emissions Units (IEUs). The sources are all existing equipment with the exception of the cooling tower. <ul style="list-style-type: none"> ○ Hydrogenation Reactor Shutdowns ○ Tank 33 ○ Tank 38-89 ○ Tank ED-51 ○ Tank ED-52 ○ TMCD Cooling Tower ○ Maintenance, Startup and Shutdown (MSS) Emissions
8	---	Deleted APC 2 Attachment. Flow diagrams for the application are included with each PES file.
9-10	8-9	APC 29: <ul style="list-style-type: none"> • Updated PM2.5 and PM10 emissions from 2.24 to 1.97 tons/yr. • Updated PM emissions from 2.24 to 0.50 tons/yr. • Updated SO₂ emissions from 0.13 to 0.11 tons/yr. • Updated VOC emissions from 46.96 to 34.76 ton/yr. • Updated CO emissions from 16.43 to 12.70 ton/yr. • Updated NOx emissions from 15.04 to 13.19 tons/yr. • Updated CO_{2e} emissions from 32,458 to 25,301 ton/yr. • Updated total HAP emissions from 13.08 to 9.16 tons/yr. • Listed VOC Gaseous HAP No Standard emissions at 0.58 tons/yr for new form requirement (previously listed at HAP No Standard at 0.24 tons/yr) • Listed VOC HAP Subject to a Standard at 8.58 tons/yr for new form requirement • Updated methanol emissions from 7.06 to 5.09 tons/yr. • Updated 2,2,4-trimethylpentane emissions from 5.38 to 3.49 tons/yr.
16	---	Deleted Eastman Fee Choice Form.
---	15-16	Added APC 36.
---	17	Added Eastman Mutual Agreement Form.
---	18	Added PSD Avoidance Agreement.

Old Page #	New Page #	Description of Change
PES B-545-1 – Application		
2	2	APC 10: Updated Item 10 for process fuel usage and new lower annual production rate.
8	8	APC 4: Updated Item 13 for process fuel usage at new lower annual production rate.
9	9	APC 4: Updated Item 13 for process fuel usage at new lower annual production rate.
10-11	---	APC 6: Deleted form for Tank 38-89. Tank is now classified as an IEU.
12-13	---	APC 6: Deleted form for Tank ED-51. Tank is now classified as an IEU.
14-15	---	APC 6: Deleted form for Tank ED-52. Tank is now classified as an IEU.
16-17	---	APC 6: Deleted form for Tank 33. Tank is now classified as an IEU.
20	12	APC 22: <ul style="list-style-type: none"> Updated Item 5 to satisfy the requirements of 40 CFR Part 64 (CAM). Updated Item 5 to remove language about presence of a flame. Requirement for pilot flame indication was removed in the renewal application submitted on December 5, 2018. Updated Item 5 to monitor heat input to the vapor incinerator instead of volumetric flow. Changed the daily frequency to annual based on the removal of a lb/hr VOC limitation. Moved monthly heat input recordkeeping to the APC 26 on the following page. Updated Item 6 to reflect changes made to Item 5.
21	13	APC 26: Updated annual CBI production rate in Item 6. Removed daily CBI production rate based on removal of lb/hr VOC emissions limit (see APC 30). Added ZA-10 vapor incinerator natural gas heat input recordkeeping for CO and VOC compliance.
26	18	APC 26: Updated Item 6 to monitor heat input to each furnace instead of volumetric flow of natural gas.
28	20	APC 27: Updated the table in Item 5 to remove Vents A, J, K, and P from the table. Sources now qualify as IEUs.
29-30	21-22	APC 28: <ul style="list-style-type: none"> Updated non-fugitive PM_{2.5} and PM₁₀ emissions from 2.24 to 1.97 tons/yr. Updated non-fugitive PM emissions from 2.24 to 0.50 tons/yr. Updated non-fugitive SO₂ emissions from 0.13 to 0.11 tons/yr. Updated non-fugitive VOC emissions from 19.81 to 4.36 tons/yr. Updated fugitive VOC emissions from 27.15 to 27.63 tons/yr. Updated non-fugitive CO emissions from 16.36 to 12.63 tons/yr. Updated NO_x emissions from 15.04 to 13.19 tons/yr. Updated CO_{2e} emissions from 32,458 to 25,420 tons/yr. Update total HAP emissions from 13.08 to 9.16 tons/yr. Updated HAP No Standard Emissions from 0.04 and 0.20 fugitives tons/yr to 0.38 and 0.20 tons/yr Updated non-fugitive 2,2,4-trimethylpentane emissions from 2.66 to 0.72 tons/yr. Updated fugitive 2,2,4-trimethylpentane emissions from 2.72 to 2.77 tons/yr. Updated non-fugitive methanol emissions from 2.99 to 0.95 tons/yr. Updated fugitive methanol emissions from 4.07 to 4.14 tons/yr.
31	23	APC 30: Conditions renumbered after removal of the VOC lb/hr limitation <ul style="list-style-type: none"> Limitation 1 – renumbered, formerly Limitation 3, and changed from 19.81 to 4.36 tons/yr. Limitation 3 – renumbered, formerly Limitation 4, and updated VOC fugitive emissions estimate from 27.15 to 30.40 tons/yr.
32	24	APC 30 Attachment: <ul style="list-style-type: none"> Limitation 4 – added lb/hr limitation for PM at 0.13 lb/hr Limitation 5 – updated Entire Source SO₂ limit from 0.13 tons/yr to 0.03 lb/hr. Limitation 6 – updated Entire Source NO_x limit from 15.04 to 13.19 tons/yr. Limitation 7 – updated Entire Source CO limit from 16.36 to 12.63 tons/yr. Limitation 8 – updated Entire Source methane limit from 2.20 to 2.07 tons/yr.
34	26	APC 30 Attachment: <ul style="list-style-type: none"> Limitation 20 – Removed exemption language. Source does not qualify for exemption because a limit (Limitation 1) applies other than a MACT standard promulgated after November 28, 1990. Operating plan on page 12 of the application serves as the CAM plan. Limitation 18 – updated Vent Q SO₂ limit from 0.06 tons/yr to 0.01 lb/hr.

Old Page #	New Page #	Description of Change
35	27	APC 30 Attachment (NSPS): Designated the columns in the VA vacuum system, Column DE-01, Column EC-01, ED-02, and EE-01 as affected facilities subject to NSPS NNN. Eastman is voluntarily subjecting these columns to NSPS NNN. No modifications or replacements are being made to these affected facilities with the expansion project. Compliance will be demonstrated through MON overlap provisions.
37	29-30	APC 30 Attachment (MON): <ul style="list-style-type: none"> Added closed vent system requirements for vapor incinerator inlet. Designated Triangle H as a Group 1 process vent. Listed Triangles G, H, N, M, and O as subject to MON overlap provisions. Added new applicable requirements for pressure relief devices and heat exchange systems that were effective beginning August 12, 2023. APC 30 Attachment (Boiler MACT): <ul style="list-style-type: none"> Updated form to latest version. No substantive changes.
PES B-545-1 – Attachments		
3	---	Vent A: Removed calculation page for Tank 38-89. Tank is now classified as an IEU.
4	3	Vent B: Updated calculations for FA-01 Furnace to account for reduced annual capacity.
5-10	4-5	Vent C: Updated calculation basis for VOC emissions from the ZA-10 incinerator from process modeling to stack testing.
13	8	Flow Diagram Point D: Updated B-645 fugitive equipment estimate to add 89 valves and 241 connectors and to add non-traditional fugitives
16	---	Vent J: Removed calculation page for Tank ED-51. Tank is now classified as an IEU.
17	---	Vent K: Removed calculation page for Tank ED-52. Tank is now classified as an IEU.
18	---	Vent P: Removed calculation page for Tank 33. Tank is now classified as an IEU.
19	11	Vent Q: Updated calculations for FB-01 Furnace to account for reduced annual capacity.

End of Summary of Changes

EASTMAN

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

Title V Operating Permit Application

General Forms

MSOP-19

Entire Source

Table of Contents

<u>Section</u>	<u>Page #</u>
General Forms	
Application	1-19
Attachments	N/A
PES B-545-1	
Application	1-32
Attachments	1-14

Total Pages: 65



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
This application contains the following forms (one form for each incinerator, printing operation, fuel burning installation, etc.):	APC Form 3, Stack Identification	4
	APC Form 4, Fuel Burning Non-Process Equipment	2
	APC Form 5, Stationary Gas Turbines or Internal Combustion Engines	0
	APC Form 6, Storage Tanks	0
	APC Form 7, Incinerators	0
	APC Form 8, Printing Operations	0
	APC Form 9, Painting and Coating Operations	0
	APC Form 10, Miscellaneous Processes	1
	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
This application contains the following forms (one form for each control system in use at the facility):	APC Form 11, Control Equipment - Miscellaneous	1
	APC Form 13, Adsorbers	0
	APC Form 14, Catalytic or Thermal Oxidation Equipment	0
	APC Form 15, Cyclones/Settling Chambers	0
	APC Form 17, Wet Collection Systems	0
	APC Form 18, Baghouse/Fabric Filters	0

(OVER)

Page Number: 3 of 20	Revision Number: R4-0 Renewal	Date of Revision: November 18, 2024
-------------------------	----------------------------------	---

Section 4: Compliance Demonstration Forms

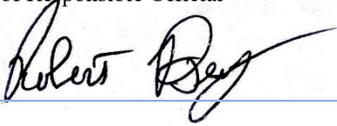
		Total number of this form
This application contains the following forms (one form for each incinerator, printing operation, fuel burning installation, etc.):	APC Form 19, Compliance Certification - Monitoring and Reporting - Description of Methods for Determining Compliance	1
	APC Form 20, Continuous Emissions Monitoring	0
	APC Form 21, Portable Monitors	0
	APC Form 22, Control System Parameters or Operating Parameters of a Process	1
	APC Form 23, Monitoring Maintenance Procedures	0
	APC Form 24, Stack Testing	0
	APC Form 25, Fuel Sampling and Analysis	0
	APC Form 26, Record Keeping	5
	APC Form 27, Other Methods	2
	APC Form 28, Emissions from Process Emissions Sources / Fuel Burning Installations / Incinerators	1
	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	2
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 4 pages and they are numbered from page 1 to 4 . 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: Robert Bewley – Chemicals and Fibers Division Manufacturing Leader
 Telephone Number with Area Code: (423) 229 - 1430

Signature of Responsible Official: 
 Date of Application: 11/14/2024

(For definition of responsible official, see instructions for APC Form 1)



TITLE V PERMIT APPLICATION FACILITY IDENTIFICATION

SITE INFORMATION			
1a. Organization's legal name Eastman Chemical Company		1b. SOS control number [as registered with the TN Secretary of State (SOS)] 000270913	
2. Site name (if different from legal name) Tennessee Operations			
3. Is a construction permit application fee being submitted? (see instructions for appropriate fee to submit) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
4. Site address (St./Rd./Hwy.) 200 South Wilcox Drive		5. NAICS or SIC Code 325199 2869	
City or distance to nearest town Kingsport		Zip code 37660	County name Sullivan
6. Site location (in Lat./Long)	Latitude 36.5222318	Longitude -82.543179	
CONTACT INFORMATION (RESPONSIBLE OFFICIAL)			
7. Responsible official contact Mr. Robert Bewley		Phone number with area code (423) 229-1430	
Mailing address (St./Rd./Hwy.) P.O. Box 1973		Fax number with area code N/A	
City Kingsport	State TN	Zip code 37662	Email address rlbewley@eastman.com
CONTACT INFORMATION (TECHNICAL)			
8. Principal technical contact Ms. Sharon Wellman		Phone number with area code (423) 229-2412	
Mailing address (St./Rd./Hwy.) P.O. Box 1973		Fax number with area code (423) 224-7213	
City Kingsport	State TN	Zip code 37662	Email address swellman@eastman.com
CONTACT INFORMATION (BILLING)			
9. Billing contact Ms. Tracy Venett		Phone number with area code (423) 229-5230	
Mailing address (St./Rd./Hwy.) P.O. Box 1973		Fax number with area code (423) 224-7213	
City Kingsport	State TN	Zip code 37662	Email address tvenett@eastman.com
Page Number: 5 of 20		Revision number: R4-0 Renewal	
		Date of revision: November 18, 2024	

(OVER)

TYPE OF PERMIT REQUESTED										
10. Operating permit Initial application <input type="checkbox"/> Permit renewal <input checked="" type="checkbox"/>	Date construction started N/A	Date completed N/A								
	Last permit number(s) See Item 13	Emission Source Reference Number(s) See Item 13								
Construction permit NSR Minor <input type="checkbox"/> NSR Major <input type="checkbox"/>	Construction starting date	Completion date								
Modification Administrative permit amendment <input type="checkbox"/> Minor permit modification <input type="checkbox"/> Significant modification <input type="checkbox"/>	Date modification started or will start	Date completed or will complete								
HAZARDOUS AIR POLLUTANTS, DESIGNATIONS, AND OTHER PERMITS ASSOCIATED WITH FACILITY										
11. Is this facility subject to the provisions governing prevention of accidental releases of hazardous air contaminants contained in Chapter 1200-03-32 of the Tennessee Air Pollution Control regulations?										
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No										
If the answer is Yes, are you in compliance with the provisions of Chapter 1200-03-32 of the Tennessee Air Pollution Control regulations?										
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No										
12. If facility is located in an area designated as “Non-Attainment” or “Additional Control”, indicate the pollutant(s) for the designation. SO ₂										
13. 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)].										
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #cccccc;"> <th style="width: 20%;">Permit Number</th> <th style="width: 20%;">Emission Source Reference Number</th> <th style="width: 15%;">PES</th> <th style="width: 45%;">Description</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">575805</td> <td style="text-align: center;">82-0003-185</td> <td style="text-align: center;">B-545-1</td> <td style="text-align: center;">Co-polyester Monomer Manufacturing</td> </tr> </tbody> </table>			Permit Number	Emission Source Reference Number	PES	Description	575805	82-0003-185	B-545-1	Co-polyester Monomer Manufacturing
Permit Number	Emission Source Reference Number	PES	Description							
575805	82-0003-185	B-545-1	Co-polyester Monomer Manufacturing							
14. Describe changes that have been made or will be made to this equipment or operation(s) since the last construction or operating permit application: Increased annual production capacity and insertion of a PSD Avoidance Limit Request Form for VOC to match the construction permit application submitted on July 13, 2023.										
15. Comments Updated to new TDEC forms, dated 4-2024.										
16. Page number : 6 of 20	Revision number: R4-0 Renewal	Date of revision: November 18, 2024								



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 and brief description of sources included in this application.
See individual PES documents for flow diagrams.

2. List all insignificant activities which are exempted because of size or production rate and cite the applicable regulations.

Below is a listing of all IEUs contained in this MSOP that are required to be listed in the application per 1200-3-9-.04(5)(a)4.(i).

PES B-545-1

Hydrogenation Reactor Shutdowns

Tank 33

Tank 38-89

Tank ED-51

Tank ED-52

Tank UA-C-400

Tank UB-C-400

TMCD Cooling Tower

Maintenance, Startup and Shutdown

Emissions (MSS)

3. Are there any storage piles?

YES

NO

4. List the states that are within 50 miles of your facility.

Kentucky, North Carolina, and Virginia

5. Page Number:
7 of 20

Revision Number:
R4-0 Renewal

Date of Revision:
November 18, 2024



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.

Air Pollutant	Summary of Maximum Allowable Emissions ¹		Summary of Actual Emissions ²	
	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	1.97		N/A	
PM-10 ³	1.97		N/A	
Particulate Matter (TSP)	0.50		N/A	
Sulfur Dioxide	0.11		N/A	
Volatile Organic Compounds	34.76		N/A	
Carbon Monoxide	12.70		N/A	
Lead	0.00		N/A	
Nitrogen Oxides	13.19		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	25,301		N/A	

(Continued on next page)

Page number: 8 of 20	Revision Number: R4-0 Renewal	Date of Revision: November 18, 2024
-------------------------	----------------------------------	---

(Continued from previous page)

EMISSIONS SUMMARY TABLE – HAZARDOUS AIR POLLUTANTS

3. Complete the following emissions summary for regulated air pollutants that are hazardous air pollutant(s) at this facility or for the sources contained in this application.

Air Pollutant & CAS ⁴	Summary of Maximum Allowable Emissions ¹		Summary of Actual Emissions ²	
	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)
VOC Total HAP	9.16		N/A	
VOC Gaseous HAP No Standard	0.58		N/A	
PM HAP No Standard	0.00		N/A	
VOC HAP Subject to a Standard	8.58		N/A	
Methanol CAS# 67-56-1	5.09		N/A	
2,2,4 - Trimethylpentane CAS# 540-84-1	3.49		N/A	
Non-VOC Gaseous HAP Subject to a Standard	0.00		N/A	

4. Page number: 9 of 20 Revision number: R4-0 Renewal Date of revision: **November 18, 2024**

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 2



TITLE V PERMIT APPLICATION CURRENT EMISSIONS REQUIREMENTS AND STATUS

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Eastman Chemical Company, Tennessee Operations	2. Emission source number: All sources in this MSOP
3. Describe the process emission source / fuel burning installation / incinerator: All sources in this MSOP	

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)
1. All emission units and activities	Visible Emissions	TAPCR 1200-03-05: Visible Emission Regulations	See APC 30 Attachment	N/A	In
2. All emission units and activities	Non-process gaseous air contaminants	TAPCR 1200-03-06-.03(2): General Non-Process Gaseous Emissions Standards	See APC 30 Attachment	N/A	In
3. All emission units and activities	Non-process particulate matter	TAPCR 1200-03-06: Non-Process Emissions Standards	See APC 30 Attachment	N/A	In
4. All emission units and activities	Process gaseous air contaminants	TAPCR 1200-03-07-.07(2): General Provisions and Applicability for Process Gaseous Emission Standards	See APC 30 Attachment	N/A	In
5. All emission units and activities	Process particulate matter	TAPCR 1200-03-07: Process Emissions Standards	See APC 30 Attachment	N/A	In
6. All emission units and activities	Sulfur Dioxide	TAPCR 1200-03-14: Control of Sulfur Dioxide Emissions	See APC 30 Attachment	N/A	In
7. All emission units and activities	Fugitive Dust	TAPCR 1200-03-08: Fugitive Dust	See APC 30 Attachment	N/A	In
8. All emission units and activities	Air Contaminants	TAPCR 1200-03-04: Open Burning	See APC 30 Attachment	N/A	In
9. All emission units and activities	Asbestos	TAPCR 1200-03-11-.02(2)(d): Asbestos standard for demolition and renovation 40 CFR Part 61 Subpart M: National Emissions Standards for Asbestos	See APC 30 Attachment	N/A	In

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)					

11. Page number: 10 of 20	Revision number: R4-0 Renewal	Date of revision: November 18, 2024
------------------------------	----------------------------------	---



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)
10. All emission units and activities	N/A	TAPCR 1200-03-09-.02(11)(e)1.(iii); TAPCR 1200-03-10-.04(2)(b)1: Monitoring, Recordkeeping, and Reporting Requirements TAPCR 1200-03-09-.02(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 for Stationary	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 0400-30-38-.01; Stationary Reciprocating Internal Combustion Engines 0400-30-39-.01; Stationary Compression Ignition Internal Combustion Engines 0400-30-39-.02; Stationary Spark Ignition Internal Combustion Engines	See APC 30 Attachment	N/A	In

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.

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)3.(i). The permittee shall submit compliance certification 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



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 application. See APC 1 Item 16 for a listing of sources.

COMPLIANCE PLAN AND CERTIFICATION

3. Indicate that source(s) which are contained in this application are presently in compliance with all applicable requirements, by checking the following:

A. Attached is a statement of identification of the source(s) currently in compliance. We will continue to operate and maintain the source(s) to assure compliance with all the applicable requirements for the duration of the permit.

B. APC 30 form(s) includes new requirements that apply or will apply to the source(s) during the term of the permit. We will meet such requirements on a timely basis.

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:

Action	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 requirements that have been promulgated under section 114(a)(3) of the Clean Air Act as of the date of submittal of this APC 31.

Compliance Status: IN OUT N/A

6. Page Number: 15 of 17 Revision number: R4-0 Renewal Date of revision: **November 18, 2024**



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: Air.Pollution.Control@TN.gov

APC 36

MSOP-19

TITLE V FEE SELECTION

Type or print and submit to the email address above.

FACILITY INFORMATION

1. Organization's legal name and SOS control number [as registered with the TN Secretary of State (SOS)]

Eastman Chemical Company; 000270913

2. Site name (if different from legal name)

Tennessee Operations

3. Site address (St./Rd./Hwy.)

200 South Wilcox Drive

County name

Sullivan

City

Kingsport

Zip code

37660

4. Emission source reference number

82-0003 MSOP-19

5. Title V permit number

575805

FEE SELECTION

This fee selection is effective beginning January 1, 2024. When approved, this selection will be effective until a new Fee Selection form is submitted. Fee Selection forms must be submitted on or before December 31 of the annual accounting period.

6. Payment Schedule (choose one):

Calendar Year Basis (January 1 – December 31)

Fiscal Year Basis (July 1 – June 30)

7. Payment Basis (choose one):

Actual Emissions Basis Allowable Emissions Basis Combination of Actual and Allowable Emissions Basis

8. If Payment Basis is "Actual Emissions" or "Combination of Actual and Allowable Emissions", complete the following table for each permitted source and each pollutant for which fees are due for that source. See instructions for further details.

Source ID	Pollutant	Allowable or Actual Emissions	If allowable emissions: Specify condition number and limit.
			If actual emissions: Describe calculation method and provide example. Provide condition number that specifies method, if applicable.

CN-1583 (Rev. 4-24)

RDA-1298

Page Number:
15 of 20

Revision Number:
R4-0 Renewal

Date of Revision:
November 18, 2024

Mutual Agreement to Establish More Restrictive Emissions Limits

TAPCR References	Rule Section
1200-03-05-.01(3)	General Visible Emission Standards
1200-03-06-.01(7)	General Non-Process Emissions Standards
1200-03-07-.01(5)	General Process Particulate Emissions Standards
1200-03-14-.01(5)	General Provisions for Control of Sulfur Dioxide Emissions
1200-03-26-.02(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-545-1	PM	Limits and periodic monitoring specified in the applicable Title V applications
B-545-1	SO ₂	

PSD AVOIDANCE AGREEMENT

1. COMPANY NAME Eastman Chemical Company, Tennessee Operations		
2. MAILING ADDRESS Eastman Chemical Company, Tennessee Operations 200 South Wilcox Drive Kingsport, TN 37660 Telephone: (423) 229-2000		
3. PRINCIPAL TECHNICAL CONTACT See APC I Form		PHONE WITH AREA CODE See APC I Form
4. SITE ADDRESS (If different from #2 above) N/A		
5. BRIEF DESCRIPTION OF EMISSION SOURCE PES B-545-1; Co-polyester Monomer Manufacturing		
6. PSD AVOIDANCE AGREEMENT Pursuant to Rule 1200-03-09-.01(4) of the Tennessee Air Pollution Control Regulations (Prevention of Significant Deterioration of Air Quality), any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation, or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is legally enforceable. "Legally enforceable" means all limitations and conditions which are enforceable by the Technical Secretary of the Tennessee Air Pollution Control Board and the EPA Administrator, including those under Chapter 1200-03 (Rules of the Tennessee Department of Health Environment and Conservation, Division of Air Pollution Control), the State Implementation Plan, and any permit requirements established pursuant to Rule 1200-03-09-.01 (Construction Permits) of the Tennessee Air Pollution Control Regulations. By completing and signing this form, the Responsible Official agrees to be bound by these provisions.		
POLLUTANT *	REQUESTED LIMIT	DESCRIBE THE COMPLIANCE METHOD(S) THAT WILL BE USED TO MEET THE REQUESTED LIMIT. ATTACH ADDITIONAL SHEETS AND SUPPORTING DOCUMENTATION AS NECESSARY.
VOC	Entire Source 4.36 tons//yr	Parametric Monitoring: Daily average vapor incinerator fire box temperature. See Operating Plan in the Title V application dated November 18, 2024, PES B-545-1, page 12. Recordkeeping: 12-month moving total monomer production and 12-month moving total heat input to vapor incinerator from natural gas. See Operating Plan in the Title V application dated November 18, 2024, PES B-545-1, page 13. Recordkeeping: 12-month moving total hours of vapor incinerator bypass due to planned routine maintenance. See Operating Plan in the Title V application dated November 18, 2024, PES B-545-1, page 17.
8. CERTIFICATION: BY SIGNING THIS FORM, THE PERMITTEE CERTIFIES THAT THEY WILL COMPLY WITH THE LIMITS REQUESTED ABOVE.		
9. SIGNATURE See APC Index Form Statement of Completeness		DATE See APC Index Form Statement of Completeness
10. SIGNER'S NAME (TYPE OR PRINT) See APC Index Form Statement of Completeness	TITLE See APC Index Form Statement of Completeness	PHONE WITH AREA CODE See APC Index Form Statement of Completeness

* USE A SEPARATE FORM FOR EACH POLLUTANT

Request for Permit Shield

Eastman Chemical Company DOES NOT request a permit shield pursuant to TAPCR 1200-03-09-.02(11)(e)6 [permit shield is not available for Section 502(b)(10) changes or minor modifications]

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.

EASTMAN

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

Title V Operating Permit Application

Application Forms

MSOP-19

PES B-545-1

Co-polyester Monomer Manufacturing



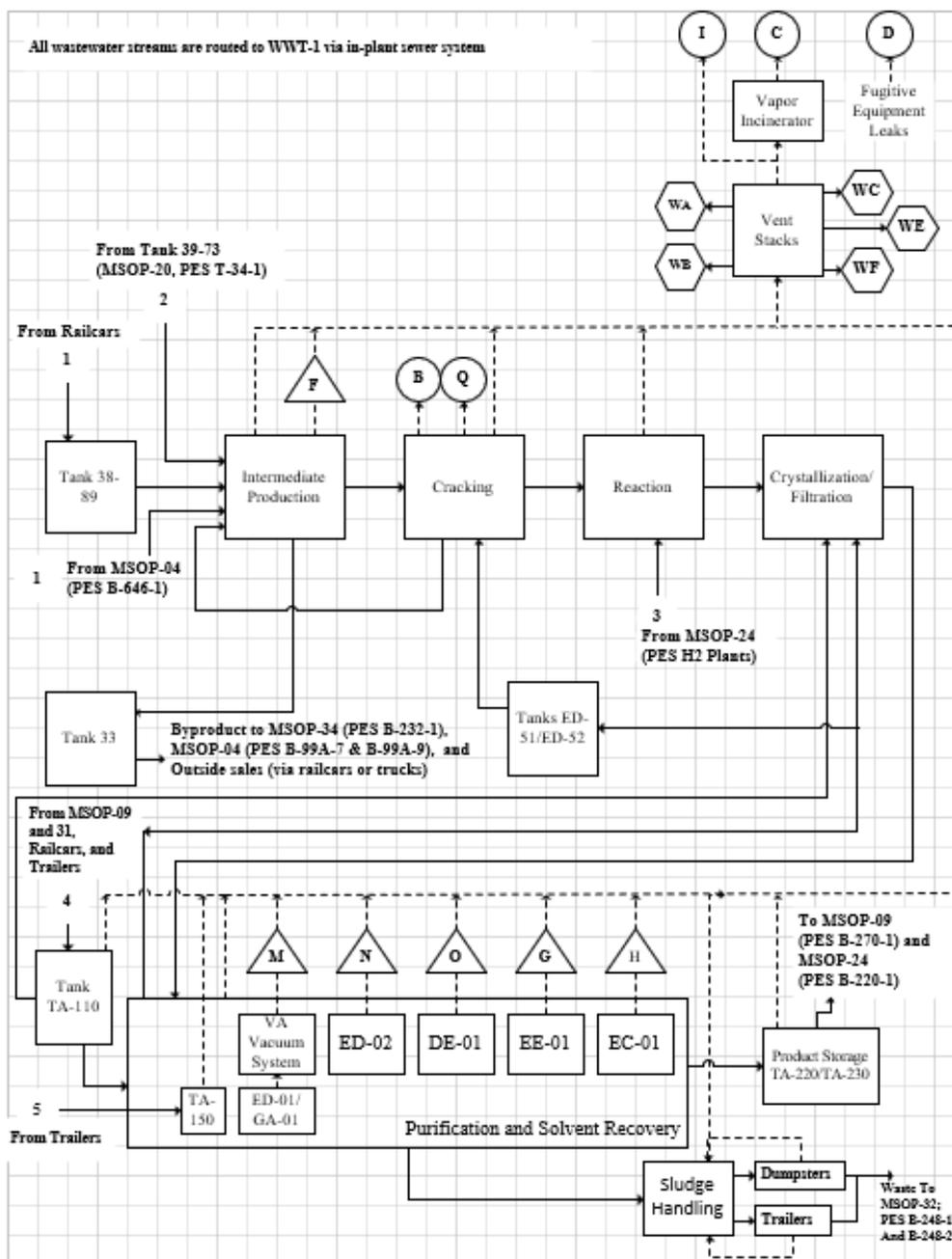
TITLE V PERMIT APPLICATION MISCELLANEOUS PROCESSES

1. Facility name: Eastman Chemical Company, Tennessee Operations			
2. Process emission source (identify): B-545-1			
3. Stack ID or flow diagram point identification(s): See APC 10 Attachment		4. Year of construction or last modification: 2018	
If the emissions are controlled for compliance, attach an appropriate Air Pollution Control system form.			
5. Normal operating schedule: <u>24</u> Hrs./Day <u>7</u> Days/Wk. <u>365</u> Days/Yr.			
6. Location of this process emission source in UTM coordinates: UTM Vertical: <u>4043300 N</u> UTM Horizontal: <u>361600 E</u>			
7. Describe this process (Please attach a flow diagram of this process) and check one of the following: <input type="checkbox"/> Batch <input checked="" type="checkbox"/> Continuous			
PROCESS MATERIAL INPUT AND OUTPUT			
8. List the types and amounts of raw materials input to this process:			
Material	Storage/Material handling process	Average usage (units)	Maximum usage (units)
CBI	Tank/Closed Pipe	CBI	CBI
CBI	Tank/Closed Pipe	CBI	CBI
CBI	Tank/Closed Pipe	CBI	CBI
CBI	Tank/Closed Pipe	CBI	CBI
CBI	Tank/Closed Pipe	CBI	CBI
9. List the types and amounts of primary products produced by this process:			
Material	Storage/Material handling process	Average usage Amount Produced (units)	Maximum usage Amount Produced (units)
CBI	Tank/Closed Pipe	CBI	CBI
CBI	Tank/Closed Pipe	CBI	CBI
10. Process fuel usage:			
Type of fuel	Max heat input (10 ⁶ BTU/Hr.)	Average usage (units)	Maximum usage (units)
Natural Gas	48.96	351.55 MMscf/yr	351.55 MMscf/yr
11. List any solvents, cleaners, etc., associated with this process: Acetone			
If the emissions and/or operations of this process are monitored for compliance, please attach the appropriate Compliance Demonstration form.			
12. Describe any fugitive emissions associated with this process, such as outdoor storage piles, open conveyors, open air sand blasting, material handling operations, etc. (please attach a separate sheet if necessary). Equipment leaks such as pumps, valves, flanges, etc.			
13. Page Number: 2 of 32		Revision Number: R4-0 Renewal	Date of Revision: November 18, 2024

**TITLE V PERMIT APPLICATION
 MISCELLANEOUS PROCESSES**

(Continued from Items 3 and 7 of APC 10)

PES B-545-1





TITLE V PERMIT APPLICATION STACK IDENTIFICATION

GENERAL IDENTIFICATION AND DESCRIPTION	
1. Facility name: Eastman Chemical Company, Tennessee Operations	
2. Emission source (identify): B-545-1	
STACK DESCRIPTION	
3. Stack ID (or flow diagram point identification): B	
4. Stack height above grade in feet: 150	
5. Velocity (data at exit conditions): <u>56.5</u> (Actual feet per second)	6. Inside dimensions at outlet in feet: 2
7. Exhaust flow rate at exit conditions (ACFM): 10,644	8. Flow rate at standard conditions (DSCFM): 8,728
9. Exhaust temperature: <u>768</u> (Degrees Fahrenheit (°F))	10. Moisture content (data at exit conditions): <u>18</u> Percent <u>N/A</u> Grains per dry standard cubic 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 equation only): <u>N/A</u> (°F)	
12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO ₂ , NO ₂ , etc.)? N/A	
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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack. N/A	
14. Page number: 4 of 32	Revision number: R4-0 Renewal
Date of revision: November 18, 2024	



TITLE V PERMIT APPLICATION STACK IDENTIFICATION

GENERAL IDENTIFICATION AND DESCRIPTION		
1. Facility name: Eastman Chemical Company, Tennessee Operations		
2. Emission source (identify): B-545-1		
STACK DESCRIPTION		
3. Stack ID (or flow diagram point identification): C		
4. Stack height above grade in feet: 192		
5. Velocity (data at exit conditions): <u>7.75</u> (Actual feet per second)	6. Inside dimensions at outlet in feet: 4.5	
7. Exhaust flow rate at exit conditions (ACFM): 7,390	8. Flow rate at standard conditions (DSCFM): 1,910	
9. Exhaust temperature: <u>1,500</u> (Degrees Fahrenheit (°F))	10. Moisture content (data at exit conditions): <u>0.5</u> Percent <u>N/A</u> Grains per dry standard cubic 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 equation only): <p style="text-align: center;"><u>N/A</u> (°F)</p>		
12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO ₂ , NO ₂ , etc.)? N/A		
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? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack.		
Vent I is the bypass stack for Vent C. Vent I is used during times of planned maintenance associated with Vent C. Emissions during planned maintenance shall be limited to emissions from inert purge losses and breathing losses for tanks normally venting to the incinerator.		
14. Page number: 5 of 32	Revision number: R4-0 Renewal	Date of revision: November 18, 2024



TITLE V PERMIT APPLICATION STACK IDENTIFICATION

GENERAL IDENTIFICATION AND DESCRIPTION		
1. Facility name: Eastman Chemical Company, Tennessee Operations		
2. Emission source (identify): B-545-1		
STACK DESCRIPTION		
3. Stack ID (or flow diagram point identification): I		
4. Stack height above grade in feet: 122		
5. Velocity (data at exit conditions): <u>1.0</u> (Actual feet per second)	6. Inside dimensions at outlet in feet: 0.5	
7. Exhaust flow rate at exit conditions (ACFM): 13	8. Flow rate at standard conditions (DSCFM): 12	
9. Exhaust temperature: <u>100</u> (Degrees Fahrenheit (°F))	10. Moisture content (data at exit conditions): <u>Negligible Percent</u> <u>N/A</u> Grains per dry standard cubic 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 equation only): <p style="text-align: center;"><u>N/A</u> (°F)</p>		
12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO ₂ , NO ₂ , etc.)? N/A		
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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack. N/A		
14. Page number: 6 of 32	Revision number: R4-0 Renewal	Date of revision: November 18, 2024



TITLE V PERMIT APPLICATION STACK IDENTIFICATION

GENERAL IDENTIFICATION AND DESCRIPTION		
1. Facility name: Eastman Chemical Company, Tennessee Operations		
2. Emission source (identify): B-545-1		
STACK DESCRIPTION		
3. Stack ID (or flow diagram point identification): Q		
4. Stack height above grade in feet: 155		
5. Velocity (data at exit conditions): <u>32.8</u> (Actual feet per second)	6. Inside dimensions at outlet in feet: 3.625	
7. Exhaust flow rate at exit conditions (ACFM): 10,644	8. Flow rate at standard conditions (DSCFM): 8,728	
9. Exhaust temperature: <u>767</u> (Degrees Fahrenheit (°F))	10. Moisture content (data at exit conditions): <u>18</u> Percent <u>N/A</u> Grains per dry standard cubic 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 equation only): <u>N/A</u> (°F)		
12. If this stack is equipped with continuous pollutant monitoring equipment required for compliance, what pollutant(s) does this equipment monitor (e.g., Opacity, SO ₂ , NO ₂ , etc.)? N/A		
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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
If yes, describe the conditions which require its use & complete APC form 4 for the bypass stack. Please identify the stack number(s) of flow diagram point number(s) exhausting through this bypass stack. N/A		
14. Page number: 7 of 32	Revision number: R4-0 Renewal	Date of revision: November 18, 2024



TITLE V PERMIT APPLICATION FUEL BURNING NON-PROCESS EQUIPMENT

GENERAL IDENTIFICATION AND DESCRIPTION

1.	Facility name: Eastman Chemical Company, Tennessee Operations
----	--

2.	Stack ID or flow diagram point identification (s): B
----	---

FUEL BURNING EQUIPMENT DESCRIPTION

3.	List all fuel burning equipment that is at this fuel burning installation (please complete an APC 4 form for each piece of fuel burning equipment). Process Heater FA-F-01
----	---

4.	Fuel burning equipment identification number: FA-F-01
----	--

5.	Fuel burning equipment description: Process heater
----	---

6.	Year of installation or last modification of fuel burning equipment: 2009
----	--

7.	Furnace type: Box heater with horizontal tubes	8. Manufacturer model number (if available): Kinetics Technology International
----	---	---

9.	Location of this fuel burning installation in UTM coordinates: UTM Vertical: <u>4043000 N</u> UTM Horizontal: <u>361600 E</u>
----	---

10.	Normal operating schedule: <u>24</u> Hrs./Day <u>7</u> Days/Wk. <u>365</u> Days/Yr.
-----	---

FUELS, CONTROLS, AND MONITORING DESCRIPTION

11.	Maximum rated heat input capacity (in million BTU/Hour) 24.48	12. If wood is used as a fuel, specify the amount of wood used as a fraction of total heat input. N/A
-----	--	--

13. Fuels:	Primary fuel	Backup fuel #1	Backup fuel #2	Backup fuel #3
Fuel name	Natural Gas			
Actual yearly consumption	175.78 MMscf			

14.	If emissions from this fuel burning equipment are controlled for compliance, please specify the type of control: N/A
-----	---

15.	If emissions from this fuel burning equipment are monitored for compliance, please specify the type of monitoring: N/A
-----	---

16.	Describe any fugitive emissions associated with this process, such as outdoor storage piles, open conveyors, material handling operations, etc. (please attach a separate sheet if necessary). N/A
-----	---

17. Page number: 8 of 32	Revision number: R4-0 Renewal	Date of revision: November 18, 2024
-----------------------------	----------------------------------	---



TITLE V PERMIT APPLICATION FUEL BURNING NON-PROCESS EQUIPMENT

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Eastman Chemical Company, Tennessee Operations	
2. Stack ID or flow diagram point identification (s): Q	
FUEL BURNING EQUIPMENT DESCRIPTION	
3. List all fuel burning equipment that is at this fuel burning installation (please complete an APC 4 form for each piece of fuel burning equipment). Process Heater FB-F-01	
4. Fuel burning equipment identification number: FB-F-01	
5. Fuel burning equipment description: Process heater	
6. Year of installation or last modification of fuel burning equipment: 2018	
7. Furnace type: Box heater with horizontal tubes	8. Manufacturer model number (if available): Broach Process Heaters
9. Location of this fuel burning installation in UTM coordinates: UTM Vertical: <u>4043300 N</u> UTM Horizontal: <u>361600 E</u>	
10. Normal operating schedule: <u>24</u> Hrs./Day <u>7</u> Days/Wk. <u>365</u> Days/Yr.	

FUELS, CONTROLS, AND MONITORING DESCRIPTION

11. Maximum rated heat input capacity (in million BTU/Hour) 24.48		12. If wood is used as a fuel, specify the amount of wood used as a fraction of total heat input. N/A		
13. Fuels:	Primary fuel	Backup fuel #1	Backup fuel #2	Backup fuel #3
Fuel name	Natural Gas			
Actual yearly consumption	175.78 MMscf			
14. If emissions from this fuel burning equipment are controlled for compliance, please specify the type of control: N/A				
15. If emissions from this fuel burning equipment are monitored for compliance, please specify the type of monitoring: N/A				
16. Describe any fugitive emissions associated with this process, such as outdoor storage piles, open conveyors, material handling operations, etc. (please attach a separate sheet if necessary). N/A				
17. Page number: 9 of 32	Revision number: R4-0 Renewal		Date of revision: November 18, 2024	



TITLE V PERMIT APPLICATION CONTROL EQUIPMENT – MISCELLANEOUS

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Eastman Chemical Company, Tennessee Operations	2. Emission source (identify): B-545-1
3. Stack ID or flow diagram point identification(s): C	

CONTROL EQUIPMENT DESCRIPTION

4. Describe the device in use. List the key operating parameters of this device and their normal operating range (e.g. pressure drop, gas flow rate, temperature):

Device Description:	Vapor Incinerator
Key Operating Parameter(s):	Fire Box Temperature
Normal Operating Range(s):	≥790°C

5. Manufacturer and model number (if available):
Process Combustion Corporation

6. Year of installation:
2009

7. List of pollutant(s) to be controlled by this equipment and the expected control efficiency for each pollutant.

Pollutant	Efficiency (%)	Source of data
VOC	99	Performance Test
CO	98	Performance Test

8. Discuss how collected material is handled for reuse or disposal.
N/A

9. If this control equipment is in series with other control equipment, state and specify the overall efficiency:
N/A

10. Page number: 10 of 32 Revision number: R4-0 Renewal Date of revision: **November 18, 2024**



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

All sources that are subject to 1200-03-09-.02(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 DESCRIPTION

1. Facility name: Eastman Chemical Company, Tennessee Operations
2. Process emission source, fuel burning installation, or incinerator (identify): B-545-1
3. Stack ID or flow diagram point identification(s): Entire Source

METHODS OF DETERMINING COMPLIANCE

4. This source as described under Item #2 of this application will use the following method(s) for determining compliance with applicable requirements (and special operating conditions from an existing permit). Check all that apply and attach the appropriate 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):

CO, VOC

- 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):

CO, NOx, VOC

- Other (please describe) - APC 27
 Pollutant(s):

CO, NOx, PM, SO₂, Visible Emissions, VOC

5. Compliance certification reports will be submitted to the Division according to the following schedule:
 Start date: Within 60 days of each 12-month period ending June 30th
 And every ~365 days thereafter.

6. Compliance monitoring reports will be submitted to the Division according to the following schedule:
 Start date: Within 60 days of each six-month period ending December 31st and June 30th of each year.
 And every ~180 days thereafter.

7. Page number: 11 of 32	Revision number: R4-0 Renewal	Date of revision: November 18, 2024
-----------------------------	----------------------------------	---



TITLE V PERMIT APPLICATION – COMPLIANCE DEMONSTRATION BY MONITORING CONTROL SYSTEM PARAMETERS OR OPERATING PARAMETERS OF A PROCESS

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 Operations	2. Stack ID or flow diagram point identification(s): C	
3. Emission source: B-545-1		
MONITORING DESCRIPTION		
4. Pollutant(s) being monitored: CO, VOC		
5. Description of the method of monitoring and establishment of correlation between the parameter value and the emission rate of a particular pollutant: (NOTE: Contents of Item 5 are utilized to satisfy requirements of Compliance Assurance Monitoring 40 CFR Part 64.1 through 40 CFR Part 64.10. Submittal requirements are contained in 40 CFR Part 64.4)		
Description of Protocol [64.4(a)(1); 64.4(b)]:	The vapor incinerator firebox temperature will be maintained at a level to ensure the required destruction efficiency of CO and VOC.	
Equipment and Installation [64.4(a)(3)]:	Temperature probes will be installed in the firebox to measure temperature.	
Parametric Relationship [64.4(a)(2)]:	The vapor incinerator will maintain the required destruction efficiency of CO and VOC provided the 24-hr (midnight to midnight) average firebox temperature is maintained at a level based on the parameter value measured during the latest stack test. The stack test results may be supplemented by engineering assessments and/or manufacturer's recommendations. Performance testing is not required to be conducted over the entire range of permitted parameter values.	
Measurement Frequency [64.4(a)(3)]:	Continuous (at least one measurement every 15 minutes).	
QA/QC Practices [64.4(a)(3)]:	Temperature transmitter will be calibrated once per calendar year.	
6. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated): Daily (temperature) and Once per calendar year (calibrations)		
7. Page number: 12 of 32	Revision number: R4-0 Renewal	Date of revision: November 18, 2024



TITLE V PERMIT APPLICATION COMPLIANCE DEMONSTRATION BY RECORDKEEPING

Recordkeeping 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. Facility name: Eastman Chemical Company, Tennessee Operations	2. Stack ID or flow diagram point identification(s): C
3. Emission source (identify): B-545-1	

MONITORING DESCRIPTION

4. Pollutant(s) being monitored: CO, VOC	
5. Material or parameter being monitored: Production Rate and Heat Input	
6. Method of monitoring and recording: <p>A flow meter installed in the product solution line to the process lot tanks measures pounds of product solution produced. A temperature transmitter and density meter in the product solution line to the process lot tanks are used to determine the composition (percent monomer) of the production solution. The flow of production solution (total pounds), in conjunction with the stream composition (fraction monomer from temperature and density), is used to determine the pounds of monomer produced. CO and VOC loading to the vapor incinerator from the process shall not exceed the plant design rate provided the 12-month rolling total production does not exceed CBI lbs.</p> <p>The heat input to the ZA-10 vapor incinerator from natural gas will be monitored and recorded to ensure compliance with applicable CO and VOC emissions limits. The 12-month moving total heat input from natural gas will not exceed 49,590 MMBtu to ensure compliance with applicable CO and VOC limits. The heat input will be determined on a monthly basis from the natural gas flow rate and heat content data from the natural gas supplier.</p>	

7. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated): Monthly	
--	--

8. Page number: 13 of 32	Revision number: R4-0 Renewal	Date of revision: November 18, 2024
-----------------------------	----------------------------------	---



TITLE V PERMIT APPLICATION COMPLIANCE DEMONSTRATION BY RECORDKEEPING

Recordkeeping 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. Facility name: Eastman Chemical Company, Tennessee Operations	2. Stack ID or flow diagram point identification(s): D
3. Emission source (identify): B-545-1	

MONITORING DESCRIPTION

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 with which compliance will be demonstrated): Quarterly	
--	--

8. Page number: 14 of 32	Revision number: R4-0 Renewal	Date of revision: November 18, 2024
-----------------------------	----------------------------------	---

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, and 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, and 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 required 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.



TITLE V PERMIT APPLICATION COMPLIANCE DEMONSTRATION BY RECORDKEEPING

Recordkeeping 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. Facility name: Eastman Chemical Company, Tennessee Operations	2. Stack ID or flow diagram point identification(s): Specified Portions of Flow Diagram Point D
3. Emission source (identify): B-545-1	

MONITORING DESCRIPTION

4. Pollutant(s) being monitored: VOC	
5. Material or parameter being monitored: Equipment leak detection and repair	
6. Method of monitoring and recording: Equipment identified as being subject to this plan are certain pumps in light liquid service (as defined in 40 CFR 63.161) and certain pressure relief devices in gas/vapor service (as defined in 40 CFR 63.161), except "VOC" is substituted for "hazardous air pollutant". (a) (i) A visual leak inspection of all pumps in light liquid service shall be performed weekly, as outlined in 40 CFR 63.163(a)(3). (ii) Monthly monitoring of all pumps in light liquid service shall be performed using the instrument method specified in 40 CFR 63.180. A leak is defined as an instrument reading of 2,000 ppm or greater. (iii) Pressure relief devices shall be monitored using the instrument method specified in 40 CFR 63.180, as outlined in 40 CFR 63.165. 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. (b) When a leak is detected, an initial attempt at repair shall be made no later than 5 calendar days after the leak is detected. Repair or replacement of leaking pumps shall be completed within 15 calendar days after detection of each leak, except as provided in paragraph (c) below. (c) (1) 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. (2) 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. (3) Delay of repair of pumps for up to 6 months after leak detection is allowed if the pump is replaced with (i) a dual mechanical seal system, (ii) a pump with no externally actuated shaft penetrating the pump housing, or (iii) a new system that the permittee has determined will provide better performance. (d) Quality Improvement Program: Pumps in light liquid service shall comply with 40 CFR 63.176. (e) Recordkeeping Requirements (1) Records must be maintained that identify equipment subject to this plan. (2) 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. (3) When a leak is detected, the following information shall be recorded: (i) Component identifier or description of location and operator name, initials, or identification number. (ii) The date the leak was detected. (iii) The date the initial attempt at repair is made. (iv) 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). (v) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 days (5 days for a PRD) after discovery of the leak.	
7. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated): Weekly and Monthly	
8. Page number: 16 of 32	Revision number: R4-0 Renewal
Date of revision: November 18, 2024	



TITLE V PERMIT APPLICATION COMPLIANCE DEMONSTRATION BY RECORDKEEPING

Recordkeeping 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. Facility name: Eastman Chemical Company, Tennessee Operations	2. Stack ID or flow diagram point identification(s): I
3. Emission source (identify): B-545-1	

MONITORING DESCRIPTION

4. Pollutant(s) being monitored: VOC	
5. Material or parameter being monitored: Hours of Operation	
6. Method of monitoring and recording: A record will be maintained of the time that Vent I (vapor incinerator by-pass) is in operation during vapor incinerator maintenance. Periods of planned routine maintenance of the vapor incinerator must not exceed 240 hours per year on a 12-month moving total basis. Emissions during planned maintenance shall be limited to tank breathing only. The record shall include start and end time for the maintenance period and a description of the type of maintenance performed.	

7. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated): Monthly	
--	--

8. Page number: 17 of 32	Revision number: R4-0 Renewal	Date of revision: November 18, 2024
-----------------------------	----------------------------------	---

State of Tennessee Department of Environment and Conservation Division of Air Pollution Control Davy Crockett Tower, 7 th Floor 500 James Robertson Parkway Nashville, TN 37243 Telephone: (615) 532-0554 Air.Pollution.Control@TN.gov		APC 26 MSOP-19
--	---	-----------------------

**TITLE V PERMIT APPLICATION
COMPLIANCE DEMONSTRATION BY RECORDKEEPING**

Recordkeeping 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. Facility name: Eastman Chemical Company, Tennessee Operations	2. Stack ID or flow diagram point identification(s): B, Q
3. Emission source (identify): B-545-1	

MONITORING DESCRIPTION

4. Pollutant(s) being monitored: NOx
5. Material or parameter being monitored: Heat Input; Records of burner specification or test data
6. Method of monitoring and recording: <p>The heat input to Process Heater FA-F-01 and FB-F-01 will be monitored and recorded to ensure compliance with applicable NOx emissions limits. The 12-month moving total combined heat input to the process heaters will not exceed 358,580 MMBtu to ensure compliance with applicable NOx limits. The heat input will be determined on a monthly basis from the natural gas flow rate and heat content data from the natural gas supplier.</p> <p>Records will also be maintained at the source location and made available for inspection by the Technical Secretary or his/her representative, demonstrating that only low NOx burners (0.05 lb NOx emissions/MMBtu heat input) are used in the FA-F-01 and FB-F-01 furnaces.</p>

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

8. Page number: 18 of 32	Revision number: R4-0 Renewal	Date of revision: November 18, 2024
------------------------------------	---	---



TITLE V PERMIT APPLICATION COMPLIANCE DEMONSTRATION BY OTHER METHODS

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Eastman Chemical Company, Tennessee Operations	2. Stack ID or flow diagram point identification(s): Entire Source
3. Emission source (identify): B-545-1	

MONITORING DESCRIPTION

4. Pollutant(s) being monitored: Visible Emissions	
5. Description of the method of monitoring: Opacity will be determined by EPA Method 9, as published in the Federal Register, Volume 39, No. 219 on September 11, 2013.	

6. Compliance demonstration frequency (specify the frequency with which compliance will be demonstrated):
 The opacity matrix decision tree for visible emission evaluation Method 9, dated September 11, 2013, was used to determine the frequency of visible emissions evaluations (VEEs) for each emission unit within the source.

The following emissions units within the source **do** require an initial or periodic VEEs:

Emissions Unit	Vent ID / Flow Diagram Point	Frequency of VEEs
N/A	N/A	N/A

The following emissions units within the source **do not** require initial or periodic VEEs:

Emissions Unit	Vent ID / Flow Diagram Point	Justification
FA-F-01 Furnace	B	Natural Gas Fired Combustion Source
FB-F-01 Furnace	Q	Natural Gas Fired Combustion Source
Fugitive Equipment	Flow Diagram Point D	Emission unit is an equipment leak
Entire Source, excluding exempt emissions units listed above	C, I	Each allowable emission limit, excluding exempt sources listed above, is less than 10 tons/yr.

7. Page number: 19 of 32	Revision number: R4-0 Renewal	Date of revision: November 18, 2024
-----------------------------	----------------------------------	---



TITLE V PERMIT APPLICATION COMPLIANCE DEMONSTRATION BY OTHER METHODS

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Eastman Chemical Company, Tennessee Operations	2. Stack ID or flow diagram point identification(s): See table in Item 5
3. Emission source (identify): B-545-1	

MONITORING DESCRIPTION

4. Pollutant(s) being monitored: See table in Item 5	
5. Description of the method of monitoring: <p><u>Periodic monitoring by certification:</u> As provided for in 1200-3-9-.04(5)(c)3. Any emission unit or activity which is a subset of a process emission source, fuel burning installation, or incinerator, and which has a potential to emit less than 5 tons per year of a regulated air pollutant, by <u>annual certification of compliance</u> as required in item 1200-03-09-.02(11)(d)1.(ii)(I), may, at the discretion of the Technical Secretary, be considered to meet the monitoring and related recordkeeping and reporting requirements of subpart 1200-03-09-.02(11)(e)1.(iii) and 1200-03-10-.04(2)(b)(1), and the compliance requirements of subpart 1200-03-09-.02(11)(e)3.(i) for that regulated air pollutant except where generally applicable requirements of the state implementation plan specifically impose monitoring and related record keeping and reporting requirements, or except where any applicable procedures and methods are required pursuant to rule 1200-03-10-.04. This provision shall not relieve any emissions unit or activity from any applicable standard or requirement under Chapters 1200-03-11 and 1200-03-31, and subparagraph 1200-03-02-.01(1)(dd).</p>	

Pollutant	Vent ID or Flow Diagram Point
CO	B, Q
NO _x	C
PM	B, C, Q
SO ₂	B, C, Q
VOC	B, Q

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

7. Page number: 20 of 32	Revision number: R4-0 Renewal	Date of revision: November 18, 2024
-----------------------------	----------------------------------	---



TITLE V PERMIT APPLICATION
EMISSIONS FROM PROCESS EMISSION SOURCE / FUEL BURNING INSTALLATION / INCINERATOR

GENERAL IDENTIFICATION AND DESCRIPTION	
1. Facility name: Eastman Chemical Company, Tennessee Operations	2. Stack ID or flow diagram point identification(s): Entire Source
3. Process emission source / Fuel burning installation / Incinerator (identify): B-545-1	

EMISSIONS SUMMARY TABLE – CRITERIA AND FUGITIVE EMISSIONS-SELECTED POLLUTANTS

4. Complete the following emissions summary for regulated air pollutants. Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant	Maximum Allowable Emissions ¹		Actual Emissions ²	
	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	1.97		N/A	
(Fugitive Emissions)	0.00		N/A	
PM-10 ³	1.97		N/A	
(Fugitive Emissions)	0.00		N/A	
Particulate Matter (TSP)	0.50		N/A	
(Fugitive Emissions)	0.00		N/A	
Sulfur Dioxide	0.11		N/A	
(Fugitive Emissions)	0.00		N/A	
Volatile Organic Compounds	4.36		N/A	
(Fugitive Emissions)	30.40		N/A	
Carbon Monoxide	12.63		N/A	
(Fugitive Emissions)	0.07		N/A	
Lead	0.00		N/A	
(Fugitive Emissions)	0.00		N/A	
Nitrogen Oxides	13.19		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)

(Continued from previous page)

AIR POLLUTANT	Maximum Allowable Emissions ¹		Actual Emissions ²	
	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)
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	25,301		N/A	

EMISSIONS SUMMARY TABLE – FUGITIVE HAZARDOUS AIR POLLUTANTS

5. Complete the following emissions summary for regulated air pollutants that are hazardous air pollutant(s). Fugitive emissions shall be included. Attach calculations and emission factor references.

Air Pollutant & CAS ⁴	Maximum Allowable Emissions ¹		Actual Emissions ²	
	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)
Total Particulate HAP	0.00		N/A	
Total Gaseous HAP	9.16		N/A	
VOC Gaseous HAP No Standard	0.38		N/A	
(Fugitive Emissions)	0.20		N/A	
VOC HAP With Standard	1.67		N/A	
(Fugitive Emissions)	6.91		N/A	
Methanol CAS# 67-56-1	0.95		N/A	
(Fugitive Emissions)	4.14		N/A	
2,2,4 - Trimethylpentane CAS# 540-84-1	0.72		N/A	
(Fugitive Emissions)	2.77		N/A	

6. Page number: 22 of 32 Revision Number: R4-0 Renewal Date of Revision: **November 18, 2024**

- 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.



**TITLE V PERMIT APPLICATION
 CURRENT EMISSIONS REQUIREMENTS AND STATUS**

GENERAL IDENTIFICATION AND DESCRIPTION

1. Facility name: Eastman Chemical Company, Tennessee Operations	2. Emission source number: B-545-1
---	---------------------------------------

3. Describe the process emission source / fuel burning installation / incinerator: Co-polyester Monomer Manufacturing
--

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)
1. Entire Source, excluding fugitive equipment leaks from pumps, valves, flanges, etc.	VOC	TAPCR 1200-03-07-.07(2): Process Gaseous emission standard for sources constructed or modified after April 3, 1972 – Reasonable and proper control equipment and technology. TAPCR 1200-03-09-.01(4): Prevention of Significant Air Quality Deterioration and the agreement included with the application dated November 18, 2024. Permit Number TBD, Condition TBD.	4.36 tons/yr	4.36 tons/yr	In
2. Entire Source	Visible Emissions	TAPCR 1200-03-05-.01: General Visual Emissions Standards Permit Number TBD, Condition TBD.	20% Opacity	N/A	In
3. Flow Diagram Point D (Equipment Leaks)	CO, VOC	TAPCR 1200-3-07-.07(2): Process Gaseous emission standard for sources constructed or modified after April 3, 1972 – Reasonable and proper control equipment and technology. Permit Number TBD, Condition TBD.	Leak Inspection and Repair See pages 14 through 16 Fugitive emissions from equipment leaks are estimated at: VOC – 30.40 ton/yr CO – 0.07 ton/yr	N/A	In

[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)

11. Page number: 23 of 32	Revision number: R4-0 Renewal	Date of revision: November 18, 2024
------------------------------	----------------------------------	---



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)
4. Entire Source, excluding fugitive equipment leaks from pumps, valves, flanges, etc.	Particulates	TAPCR 1200-03-06-.01(7): Mutual Agreement for Non-Process Emission Sources. See General Forms for request authorizing establishment of emissions limits lower than those established in this chapter. Permit Number TBD, Condition TBD.	0.13 lb/hr	0.13 lb/hr	In
5. Entire Source, excluding fugitive equipment leaks from pumps, valves, flanges, etc.	Sulfur Dioxide	TAPCR 1200-03-14-.01(3): Mutual Agreement for Sulfur Dioxide Emission Sources. See General Forms for request authorizing establishment of emissions limits lower than those established in this chapter. Permit Number TBD, Condition TBD.	0.03 lb/hr	0.03 lb/hr	In
6. Entire Source, excluding fugitive equipment leaks from pumps, valves, flanges, etc.	NOx	TAPCR 1200-03-06-.03(2): Non-process gaseous emission standard for sources constructed or modified after April 3, 1972 – Reasonable and proper control equipment and technology. Permit Number TBD, Condition TBD.	13.19 tons/yr	13.19 tons/yr	In
7. Entire Source, excluding fugitive equipment leaks from pumps, valves, flanges, etc.	Carbon Monoxide	TAPCR 1200-03-06-.03(2): Non-process gaseous emission standard for sources constructed or modified after April 3, 1972 – Reasonable and proper control equipment and technology. Permit Number TBD, Condition TBD.	12.63 tons/yr	12.63 tons/yr	In
8. Entire Source, excluding fugitive equipment leaks from pumps, valves, flanges, etc.	Other Organic – Methane	TAPCR 1200-03-06-.03(2): Non-process gaseous emission standard for sources constructed or modified after April 3, 1972 – Reasonable and proper control equipment and technology. Permit Number TBD, Condition TBD.	2.07 tons/yr	2.07 tons/yr	In
9. Portions of Source Subject to NSPS	VOC	40 CFR 60 Subpart A – General Provisions	See Item 6	N/A	In
10. NSPS NNN Affected Facilities	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



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. NSPS RRR Affected Facilities	VOC	40 CFR 60 Subpart RRR – Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry Reactor Processes 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. NSPS VVa Affected Facilities	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
13. NSPS Kb Affected Facilities	VOC	40 CFR 60 Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels. 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
14. Miscellaneous Organic Chemical Manufacturing Process Units: TMCD MCPU	HAPs	40 CFR 63 Subpart A – General Provisions	See Item 6	N/A	In
15. Miscellaneous Organic Manufacturing Chemical Process Units: TMCD MCPU	HAPs	40 CFR 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 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



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. Vent C	VOC	40 CFR Part 64 – Compliance Assurance Monitoring	See Item 6	N/A	In
17. Industrial, commercial, or institutional boiler or process heaters: Process Heater FA-F-01 Process Heater FB-F-01	HAPs	40 CFR Part 63, Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters. 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
18. Vent Q	SO ₂	TAPCR 1200-03-09-.01(5)(b)2.(ii): BACT for new or modified sources in a non-attainment area.	0.01 lb/hr	0.01 lb/hr	In
19. Vents B and Q	NOx	TAPCR 1200-03-06-.01(3), 1200-03-09-.01(1)(d)	Only low-NOX burners (NOx emission rate ≤0.05 lb/MMBtu when burning natural gas) shall be used.	N/A	In

Page number:
26 of 32

Revision Number:
R4-0 Renewal

Date of Revision:
November 18, 2024

**Specific Applicability Determinations
B-545-1**

40 CFR Part 60 Subpart NNN		
Identification	Category	Rule Citations
KA Vacuum System Affected Facility ¹ – Triangle F VA Vacuum System Affected Facility ¹ – Triangle M Column DE-01 – Triangle O Column EC-01 – Triangle H Column ED-02 – Triangle N Column EE-01 – Triangle G	<p><u>Sources Subject to Overlap Provisions</u></p> <p>Each affected facility that is part of a process unit that produces any of the chemicals listed in §60.667 as a product, co-product, by-product, or intermediate, for which construction, modification, or reconstruction commenced after December 30, 1983, and for which compliance is demonstrated through compliance with 40 CFR 63 Subpart G (HON) or 40 CFR 63 Subpart FFFF (MON).</p>	<p>Applicability: §60.660(a) and (b)</p> <p>Requirements: See APC 30 Attachments for MON and/or HON Overlap Provisions</p>

¹KA vacuum system includes reactive distillation columns AA-01 and BA-01 and non-reactive distillation column BB-01.

²VA vacuum system includes distillation columns ED-01 and GA-01.

40 CFR Part 60 Subpart RRR		
Identification	Category	Rule Citations
KA Vacuum System Affected Facility ¹ – Triangle F	<p><u>Sources Subject to Overlap Provisions</u></p> <p>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 June 29, 1990 and for which compliance is demonstrated through compliance with 40 CFR 63 Subpart G (HON) or 40 CFR 63 Subpart FFFF (MON).</p>	<p>Applicability: §60.700(a) and (b)</p> <p>Requirements: See APC 30 Attachments for MON and/or HON Overlap Provisions</p>

¹KA vacuum system includes reactive distillation columns AA-01 and BA-01 and non-reactive distillation column BB-01.

40 CFR Part 60 Subparts Kb		
Identification	Category	Rule Citations
Storage Tanks TA-D-110, TA-D-220, TA-D-230 – Vent C	<p>Each storage vessel with a capacity greater than or equal to 75 cubic meters (m³) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984 and for which compliance is demonstrated through compliance with 40 CFR 63 Subpart G (HON) or 40 CFR 63 Subpart FFFF (MON).</p>	<p>Applicability: §60.110b(a)</p> <p>Requirements: See APC 30 Attachments for MON and/or HON Overlap Provisions</p>

40 CFR Part 60 Subpart VVa		
Identification	Category	Rule Citations
TMCD Acetic Acid Process Unit – Applicable portion of Flow Diagram Point D in VOC service	<p><u>Sources Complying with Subpart H</u></p> <p>Each affected facility that commences construction, reconstruction, or modification after November 7, 2006, and complies with 40 CFR part 63 subpart H to comply.</p>	<p>Applicability: §60.480a(a), (b), (e)(2), and (f)</p> <p>Standards: N/A</p> <p>Test Methods and Procedures: §60.485a(d), (e), (f)</p> <p>Recordkeeping Requirements: §60.486a(i) and (j)</p> <p>Reporting Requirements: N/A</p>
TMCD Acetic Acid Process Unit (Applicable portion of Flow Diagram Point D in acetic acid and/or acetic anhydride service)	<p>Alternative monitoring for equipment in acetic acid and/or acetic anhydride service (letter from Carol Kemker, EPA Region 4 to Barry Stephens, TDAPC, July 1, 2010).</p> <p>See Attachments for a copy of the plan.</p>	N/A

Specific Applicability Determinations B-545-1

All MCPUs

40 CFR Part 63 Subpart FFFF (MON) (Form Version 3)		
Identification	Category	Rule Citations
Emission Limits, Work Practice Standards, and Compliance Requirements: General Requirements		
Affected Source	Comply with the applicable emission limits and work practice standards in Tables 1 through 7 to Subpart FFFF at all times, and meet the requirements in §63.2455 through 63.2490 (or the alternative means of compliance in §63.2495, §63.2500, or §63.2505).	§63.2450(a)(2), except as specified in (b) through (v)
Affected Source	Subpart G and Subpart SS referenced exclusions of monitoring data collected during periods of SSM from daily averages do not apply	§63.2450(l)
Affected Source	General duty to, at all times, operate and maintain any affected source, including associated air pollution control (APC) and monitoring equipment, in a manner consistent with safety and good APC practices for minimizing emissions. This general duty does not require any further efforts to reduce emissions beyond required standards.	§63.2450(u)
Applicable maintenance vents in all MCPUs	Process vent that is only used during startup, shutdown, maintenance, or inspection of equipment where equipment is emptied, depressurized, degassed, or placed into service.	§63.2450(v)
Emission Limits, Work Practice Standards, and Compliance Requirements: Wastewater Streams and Liquid Streams in Open Systems		
Affected Source	Liquid or solid organic materials discarded from an MCPU to water or wastewater, except materials from equipment leaks, activities included in maintenance or SSM plans, spills, or samples of a size necessary for the method of analysis.	§63.2485(a), (m), (q)(3) Table 7: Item 1
Notifications, Reports, and Records		
Affected Source	Notifications	§63.2445(c), §63.2515
Affected Source	Reporting	§63.2450(m), §63.2520
Affected Source	Recordkeeping	§63.2525
Other Requirements and Information		
Affected Source	General Provisions Applicability	§63.2540 Table 12

Specific Applicability Determinations B-545-1

TMCD MCPU

40 CFR Part 63 Subpart FFFF (MON) (Form Version 3)		
Identification	Category	Rule Citations
Compliance Dates		
TMCD MCPU	Existing Affected Source	§63.2445(b), (g)
Emission Limits, Work Practice Standards, and Compliance Requirements: General Requirements		
Vapor Incinerator Inlet	Combined Emission Stream	§63.2450(c)
Triangles F and G, H, M, N, O Tank TA-D-140 Tank TA-D-150 Tank TA-D-110 Tank TA-D-220 Tank TA-D-230	Emission stream using a performance test for compliance	§63.2450(g) Subpart SS §63.997, §63.998(a)(2), §63.999(a)(1)(iv), (a)(2)(i), (ii), and (iii)(B)
TA-D-140 – Vent C TA-D-150 – Vent C	Surge control vessel or bottoms receiver that... <ul style="list-style-type: none"> Meets the capacity and vapor pressure thresholds for a Group 1 storage tank, and Demonstrates compliance via a performance test, and Reduces emissions by venting emissions through a closed vent system to an incinerator. 	§63.2450(r) §63.2450(c)(1) and (4), (i)(3), (k)(1)(ii), (2), (7), (8) §63.2470(a), (c), (d), (f) Table 4: Item 1(a)(i) Subpart SS §63.982(c)(1), §63.985(a) and (b)(1)(ii), §63.988(a), (b), and (c)(1), §63.996(a)(1), (b), and (c)
ED-57A – Vent C ED-57B – Vent C TA-D-130 – Vent C	Surge control vessel or bottoms receiver that does not meet the capacity and vapor pressure thresholds for a Group 1 storage tank	§63.2450(r)
Vapor Incinerator Inlet	Closed vent system with a bypass line(s)	§63.2450(e)(6) Subpart SS §63.983(a) through (d), §63.998(d)(1), §63.999(c)(2)
Emission Limits, Work Practice Standards, and Compliance Requirements: Continuous Process Vents		
Triangles F and G, H, M, N, O	Continuous process vent that is... <ul style="list-style-type: none"> Designated Group 1, and Reduces HAP emissions by ≥98 wt% or to an outlet concentration of ≤20 ppmv (as HAP or TOC) by venting emissions to an incinerator, and Uses a performance test to demonstrate compliance. Note: General performance test requirements are captured in other sections of this table, and Not in ethylene oxide service. 	§63.2450(e)(1) and (4), (i)(3), (k)(1)(ii), (2), (7), (8) §63.2455(a), (b) Table 1: Item 1(a)(i) Subpart SS §63.982(c)(2), §63.988(a), (b), and (c)(1), §63.996(a)(1), (b), and (c), §63.998(b), (c)(1) and (2), and (d)(5), §63.999(b)(3), (c)(1) and (6)
continued on next page		

Specific Applicability Determinations B-545-1

Continued from previous page		
Emission Limits, Work Practice Standards, and Compliance Requirements: Storage Tanks		
TA-D-110 – Vent C TA-D-220 – Vent C TA-D-230 – Vent C	Storage tank that is... <ul style="list-style-type: none"> • Group 1, and • Has a maximum true vapor pressure of total HAP at the storage temperature \geq 76.6 kPa (11.1 psi), and • Reduces emissions by venting emissions through a closed vent system to an incinerator, and • Uses a performance test to demonstrate compliance. Note: General performance test requirements are captured in other sections of this table. 	§63.2450(e)(1) and (4), (i)(3), (k)(1)(ii), (2), (7), and (8) §63.2470(a), (c), (d), (f) Table 4: Item 1(a)(i) Subpart SS §63.982(c)(1), §63.985(a) and (b)(1)(ii), §63.988(a), (b), and (c)(1), §63.996(a)(1), (b), and (c), §63.998(b), (c)(1) and (2), (d)(2)(ii) and (5), §63.999(b)(3), (c)(1), (4), and (6)
TA-D-50 – Vent C ED-70A – Vent C ED-70B – Vent C	Storage tank that is... <ul style="list-style-type: none"> • At an existing source, and • Group 2. 	See general recordkeeping citations
Emission Limits, Work Practice Standards, and Compliance Requirements: Transfer Racks		
Waste Trailer Loading	Group 1 transfer rack that uses a vapor balancing system to demonstrate compliance	§63.2475(a), (b) Table 5: Item 1(d)
Emission Limits, Work Practice Standards, and Compliance Requirements: Equipment Leaks		
Applicable portions of Flow Diagram Point D in organic HAP service	Equipment that is... <ul style="list-style-type: none"> • In organic HAP service and a part of any MCPU • At an existing source • Not a pressure relief device in gas/vapor service • Complies with the requirements of 40 CFR 63 Subpart H, except as specified in §63.2480(b), (d), and (f) 	§63.2480(a), (b), (d), and (f) Table 6: Item 1(a)(ii)
Pressure relief devices as identified in the latest Notification of Compliance Status Report	Pressure relief devices that are... <ul style="list-style-type: none"> • In organic HAP service and a part of any MCPU • Not routed to a control device, process, fuel gas system, or drain system. 	Gas/Vapor Service Only §63.2480(e)(1), and (2) All Pressure Relief Devices §63.2480(e)(3), (6), and (7)
Emission Limits, Work Practice Standards, and Compliance Requirements: Wastewater Streams and Liquid Streams in Open Systems		
Hexagons WA, WB, WC, WE, and WF	Group 2 wastewater stream	§63.2485(a), (b), (c), and (j) Table 7: Item 1
Applicable maintenance wastewater streams in the TMCD MCPU	Maintenance wastewater streams	§63.2485(a), (b), and q(1) Table 7: Item 2
Emission Limits, Work Practice Standards, and Compliance Requirements: Heat Exchange Systems		
Applicable heat exchange systems in the TMCD MCPU	Heat exchange systems in organic HAP service within any MCPU that have a flow rate greater than 10 gpm, and do not meet the criteria in either §63.104(a)(1), (2), (5), or (6)	§63.2490(a), (d)
continued on next page		

Specific Applicability Determinations B-545-1

Continued from previous page

Alternative Means of Compliance: Overlap Provisions

TA-D-110 – Vent C TA-D-220 – Vent C TA-D-230 – Vent C	Storage tank assigned to an MCPU, subject to control under 40 CFR 60 Subpart Kb or 40 CFR 61 Subpart Y, and uses the requirements for Group 1 storage tanks under MON to demonstrate compliance with Subpart Kb or Subpart Y	§63.2535(c)
KA Vacuum System Affected Facility ¹ – Triangle F VA Vacuum System Affected Facility ¹ – Triangle M Column DE-01 – Triangle O Column EC-01 – Triangle H Column ED-02 – Triangle N Column EE-01 – Triangle G	MON process vent that demonstrates compliance with 40 CFR Part 60 Subpart DDD, III, NNN, or RRR through compliance with MON, considering all TOC (minus methane and ethane) as HAP	§63.2535(h)

¹KA vacuum system includes reactive distillation columns AA-01 and BA-01 and non-reactive distillation column BB-01.

²VA vacuum system includes distillation columns ED-01 and GA-01.

Specific Applicability Determinations B-545-1

40 CFR Part 63 Subpart DDDDD (Boiler MACT) (Form Version 1)		
Identification	Category	Rule Citation
General Compliance Requirements		
Affected Source, as applicable	General compliance requirement for all units	§63.7505(a)
Notification, Reports, and Records		
Affected Source, as applicable	Notifications	§63.7495(d), §63.7545
Affected Source, as applicable	Reports	§63.7550
Affected Source, as applicable	Records	§63.7555, §63.7560
Other Requirements and Information		
Affected Source, as applicable	General Provisions Applicably	§63.7565, Table 10

40 CFR Part 63 Subpart DDDDD (Boiler MACT) (Form Version 3)		
Identification	Category	Rule Citation
FA-F-01 Furnace (Vent B)	Each existing unit that uses an oxygen trim system to reduce tune-up frequency to once every 5 years	Emission Limitations and Work Practice Standards: §63.7500(a)(1), (a)(3), (f) Testing, Fuel Analysis, and Initial Compliance Requirements: §63.7510(e) §63.7515(d) §63.7530(e), (f) Table 3 Continuous Compliance Requirements: §63.7540(a)(10)(i) through (vi), (a)(12), (a)(13)
FB-F-01 Furnace (Vent Q)	Each new or reconstructed unit that uses an oxygen trim system to reduce tune-up frequency to once every 5 years	Emission Limitations and Work Practice Standards: §63.7499(l), (m), or (u) §63.7500(a)(1), (a)(3), (f) Testing, Fuel Analysis, and Initial Compliance Requirements: §63.7510(g) §63.7515(d) Table 3 Continuous Compliance Requirements: §63.7540(a)(10)(i) through (vi), (a)(12), (a)(13)

EASTMAN

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

Title V Operating Permit Application

Application Attachment(s)

MSOP-19

PES B-545-1

Co-polyester Monomer Manufacturing

Attachment	Page #
Calculations	2-11
Supplement Tank Information	12
NSPS VVa Alternative Monitoring Plan	13-14

Application Attachment

Calculations

Emissions Unit Description: FA-01 Furnace

Scheduling Basis for Emissions: Natural Gas Usage and Design Rating of Furnace

Conditions Shown: Maximum for lb/hr and Permitted for tons/yr

Assumptions Used:

- Maximum Natural Gas Usage at 24 kscf/hr
- 1,020 Btu/scf heat content of natural gas
- 24.48 MMBtu/hr design rating of the furnace
- 50 ppmv outlet concentration of CO
- Low NOx burners achieve 0.05 lb/MMBtu emission rate
- Used a Ratio of 0.836, Permitted to Maximum Annual Production, for calculation of tons/yr from lb/hr values

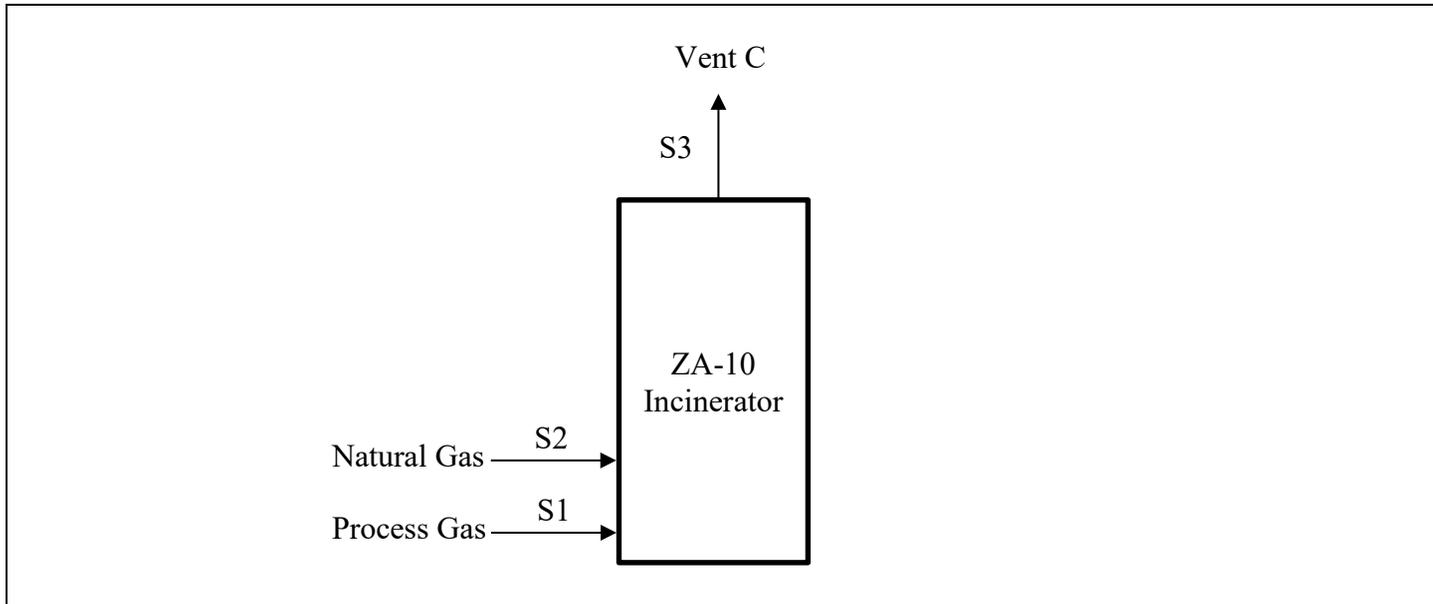
Describe the method used to calculate emissions:

AP-42 emissions factors were used in the calculation of PM2.5, PM10, PM, SO₂, VOC, CO₂, and Methane. Emissions factors derived from Boiler MACT tune-up emissions testing were used for CO (max 50 ppmv concentration expected). NOx emissions factor was set at 0.05 lb/MMBtu based on use of low NOx burners.

Pollutant	Emission Factor (lb/MMBtu)	Basis	Emission Rate (lb/hr)	Emission Rate (tons/yr)
PM2.5	7.45E-03	AP-42	0.18	0.67
PM10	7.45E-03	AP-42	0.18	0.67
PM	1.86E-03	AP-42	0.046	0.17
HAP	7.41E-07	AP-42	Negligible	Negligible
SO ₂	5.88E-04	AP-42	0.014	0.05
VOC*	5.39E-03	AP-42	0.13	0.48
Formaldehyde	7.35E-05	AP-42	0.00	0.01
Hexane	1.76E-03	AP-42	0.04	0.16
CO	7.39E-02	Boiler MACT Testing	0.91	3.31
Lead	4.90E-07	AP-42	Negligible	Negligible
NOx	1.20E-01	Boiler MACT Testing	1.22	4.48
Mercury	2.55E-07	AP-42	Negligible	Negligible
Beryllium	1.18E-08	AP-42	Negligible	Negligible
CO ₂ e	118.35	AP-42; 40 CFR Part 98	2,897.1	10,609
CO ₂	1.18E+02	AP-42	2,880.0	10,546
Methane	2.25E-03	AP-42	0.06	0.20
N ₂ O	2.16E-03	AP-42	0.05	0.19

*HAPs included in VOC total

Emissions Unit Description: ZA-10 Incinerator
 Scheduling Basis for Emissions: CBI Daily and Annual Production Rates
 Conditions Shown: Maximum for lb/hr and Permitted for tons/yr
 Inherent Process Equipment? No



Component	S1 Process Gas lb/hr	S2 Natural Gas lb/hr	S3 Max lb/hr	Emissions (tons/yr)
PM-2.5	Negligible	Negligible	0.164	0.63
PM-10	Negligible	Negligible	0.164	0.63
PM (TSP)	Negligible	Negligible	0.041	0.16
HAP	Negligible	Negligible	Negligible	Negligible
SO ₂	Negligible	Negligible	0.003	0.01
VOC	0.30	Negligible	0.600	2.22
Hexane	Negligible	Negligible	0.010	0.04
Methanol	0.05	Negligible	0.089	0.33
2,2,4-Trimethylpentane	0.07	Negligible	0.128	0.47
CO	0.00	Negligible	1.60	6.01
Lead	Negligible	Negligible	Negligible	Negligible
NOx	Negligible	Negligible	1.10	4.23
Mercury	Negligible	Negligible	Negligible	Negligible
Beryllium	Negligible	Negligible	Negligible	Negligible
CO ₂ e	1367	Negligible	983.6	4,083
CO ₂	1367	Negligible	968.6	4,025
Methane	Negligible	234.9	0.453	1.67
N ₂ O	Negligible	Negligible	0.012	0.05

Additional control device data:**Special Physical Property Notes:**

N/A

Assumptions Used:

- Incinerator is rated for 18 MMBtu/hr of heat input but calculations were based conservatively on 22 MMBtu/hr.
- Natural gas calculations assume flare is operating at maximum natural gas feed rate for 8,760 hours per year. Annual process gas emissions are based on the annual CBI production rate divided by the maximum sustained production rate.
- Maximum natural gas input to the incinerator is 5.66 MMBtu/hr. Maximum process gas input to the incinerator is 16.34 MMBtu/hr.
- Process gas is assumed to generate the same particulate emissions as natural gas.
- Incinerator is equipped with low NO_x burners, therefore a factor of 0.05 lb NO_x/MMBtu of heat input is assumed in the calculations.
- Incinerator is assumed to produce an outlet concentration of 100 ppmv CO when only combusting natural gas.

Describe the method used to estimate control efficiency:

Vendor information and performance test data.

Describe the method used to calculate emissions:PM_{2.5}, PM₁₀, and PM emissions are based on AP-42 emission factors and total heat input capacity of the incinerator.

SO₂ emissions are only from the combustion of natural gas and are based on AP-42 factors. There is no sulfur in the process gas feed to the incinerator.

VOC emissions from the combustion of the process gas were based on performance test data. VOC emissions from the combustion of natural gas are based on AP-42 factors.

CO emissions from the process gas stream are based on Heat and Material Balance information. CO emissions from the combustion of natural gas are based on an outlet concentration of CO (from only natural gas combustion) of 100 ppmv.

Lead emissions are only from the combustion of natural gas and are based on AP-42 factors. There is no lead in the process gas feed to the incinerator.

NO_x emissions are based on the maximum heat capacity of the incinerator and a NO_x emission factor of 0.05 lb/MMBtu of heat input.

Mercury and beryllium emissions are only from the combustion of natural gas and are based on AP-42 factors. There is no mercury or beryllium in the process gas feed to the incinerator.

CO₂ emissions are based on the inlet CO₂ in the process gas stream based on Heat and Material Balance information and the CO₂ emissions from the combustion of natural gas, and the CO₂ generation from process gas combustion. Methane emissions are based on combustion of natural gas only. N₂O emissions are only from the combustion of natural gas and those amounts are based on AP-42 factors. CO₂e emissions were then determined based on the global warming potential for each compound specified in 40 CFR Part 98.

Tennessee Operations, Eastman Chemical Company Equipment Leak Estimation Worksheet

PES Identification: B-545-1 PES Description: Copolyester Monomer Manufacturing Date: 7/16/2024

Process Unit Description (if subset of PES): Fugitive Equipment Leaks in B-545 and B-380 and with equipment identified as IEUs on Item 2 of the APC 02, General Forms.

Block Flow Diagram Point: D

Regulated Air Pollutant (Check One): VOC CO Other (Specify) _____

Equipment Type	Service	Count (# of Points)	Factor (TPY/Point)	Factor Basis	Emission Rate (TPY)
Pumps	LLS	29	0.04838	Subpart H	1.41
Pumps	HLS	14	0.00230	TNO	0.04
Valves	G/V	399	0.00410	TNO	1.64
Valves	LLS	2179	0.00160	TNO	3.49
Valves	HLS	609	0.00051	TNO	0.32
Connectors	G/V or LLS	6897	0.00140	TNO	9.66
Connectors	HLS	1650	0.00021	TNO	0.35
PRVs	GVS	45	0.03073	Subpart H	1.39
PRVs	GVS	7	0.12000	TNO	0.84
PRVs	LLS or HLS	31	0.01642	SOCMI	0.51
Agitators	G/V	0	0.05919	Subpart H	0.00
Agitators	LLS	0	0.12000	TNO	0.00
Agitators	HLS	0	0.00230	TNO	0.00
Compressors	G/V	3	0.03073	Subpart H	0.10
Sampling Connections	All	0	0.01100	TNO	0.00
Open-Ended Lines	All	0	0.01642	SOCMI	0.00
Total Annual Emissions (at 100% VOC)					19.75
Other Fugitive Emissions*					1.98
Total Annual Emissions					21.73

- 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 TND 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-93-026, June 1993)
- Subpart H

*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.

VOC Breakdown by Hazardous Air Pollutant (if applicable):

HAP	Emission Rate (TPY)
HAP No Standard	0.10
Methanol	2.96
2,2,4-Trimethylpentane	1.98

Tennessee Operations, Eastman Chemical Company Equipment Leak Estimation Worksheet

PES Identification: B-545-1 PES Description: Copolyester Monomer Manufacturing Date: 7/16/2024

Process Unit Description (if subset of PES): Fugitive Equipment Leaks in B-545 and B-380

Block Flow Diagram Point: D

Regulated Air Pollutant (Check One): VOC CO Other (Specify) _____

Equipment Type	Service	Count (# of Points)	Factor (TPY/Point)	Factor Basis	Emission Rate (TPY)
Pumps	LLS	0	0.15000	TNO	0.00
Pumps	HLS	0	0.00230	TNO	0.00
Valves	G/V	34	0.00410	TNO	0.14
Valves	LLS	0	0.00160	TNO	0.00
Valves	HLS	0	0.00051	TNO	0.00
Connectors	G/V or LLS	160	0.00140	TNO	0.23
Connectors	HLS	0	0.00021	TNO	0.00
PRVs	GVS	3	0.12000	TNO	0.36
PRVs	GVS	0	0.12000	TNO	0.00
PRVs	LLS or HLS	0	0.01642	SOCMI	0.00
Agitators	G/V	0	0.19216	SOCMI	0.00
Agitators	LLS	0	0.12000	TNO	0.00
Agitators	HLS	0	0.00230	TNO	0.00
Compressors	G/V	0	2.20162	SOCMI	0.00
Sampling Connections	All	0	0.01100	TNO	0.00
Open-Ended Lines	All	0	0.01642	SOCMI	0.00
Total Annual Emissions (at 100% CO)					0.73
Total Using a 5% Correction Factor					0.04

- 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 TND 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-93-026, June 1993)
 Subpart H

VOC Breakdown by Hazardous Air Pollutant (if applicable):

HAP	Emission Rate (TPY)
N/A	N/A

Tennessee Operations, Eastman Chemical Company Equipment Leak Estimation Worksheet

PES Identification: B-545-1 PES Description: Copolyester Monomer Manufacturing Date: 7/16/2024

Process Unit Description (if subset of PES): Fugitive Equipment Leaks in B-645 and with equipment identified as IEUs on Item 2 of the APC 02, General Forms.

Block Flow Diagram Point: D

Regulated Air Pollutant (Check One): VOC CO Other (Specify) _____

Equipment Type	Service	Count (# of Points)	Factor (TPY/Point)	Factor Basis	Emission Rate (TPY)
Pumps	LLS	11	0.04838	Subpart H	0.54
Pumps	HLS	14	0.00230	TNO	0.04
Valves	G/V	77	0.00410	TNO	0.32
Valves	LLS	524	0.00160	TNO	0.84
Valves	HLS	448	0.00051	TNO	0.23
Connectors	G/V or LLS	2734	0.00140	TNO	4.17
Connectors	HLS	1210	0.00021	TNO	0.26
PRVs	GVS	16	0.03073	Subpart H	0.50
PRVs	GVS	3	0.12000	TNO	0.36
PRVs	LLS or HLS	28	0.01642	SOCMI	0.46
Agitators	G/V	0	0.05919	Subpart H	0.00
Agitators	LLS	1	0.12000	TNO	0.12
Agitators	HLS	0	0.00230	TNO	0.00
Compressors	G/V	1	0.03073	Subpart H	0.04
Sampling Connections	All	0	0.01100	TNO	0.00
Open-Ended Lines	All	0	0.01642	SOCMI	0.00
Total Annual Emissions (at 100% VOC)					7.88
Other Fugitive Emissions*					0.79
Total Annual Emissions					8.67

- 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 TND 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-93-026, June 1993)
- Subpart H

*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.

VOC Breakdown by Hazardous Air Pollutant (if applicable):

HAP	Emission Rate (TPY)
HAP No Standard	0.10
Methanol	1.18
2,2,4-Trimethylpentane	0.79

Tennessee Operations, Eastman Chemical Company Equipment Leak Estimation Worksheet

PES Identification: B-545-1 PES Description: Copolyester Monomer Manufacturing Date: 7/16/2024

Process Unit Description (if subset of PES): Fugitive Equipment Leaks in B-645

Block Flow Diagram Point: D

Regulated Air Pollutant (Check One): VOC CO Other (Specify) _____

Equipment Type	Service	Count (# of Points)	Factor (TPY/Point)	Factor Basis	Emission Rate (TPY)
Pumps	LLS	0	0.15000	TNO	0.00
Pumps	HLS	0	0.00230	TNO	0.00
Valves	G/V	30	0.00410	TNO	0.13
Valves	LLS	0	0.00160	TNO	0.00
Valves	HLS	0	0.00051	TNO	0.00
Connectors	G/V or LLS	142	0.00140	TNO	0.20
Connectors	HLS	0	0.00021	TNO	0.00
PRVs	GVS	3	0.12000	TNO	0.36
PRVs	GVS	0	0.12000	TNO	0.00
PRVs	LLS or HLS	0	0.01642	SOCMI	0.00
Agitators	G/V	0	0.19216	SOCMI	0.00
Agitators	LLS	0	0.12000	TNO	0.00
Agitators	HLS	0	0.00230	TNO	0.00
Compressors	G/V	0	2.20162	SOCMI	0.00
Sampling Connections	All	0	0.01100	TNO	0.00
Open-Ended Lines	All	0	0.01642	SOCMI	0.00
Total Annual Emissions					0.69
Total Using a 5% Correction Factor					0.03

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 TND 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-93-026, June 1993)

Subpart H

VOC Breakdown by Hazardous Air Pollutant (if applicable):

HAP	Emission Rate (TPY)
N/A	N/A

Emissions Unit Description: ZA-10 Incinerator Bypass

Scheduling Basis for Emissions: 240 hr/yr

Conditions Shown: Maximum

Assumptions Used:

- Bypass only used for planned maintenance on the control device
- Continuous inert losses and breathing from tanks are the only sources of emissions during bypass operation
- TA-E-145 and ED-E-27 condensers achieves same efficiency as demonstrated in calculations for Vent C.

Describe the method used to calculate emissions:

AP-42 calculation methods were used to calculate tank emissions. Aspen modeling was used to estimate condenser efficiencies. Summed all breathing and purge emissions from calculations for tanks venting to the incinerator.

Component	Total Emissions (lb/hr)	Total Emissions (tons/yr)
VOC*	9.85	1.18
Methanol	5.16	0.62
2,2,4-Trimethylpentane	2.06	0.25

*HAPs included in VOC total

Emissions Unit Description: FB-01 Furnace

Scheduling Basis for Emissions: Natural Gas Usage and Design Rating of Furnace

Conditions Shown: Maximum

Assumptions Used:

- Maximum Natural Gas Usage at 24 kscf/hr
- 1,020 Btu/scf heat content of natural gas
- 24.48 MMBtu/hr design rating of the furnace
- 50 ppmv outlet concentration of CO
- Low NOx burners achieve 0.05 lb/MMBtu emission rate
- Used a Ratio of 0.836, Permitted to Maximum Annual Production, for calculation of tons/yr from lb/hr values

Describe the method used to calculate emissions:

AP-42 emissions factors were used in the calculation of PM2.5, PM10, PM, SO₂, VOC, CO₂, and Methane. Emissions factors derived from Boiler MACT tune-up emissions testing were used for CO (max 50 ppmv concentration expected). NOx emissions factor was set at 0.05 lb/MMBtu based on use of low NOx burners.

Pollutant	Emission Factor (lb/MMBtu)	Basis	Emission Rate (lb/hr)	Emission Rate (tons/yr)
PM2.5	7.45E-03	AP-42	0.18	0.67
PM10	7.45E-03	AP-42	0.18	0.67
PM	1.86E-03	AP-42	0.05	0.17
HAP	7.41E-07	AP-42	Negligible	Negligible
SO ₂	5.88E-04	AP-42	0.01	0.05
VOC*	5.39E-03	AP-42	0.13	0.48
Formaldehyde	7.35E-05	AP-42	0.00	0.01
Hexane	1.76E-03	AP-42	0.04	0.16
CO	7.39E-02	Boiler MACT Testing	0.91	3.31
Lead	4.90E-07	AP-42	Negligible	Negligible
NOx	1.20E-01	Boiler MACT Testing	1.22	4.48
Mercury	2.55E-07	AP-42	Negligible	Negligible
Beryllium	1.18E-08	AP-42	Negligible	Negligible
CO ₂ e	118.35	AP-42; 40 CFR Part 98	2,897.1	10,609
CO ₂	1.18E+02	AP-42	2,880.0	10,546
Methane	2.25E-03	AP-42	0.06	0.20
N ₂ O	2.16E-03	AP-42	0.05	0.19

*HAPs included in VOC total

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)
ED-57A	C	1986	1,745	Process	VOC (Methanol, 2,2,4-Trimethylpentane), Water	10.9	10.03
ED-57B	C	1986	1,745	Process	VOC (Methanol, 2,2,4-Trimethylpentane), Water	10.9	10.03
ED-70A	C	1986	720	Storage	VOC (Methanol, 2,2,4-Trimethylpentane), Water	3.52	3.14
ED-70B	C	1986	720	Storage	VOC (Methanol, 2,2,4-Trimethylpentane), Water	3.52	3.14
HA-D-50	C	2009	18,425	Process	VOC (2,2,4-Trimethylpentane)	1.01	0.08
HB-D-50	C	2017	28,794	Process	VOC	0.68	N/A
TA-D-10	C	2009	34,546	Process	VOC (2,2,4-Trimethylpentane)	0.37	0.02
TA-D-110	C	2009	34,546	Storage	VOC (Methanol)	2.16	2.16
TA-D-120	C	2009	34,546	Process	VOC (2,2,4-Trimethylpentane)	1.15	0.11
TA-D-130	C	2009	34,546	Process	VOC (2,2,4-Trimethylpentane), Water	0.97	0.54
TA-D-140	C	2009	34,546	Process	VOC (Methanol, 2,2,4-Trimethylpentane)	5.33	5.25
TA-D-150	C	2009	34,546	Process	VOC (2,2,4-Trimethylpentane), Water	1.45	1.23
TA-D-20	C	2009	34,546	Storage	VOC	0.67	N/A
TA-D-210	C	2009	93,239	Process	VOC	1.42	N/A
TA-D-220	C	2009	93,239	Storage	VOC (Methanol)	5.99	5.92
TA-D-230	C	2009	93,239	Storage	VOC (Methanol)	3.15	3.08
TA-D-30	C	2009	34,546	Process	VOC	0.85	0.02
TA-D-40	C	2009	34,546	Process	VOC	0.68	N/A
TA-D-50	C	2009	8,813	Storage	VOC (Methanol, 2,2,4-Trimethylpentane), Water	3.22	3.09
TB-D-210	C	2017	93,239	Process	VOC	1.53	N/A
TB-D-250	C	2017	93,239	Process	VOC	0.16	N/A

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

Application Attachment

NSPS VVa Alternative Monitoring Plan

Equipment in Acetic Acid/Acetic Anhydride Service

- (a) A leak inspection of all equipment in acetic acid and/or acetic anhydride service (contains or contacts a process fluid where acetic acid and/or acetic anhydride comprise at least 50 percent by weight of the total VOCs contained in the mixture) that is not “in heavy liquid service” or “in vacuum service” shall be performed once per calendar quarter, except that pumps shall be inspected weekly. 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, and 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 in air contaminant service less than 300 hours in a calendar quarter is exempt from this inspection for that quarter.
- (b) When a leak is detected, an initial attempt at repair shall be made no later than 5 calendar days after the leak is detected. Repair or replacement of leaking equipment shall be completed within 15 calendar days after detection of each leak, except as provided in paragraph (c) below.
- (c) (1) 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.
- (2) 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.
- (3) 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.
- (4) 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.
- (5) Delay of repair of pumps for up to 6 months after leak detection is allowed if the pump is replaced with (i) a dual mechanical seal system, (ii) a pump with no externally actuated shaft penetrating the pump housing, or (iii) a new system that the permittee has determined will provide better performance.

(d) Recordkeeping Requirements

- (1) Records must be maintained that identify piping systems or process areas subject to this plan.
- (2) 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.
- (3) When a leak is detected during the quarterly inspection, the following information shall be recorded:
 - (i) Component identifier or description of location and operator name, initials, or identification number.
 - (ii) The date the leak was detected.
 - (iii) The date the initial attempt at repair is made.
 - (iv) The date of successful repair of the leak. "Successful repair" means the leak is no longer detected using the inspection procedure outlined in item 10(a).
 - (v) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 days after discovery of the leak.

END OF APPLICATION ATTACHMENTS (B-545-1)



STATEMENT OF BASIS
Page 1 of 9
TDEC Division of Air Pollution Control

Facility Name: Eastman Chemical Company
Permit Number: 582964
Permit Writer: MAO

Facility ID Number: 82-0003
Date Application Received: November 18, 2024
Date Application Completed: November 18, 2024

FACILITY CATEGORY

This facility is a major source of emissions. The facility-wide PTE of one or more regulated air pollutants [Carbon Monoxide (CO), Volatile Organic Compounds (VOCs), Nitrogen Oxide (NO_x), Sulfur Dioxide (SO₂), Particulate Matter (PM/PM₁₀/PM_{2.5}), a single Hazardous Air Pollutant (HAP), a combination of Hazardous Air Pollutants (HAPs)] is at or above the Prevention of Significant Deterioration (PSD) and Title V major source thresholds. The PSD applicability threshold for this facility is 100 TPY because it is one of the 28 listed source categories in the PSD regulations. The facility has accepted federally enforceable limitations /restrictions to remain below (and avoid) the PSD threshold level for VOCs.

FACILITY DESCRIPTION

Chemical Production Facility

PROJECT DESCRIPTION

Eastman Chemical Company is requesting a Title V Operating Permit Renewal.

The purpose of this permit is to renew the operating permit for Source 18: Copolyester Monomer Manufacturing PES B-545-1. The renewal permit will incorporate construction permit 981592 issued January 5, 2024.

Copolyester Monomer Manufacturing includes tanks, process heaters, vapor incinerator, and miscellaneous pumps, valves and flanges. Expected emissions are from combustion process (PM, SO₂, CO, VOC, and NO_x) along with process and fugitive VOCs.

COMPLIANCE STATUS

This facility is located in a nonattainment area for the SO₂ NAAQS. Pursuant to TAPCR 1200-03-09-.01(5)(b)2.(ii), minor stationary sources and minor modifications proposing to construct in a nonattainment area must utilize best available control technology (BACT), as defined in 1200-03-09-.01(2)(d), for the nonattainment pollutant as specified by the Technical Secretary at the time of the completed permit application.

The requested permit is a renewal so no additional BACT requirements are proposed.

This facility is located in an attainment area for all other criteria pollutants according to the NAAQS.

The date of the last inspection of this Major Source Operating Permit (MSOP) occurred on June 14, 2023. The facility was out of compliance with the applicable requirements of the permit at the time of inspection. Additional details are found in the inspection report dated June 27, 2023.

COLLOCATION DETERMINATION

Collocation is not applicable to this facility.



STATEMENT OF BASIS
Page 2 of 9
TDEC Division of Air Pollution Control

Facility Name: Eastman Chemical Company
Permit Number: 582964
Permit Writer: MAO

Facility ID Number: 82-0003
Date Application Received: November 18, 2024
Date Application Completed: November 18, 2024

PUBLIC NOTICE

This Title V Permit Renewal will undergo a 30-day public notice period and a 45-day EPA comment period in accordance with TAPCR 1200-03-09-.02(11). The notice was published on the TDEC website on January 23, 2026.

ADDITIONAL PUBLIC PARTICIPATION

Not Applicable

There were no public/epa comments for this permit.

There were comments on this permit as follows: (include any comments from the public/EPA)

A public hearing was held for this permit on <date>.

A public meeting was held for this permit on <date>.

Table 1A: MSOP EMISSION SOURCES

<i>Source Number</i>	<i>Source Description</i>	<i>Permitted</i>	<i>Exempt/Insignificant</i>
185	Copolyester Monomer Manufacturing	X	--

* Reference the APC 2 form included in the application dated November 18, 2024, for the insignificant activities included in MSOP-19.

Table 1B: CHANGES SINCE LAST PERMIT ISSUANCE

<i>Description</i>	<i>Date</i>
Updated Sections A -D to current standard language.	*****
Updated sections E1 and E2 to current standard language.	
Updated responsible official, technical and billing contacts.	
Updated list of insignificant activities which included previously permitted equipment.	
Updated numbering of E3 conditions due to removal of lb./hr. VOC limitation, and to match application submittal.	



STATEMENT OF BASIS
Page 3 of 9
TDEC Division of Air Pollution Control

Facility Name: Eastman Chemical Company
Permit Number: 582964
Permit Writer: MAO

Facility ID Number: 82-0003
Date Application Received: November 18, 2024
Date Application Completed: November 18, 2024

Updated compliance demonstration for Vent C, CO and VOC emissions. [Conditions E3-1 and E3-7].

- Changing from [parametric monitoring of 24-hr block average natural gas low and 24 hour block total and 12 month moving total monomer production] to [parametric monitoring of 24-hour block average vapor incinerator firebox temperature and recordkeeping of 12 month moving total monomer production and 12-month moving total heat input to vapor incinerator.]

Updated compliance demonstration for Vent C NOx emissions. [Condition E3-6].

- Changing from [parametric monitoring of 24-hour block average flow to process heaters FA-F-01 and FB-F-01] to [Certification]

Removed Vent A, J, K, and P from compliance demonstration requirements as these sources are now determined to be insignificant emissions units.

- Condition E3-4 – added lb./hr. limitation for PM at 0.13 lb./hr.
- Condition E3-5 – updated Entire Source SO2 limit from 0.13 tons/yr to 0.03 lb/hr.
- Condition E3-6 – updated Entire Source NOx limit from 15.04 to 13.19 tons/yr.
- Condition E3-7 – updated Entire Source CO limit from 16.36 to 12.63 tons/yr.
- Condition E3-8 – updated Entire Source methane limit from 2.20 to 2.07 tons/yr.

Removed exemption language. Source does not qualify for exemption because a limit (Condition E3-1) applies other than a MACT standard promulgated after November 28, 1990. Operating plan on page 12 of the application serves as the CAM plan.

Condition E3-18 – updated Vent Q SO2 limit from 0.06 tons/yr to 0.01 lb/hr.

Designated the columns in the VA vacuum system, Column DE-01, Column EC-01, ED-02, and EE-01 as affected facilities subject to NSPS NNN. Eastman is voluntarily subjecting these columns to NSPS NNN. No modifications or replacements are being made to these affected facilities with the expansion project. Compliance will be demonstrated through MON overlap provisions.

Based on the APC 30 Attachment (MON):

- Added closed vent system requirements for vapor incinerator inlet.
- Designated Triangle H as a Group 1 process vent.
- Listed Triangles G, H, N, M, and O as subject to MON overlap provisions.
- Added new applicable requirements for pressure relief devices and heat exchange systems that were effective beginning August 12, 2023.

Updated Table Notes to current version.



STATEMENT OF BASIS
Page 4 of 9
TDEC Division of Air Pollution Control

Facility Name: Eastman Chemical Company
Permit Number: 582964
Permit Writer: MAO

Facility ID Number: 82-0003
Date Application Received: November 18, 2024
Date Application Completed: November 18, 2024

REGULATORY APPLICABILITY REVIEW

Regulations	Comments/ Requirements (Monitoring/Recordkeeping/Reporting/Testing)
<p><u>Chapter 6</u> TAPCR 1200-03-06-.01(3) TAPCR 1200-03-06-.01(7) TAPCR 1200-03-06-.03(2)</p>	<p>Process heaters and a vapor incinerator.</p> <p>Applicable: This MSOP has fuel burning sources. Compliance is assured by the following: Parametric monitoring and recordkeeping as listed in the application dated November 18, 2024.</p>
<p><u>Chapter 7</u> TAPCR 1200-03-07-.07(2)</p>	<p>Applicable: This MSOP has process emission sources. Compliance is assured by the following: Monitoring, recordkeeping, and reporting as noted in the application dated November 18, 2024.</p>
<p><u>Chapter 10</u> TAPCR 1200-03-10-.04(2)(b)1</p>	<p>Applicable: In the absence of a specific recordkeeping procedure, it is the general duty of a person required to keep the records required under this rule in such a fashion that compliance with the applicable requirement can be readily ascertained.</p> <p>The MSOP is not subject to any new testing requirements found in TAPCR Chapter 10.</p>
<p><u>Chapter 14</u> TAPCR 1200-03-14-.01(3)</p>	<p>Applicable: This MSOP has sources that emit SO₂. Compliance is assured by periodic monitoring by certification.</p> <p>As provided for in 1200-3-9-.04(5)(c)3. Any emission unit or activity which is a subset of a process emission source, fuel burning installation, or incinerator, and which has a potential to emit less than 5 tons per year of a regulated air pollutant, by annual certification of compliance as required in item 1200-03-09-.02(11)(d)1.(ii)(I), may, at the discretion of the Technical Secretary, be considered to meet the monitoring and related recordkeeping and reporting requirements of subpart 1200-03-09-.02(11)(e)1.(iii) and 1200-03-10-.04(2)(b)(1), and the compliance requirements of subpart 1200-03-09-.02(11)(e)3.(i) for that regulated air pollutant except where generally applicable requirements of the state implementation plan specifically impose monitoring and related record keeping and reporting requirements, or except where any applicable procedures and methods are required pursuant to rule 1200-03-10-.04.</p>
<p><u>Other state regulations:</u> <u>Chapter(s) 16, 18, 22, 25, 27,</u> <u>etc.</u></p>	<p>Applicable: This facility contains sources subject to Chapter(s) 1200-03-32.</p> <p>The facility contains sources subject to the provisions of Section 112(r) of the federal Clean Air Act.</p>



STATEMENT OF BASIS
Page 5 of 9
TDEC Division of Air Pollution Control

Facility Name: Eastman Chemical Company
Permit Number: 582964
Permit Writer: MAO

Facility ID Number: 82-0003
Date Application Received: November 18, 2024
Date Application Completed: November 18, 2024

REGULATORY APPLICABILITY REVIEW

Regulations	Comments/ Requirements (Monitoring/Recordkeeping/Reporting/Testing)
40 CFR 60	<p><u>Subpart Kb</u> Storage Tanks TA-D-110, TA-D-220, TA-D-230 (Vent C) are subject to 40 CFR 60 Subpart Kb: Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984, and On or Before October 4, 2023.</p> <p>The years of construction and capacities for Tanks TA-D-110, TA-D-220, TA-D-230 (Vent C) are found in the supplemental tank information found on pg. 68 of the application dated November 18, 2024.</p> <p><u>Subpart VVa</u> The TMCD Acetic Acid Process Unit is subject to 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, and on or Before April 25, 2023.</p> <p>Each affected facility that commences construction, reconstruction, or modification after November 7, 2006, and complies with 40 CFR part 63 Subpart H.</p> <p>Alternative monitoring for equipment in acetic acid and/or acetic anhydride service (letter from Carol Kemker, EPA Region 4 to Barry Stephens, TDAPC, July 1, 2010).</p> <ul style="list-style-type: none"> - See Operating Plan in the Title V application dated November 18, 2024, pp 69-70, for a copy of the plan. <p><u>Subpart NNN</u> The KA Vacuum System, VA Vacuum System, and Columns DE-01, EC-01, ED-02, and EE-01 are subject to 40 CFR 60 Subpart NNN: Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations for Which Construction, Reconstruction, or Modification Commenced After April 25, 2023.</p> <p>Each affected facility that is part of a process unit that produces any of the chemicals listed in §60.667 as a product, co-product, byproduct, or intermediate, for which construction, modification, or reconstruction commenced after December 30, 1983, and for which compliance is demonstrated through compliance with 40 CFR 63 Subpart G or 40 CFR 63 Subpart FFFF.</p> <p><u>Subpart RRR</u> The KA Vacuum System is subject to 40 CFR 60 Subpart RRR: Standards of Performance for Volatile Organic Compound Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes After June 29, 1990, and on or Before April 25, 2023.</p> <p>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, byproduct, or intermediate, for which construction, modification, or reconstruction commenced after June 29, 1990, and for which compliance is demonstrated through compliance with 40 CFR 63 Subpart G or 40 CFR 63 Subpart FFFF.</p>



STATEMENT OF BASIS
Page 6 of 9
TDEC Division of Air Pollution Control

Facility Name: Eastman Chemical Company
Permit Number: 582964
Permit Writer: MAO

Facility ID Number: 82-0003
Date Application Received: November 18, 2024
Date Application Completed: November 18, 2024

REGULATORY APPLICABILITY REVIEW

Regulations	Comments/ Requirements (Monitoring/Recordkeeping/Reporting/Testing)
<u>40 CFR 61</u>	<p>Subpart Y- Benzene Storage Vessels Potentially Applicable: The MSOP has sources which would be subject to 40 CFR 61, Subpart Y. The MSOP has storage tanks which store benzene; however, the tanks demonstrate compliance by the Alternative Means of Compliance: Overlap Provision §63.2535(c)</p> <p>Subpart M Potentially Applicable: As part of the APC 30 attachment in the application dated November 18, 2024, the facility agrees to comply with the requirements of 1200-03-11-.02(2)(d) when conducting any renovation or demolition activities at the facility.</p>
<u>40 CFR 63</u>	<p>Subpart FFFF PES B-545-1 is subject to 40 CFR 63 Subpart FFFF: National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing.</p> <p>Specific applicability determinations are found in the application dated November 18, 2024, beginning on page 52.</p> <p>Subpart DDDDD PES B-545-1 is subject to 40 CFR 63 Subpart DDDDD: National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters.</p> <p>Existing Source: Collection of all existing industrial, commercial, and institutional boilers and process heaters at the facility New Source: Each industrial, commercial, or institutional boiler or process heater at the facility that was constructed or reconstructed after June 4, 2010</p> <p>Specific applicability determinations are found in the application dated November 18, 2024, beginning on page 56.</p>
<u>40 CFR 68</u> <i>112(r)</i>	<p>Applicable: The facility uses and/or stores chemicals above the threshold quantities outlined in the regulation.</p>
<u>40 CFR 64</u>	<p>Applicable: CAM is applicable to the Pollutant Specific Emissions Unit (PSEU). The PSEU... (1) is subject to an emission limitation or standard, and (2) uses a control device to achieve compliance, and (3) has potential pre-control emissions that exceed or are equivalent to the major source threshold.</p> <p>Source does not qualify for exemption because a limit (Limitation 1: Visible Emissions- see page 16 of the application dated November 18, 2024) applies other than a MACT standard promulgated after November 28, 1990. Operating plan on page 36 of the application dated November 18, 2024, serves as the CAM plan.</p>



STATEMENT OF BASIS
Page 7 of 9
TDEC Division of Air Pollution Control

Facility Name: Eastman Chemical Company
Permit Number: 582964
Permit Writer: MAO

Facility ID Number: 82-0003
Date Application Received: November 18, 2024
Date Application Completed: November 18, 2024

REGULATORY APPLICABILITY REVIEW

Regulations	Comments/ Requirements (Monitoring/Recordkeeping/Reporting/Testing)
<p><u>Special Conditions, Monitoring, Limits</u> <i>TAPCR 1200-03-09-.01(5)(b)2.(ii)</i> <i>TAPCR 1200-03-06-.01(3)</i></p>	<p>SO₂ BACT Applicable: BACT for new or modified sources in a nonattainment area applies to Vent Q. The source shall comply with the emission limitation by annual certification.</p> <p>Low NO_x Technology Applicable: Only low-NO_x burners (NO_x emission rate \leq 0.05 lb/MMBtu when burning natural gas) shall be used. Vendor specifications or test data for each burner shall be maintained at the source location and made available for inspection by the Technical Secretary or representative. These specifications shall be retained for the life of the burner.</p>
Modeling Review	Not Applicable: This MSOP does not emit Pb, HCl or HF.
PREVIOUS Permit Number	575805



STATEMENT OF BASIS
Page 8 of 9
TDEC Division of Air Pollution Control

Facility Name: Eastman Chemical Company
Permit Number: 582964
Permit Writer: MAO

Facility ID Number: 82-0003
Date Application Received: November 18, 2024
Date Application Completed: November 18, 2024

EMISSION SUMMARY

Table 2: SOURCE SPECIFIC EMISSIONS

PERMIT EMISSIONS				
PES B-545-1: Entire Source				
Pollutant	Actual /Controlled Emissions	Uncontrolled Emissions	Potential to Emit (PTE)	Permitted Allowable
	lb/hr	lb/hr	lb/hr	gr/dscf/lb/hr/lb/MMBTU
PM/PM ₁₀	0.137/0.524	0.137/0.524	0.137/0.524	0.13 lbs./hr.
SO ₂	0.027	0.027	0.027	0.03 lbs./hr.

PERMIT EMISSIONS				
PES B-545-1: Entire Source				
Pollutant	⁵ Actual/Controlled Emissions	⁴ Uncontrolled Emissions	⁵ Potential to Emit (PTE)	³ Allowable/Permitted Allowable
	TPY	TPY	TPY	TPY
PM	0.50	--	0.50	--
PM ₁₀ /PM _{2.5}	1.97	--	1.97	--
SO ₂	0.11	--	0.11	--
NO _x	13.19	--	13.19	13.19
CO	12.70	--	12.70	12.63
¹ VOC	25.02	--	25.02	4.36
² Single HAP	5.09	--	--	*
Total HAPs	9.74	--	--	*

¹ VOC emissions include equipment leaks not included in the permitted allowable. Does not include HAP-VOCs.

² Represents the highest emitting single HAP- Methanol.

³ Non-fugitive emissions. HAPs included in VOC limits.

⁴ Uncontrolled emissions not included as part of this permit application.

⁵ Emissions include fugitive emissions not considered part of permitted allowable.

PERMIT EMISSIONS					
PES B-545-1: FB-01 Furnace Vent Q					
Pollutant	Actual /Controlled Emissions	Regulatory Allowable Emissions	Uncontrolled Emissions	Potential to Emit (PTE)	Permitted Allowable
	lb/hr	gr/dscf/lb/hr/lb/MMBTU	lb/hr	lb/hr	gr/dscf/lb/hr/lb/MMBTU
PM/PM ₁₀ /PM _{2.5}	0.17	--	--	0.05	--
SO ₂	0.01	--	--	0.01	0.01

Table 3: FACILITY WIDE EMISSIONS

*Not included as part of this MSOP

SUMMARY AND CONCLUSIONS

It has been determined that this source, if operated in accordance with the submitted application, will meet all applicable requirements and emission standards.



STATEMENT OF BASIS
Page 9 of 9
TDEC Division of Air Pollution Control

Facility Name: Eastman Chemical Company
Permit Number: 582964
Permit Writer: MAO

Facility ID Number: 82-0003
Date Application Received: November 18, 2024
Date Application Completed: November 18, 2024

DRAFT

STATE OF TENNESSEE
AIR POLLUTION CONTROL BOARD
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE, TENNESSEE 37243



OPERATING PERMIT (TITLE V) Issued Pursuant to Tennessee Air Quality Act

This permit fulfills the requirements of Title V of the Federal Clean Air Act (42 U.S.C. 7661a-7661e) and the federal regulations promulgated thereunder at 40 CFR Part 70. (FR Vol. 57, No. 140, Tuesday, July 21, 1992 p.32295-32312). This permit is issued in accordance with the provisions of paragraph 1200-03-09-.02(11) of the Tennessee Air Pollution Control Regulations (TAPCR). The permittee has been granted permission to operate an air contaminant source in accordance with emissions limitations and monitoring requirements set forth herein.

Date Issued: ****DRAFT****

Permit Number:

582964

Date Expires: ****DRAFT****

Issued To:

Eastman Chemical Company
Tennessee Operations
P.O. Box 511
Kingsport, TN 37662

Installation Address:

200 South Wilcox Drive
Kingsport

Installation Description:

MSOP-19 Chemical Manufacturing

ESRN	PES	Description
82-0003-185	B-545-1	Copolyester Monomer Manufacturing

Facility ID: 82-0003

Renewal Application Due Date:

Between **DRAFT*, and **DRAFT**

Primary SIC: 28

Information Relied Upon:

Renewal Application dated November 18, 2024

(continued on the next page)

TECHNICAL SECRETARY

No Authority is Granted by this Permit to Operate, Construct, or Maintain any Installation in Violation of any Law, Statute, Code, Ordinance, Rule, or Regulation of the State of Tennessee or any of its Political Subdivisions.

POST AT INSTALLATION ADDRESS

CONTENTS

SECTION A

GENERAL PERMIT CONDITIONS

A1.	Definitions	1
A2.	Compliance requirement	1
A3.	Need to halt or reduce activity	1
A4.	The permit	1
A5.	Property rights	1
A6.	Submittal of requested information	1
A7.	Severability clause	1
A8.	Fee payment	2
A9.	Permit revision not required	2
A10.	Inspection and entry	2
A11.	Permit shield	2
A12.	Permit renewal and expiration	3
A13.	Reopening for cause	3
A14.	Permit transference	4
A15.	Air pollution alert	4
A16.	Construction permit required	4
A17.	Notification of changes	4
A18.	Schedule of compliance	4
A19.	Title VI	4
A20.	112(r)	5

SECTION B

GENERAL CONDITIONS for MONITORING, REPORTING, and ENFORCEMENT

B1.	Recordkeeping	6
B2.	Retention of monitoring data	6
B3.	Reporting	6
B4.	Certification	6
B5.	Annual compliance certification	6
B6.	Submission of compliance certification	7
B7.	Emergency provisions	7
B8.	Excess emissions reporting	7
B9.	Malfunction, startups, and shutdowns – reasonable measures required	8
B10.	Reserved	8
B11.	Report required upon the issuance of a notice of violation for excess emissions	8

CONTENTS

SECTION C PERMIT CHANGES

C1.	Operational flexibility changes	9
C2.	Section 502(b)(10) changes	9
C3.	Administrative amendment	9
C4.	Minor permit modifications	9
C5.	Significant permit modifications	10
C6.	New construction or modifications	10

SECTION D GENERAL APPLICABLE REQUIREMENTS

D1.	Visible emissions	11
D2.	General provisions and applicability for non-process gaseous emissions	11
D3.	Non-process emission standards	11
D4.	General provisions and applicability for process gaseous emissions	11
D5.	Particulate emissions from process emission sources	11
D6.	Sulfur dioxide emission standards	11
D7.	Fugitive dust	11
D8.	Open burning	12
D9.	Asbestos	12
D10.	Annual certification of compliance	12
D11.	Emission Standards for Hazardous Air Pollutants	12
D12.	Standards of Performance for New Stationary Sources	12
D13.	Gasoline Dispensing Facilities	12
D14.	Internal Combustion Engines	12
D15.	Maintenance and repair	12

CONTENTS

SECTION E

SOURCE SPECIFIC EMISSION STANDARDS, OPERATING LIMITATIONS, and MONITORING, RECORDKEEPING and REPORTING REQUIREMENTS

E1.	Fee payment: allowable emissions basis	13
E2-1.	Reporting requirements	15
	(a) Semiannual reports	
	(b) Annual compliance certification	
	(c) Boiler MACT	
	(d) Accidental Release Plan	
E2-2.	Conservation Vent Maintenance	17
E2-3.	Visible Emissions Evaluation: General Requirements	18
E2-4.	Identification of Responsible Official, Technical Contact, and Billing Contact	18
E2-5.	New Source Performance Standards (40 CFR Part 60)	20
E2-6.	National Emission Standards for Hazardous Air Pollutants for Source Categories (40 CFR Part 63)	20
E3-1.	Copolyester Monomer Manufacturing (82-0003-185/PES B-545-1).	21
	Table Notes	23

END OF PERMIT NUMBER 582964

ATTACHMENT 1	Opacity Matrix Decision Tree for Visible Emission Evaluation by EPA Method 9, dated September 11, 2013
ATTACHMENT 2	Applicability Determinations for 40 CFR 60 (NSPS) and 40 CFR 63 (MACT) to MSOP-19
ATTACHMENT 3	Title V Fee Selection Form (APC 36)
ATTACHMENT 4	Particulates and Sulfur Dioxide Agreement Letter; PSD Avoidance Letter

SECTION A

GENERAL PERMIT CONDITIONS

A permit issued under the provisions of Tennessee Air Pollution Control Regulations (TAPCR) paragraph 1200-03-09-.02(11) is a permit issued pursuant to the requirements of Title V of the Federal Act and its implementing Federal regulations promulgated at 40 CFR, Part 70.

- A1. Definitions.** Terms not otherwise defined in the permit shall have the meaning assigned to such terms in the referenced regulations.

TAPCR 1200-03 and 0400-30

- A2. Compliance requirement.** All terms and conditions in a permit issued pursuant to TAPCR paragraph 1200-03-09-.02(11), including any provisions designed to limit a source's potential to emit, are enforceable by the Administrator and citizens under the Federal Act. The permittee shall comply with all conditions of its permit. Except for requirements specifically designated herein as not being federally enforceable (State Only), non-compliance with the permit requirements is a violation of the Federal Act and the Tennessee Air Quality Act and is grounds for enforcement action; for a permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. Non-compliance with permit conditions specifically designated herein as not being federally enforceable (State Only) is a violation of the Tennessee Air Quality Act and may be grounds for these actions.

TAPCR 1200-03-09-.02(11)(e)2(i) and 1200-03-09-.02(11)(e)1(vi)(I)

- A3. Need to halt or reduce activity.** The need to halt or reduce activity is not a defense for noncompliance. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. However, nothing in this item shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations.

TAPCR 1200-03-09-.02(11)(e)1(vi)(II)

- A4. The permit.** The permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

TAPCR 1200-03-09-.02(11)(e)1(vi)(III)

- A5. Property rights.** The permit does not convey any property rights of any sort, or any exclusive privilege.

TAPCR 1200-03-09-.02(11)(e)1(vi)(IV)

- A6. Submittal of requested information.** The permittee shall furnish to the Technical Secretary, within a reasonable time, any information that the Technical Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or termination of the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Technical Secretary copies of records required to be kept by the permit. If the permittee claims that such information is confidential, the Technical Secretary may review that claim and hold the information in protected status until such time that the Board can hear any contested proceedings regarding confidentiality disputes. If the information is desired by EPA, the permittee may mail the information directly to EPA. Any claims of confidentiality for federal purposes will be determined by EPA.

TAPCR 1200-03-09-.02(11)(e)1(vi)(V)

- A7. Severability clause.** The requirements of this permit are severable. A dispute regarding one or more requirements of this permit does not invalidate or otherwise excuse the permittee from their duty to comply with the remaining portion of the permit.

TAPCR 1200-03-09.02(11)(e)1(v)

A8. Fee payment.

- (a) The permittee shall pay an annual Title V fee in accordance with TAPCR 1200-03-26-.02(9) based upon the applicable base fee; the applicable permit modification fee(s); the responsible official's choice of actual emissions, allowable emissions, or a combination of actual and allowable emissions; and on the responsible official's choice of annual accounting period. An emission cap of 4,000 tons per year per regulated pollutant per major source SIC Code shall apply to actual or allowable based emission fees. A Title V annual emission fee will not be charged for emissions in excess of the cap. Title V annual emission fees will not be charged for carbon monoxide or for greenhouse gas pollutants solely because they are greenhouse gases.
- (b) Title V sources shall pay allowable based emission fees until the beginning of the next annual accounting period following receipt of their initial Title V operating permit. At that time, the permittee shall begin paying their Title V fee based upon the applicable base fee; the applicable permit modification fee(s); and their choice of actual or allowable based fees, or mixed actual and allowable based fees. Once permitted, the Responsible Official may revise their existing fee choice by submitting a written request to the Division no later than December 31 of the annual accounting period for which the fee is due.
- (c) When paying annual Title V emission fees, the permittee shall comply with all provisions of TAPCR Rule 1200-03-26-.02 and paragraph 1200-03-09-.02(11) applicable to such fees.
- (d) Where more than one allowable emission limit is applicable to a regulated pollutant, the allowable emissions for the regulated pollutants shall not be double counted. Major sources subject to the provisions of TAPCR paragraph 1200-03-26-.02(9) shall apportion their emissions as follows to ensure that their fees are not double counted.
1. Emissions of hazardous air pollutants (HAP) that are included in the particulate matter (including PM₁₀) category or the volatile organic compound category shall be included in those categories.
 2. HAP that are not included in either the particulate matter category or volatile organic compound category shall be included in the category of Hazardous Air Pollutants Not Included Above.
 3. Each individual HAP is subject to the 4,000 ton cap provisions of TAPCR subparagraph 1200-03-26-.02(2)(i).
 4. Major sources that wish to pay annual emission fees for PM₁₀ on an allowable emission basis may do so if they have a specific PM₁₀ allowable emission standard. If a major source has a total particulate emission standard, but wishes to pay annual emission fees on an actual PM₁₀ emission basis, it may do so if the PM₁₀ actual emission levels are proven to the satisfaction of the Technical Secretary. The method to demonstrate the actual PM₁₀ emission levels must be made as part of the source's major source operating permit in advance in order to exercise this option. The PM₁₀ emissions reported under these options shall not be subject to fees under the family of particulate emissions. The 4,000 ton cap provisions of TAPCR subparagraph 1200-03-26-.02(2)(i) shall also apply to PM₁₀ emissions.
- (e) Emissions of pollutants that do not fall in one of the listed categories shall be included in the category of Miscellaneous Pollutants Not Listed Above. Each miscellaneous pollutant is subject to the 4,000-ton cap provisions.

TAPCR 1200-03-26-.02 and 1200-03-09-.02(11)(e)1(vii)

A9. Permit revision not required. A permit revision will not be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or process for changes that are provided for in the permit.

TAPCR 1200-03-09-.02(11)(e)1(viii)

A10. Inspection and entry. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Technical Secretary or an authorized representative to perform the following for the purposes of determining compliance with the permit applicable requirements:

- (a) Enter upon, at reasonable times, the permittee's premises where a source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
- (c) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
- (d) As authorized by the Clean Air Act and Chapter 1200-03-10 of the TAPCR, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.
- (e) "Reasonable times" shall be considered to be customary business hours unless reasonable cause exists to suspect noncompliance with the Act, TAPCR Division 1200-03 or any permit issued pursuant thereto and the Technical Secretary specifically authorizes an inspector to inspect a facility at any other time.

TAPCR 1200-03-09-.02(11)(e)3(ii)

A11. Permit shield.

- (a) Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements as of the date of permit issuance, provided that:
1. Such applicable requirements are included and are specifically identified in the permit; or

2. 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.
- (b) Nothing in this permit shall alter or affect the following:
 1. 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;
 2. 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;
 3. The applicable requirements of the acid rain program, consistent with section 408(a) of the Federal Act; or
 4. The ability of EPA to obtain information from a source pursuant to section 114 of the Federal Act.
- (c) Permit shield is granted to the permittee.
- (d) The permit shield does not apply to permit changes made under the minor permit modification procedures of TAPCR subpart 1200-03-09-.02(11)(f)5(ii) nor the administrative permit amendment procedures of TAPCR part 1200-03-09-.02(11)(f)4, except that the permit shield may be extended for administrative permit amendments that meet the relevant requirements of TAPCR subparagraph 1200-03-09-.02(11)(e), subparagraph 1200-03-09-.02(11)(f) and subparagraph 1200-03-09-.02(11)(g) for significant permit modifications.
- (e) The permit shield does not apply to off-permit changes made under the operational flexibility provisions of TAPCR part 1200-03-09-.02(11)(a)4.

TAPCR 1200-03-09-.02(11)(e)6 and 1200-03-09-.02(11)(f)4(iv)

A12. Permit renewal and expiration.

- (a) An application for permit renewal must be submitted at least 180 days, but no more than 270 days, prior to the expiration of this permit. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted.
- (b) If the permittee submits a timely and complete application for permit renewal the source will not be considered to be operating without a permit until the Technical Secretary takes final action on the permit application, except as otherwise noted in TAPCR paragraph 1200-03-09-.02(11).
- (c) This permit, its shield provided in Condition A11, and its conditions will be extended and effective after its expiration date provided that the source has submitted a timely, complete renewal application to the Technical Secretary.

TAPCR 1200-03-09-.02(11)(f)2 and 3, 1200-03-09-.02(11)(d)1(i)(III), and 1200-03-09-.02(11)(a)2

A13. Reopening for cause.

- (a) A permit shall be reopened and revised prior to the expiration of the permit under any of the circumstances listed below:
 1. Additional applicable requirements under the Federal Act become applicable to the sources contained in this permit provided the permit has a remaining term of 3 or more years. Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the permit expiration date of this permit, unless the original has been extended pursuant to TAPCR part 1200-03-09-.02(11)(a)2.
 2. Additional requirements become applicable to an affected source under the acid rain program.
 3. The Technical Secretary or EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
 4. The Technical Secretary or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
- (b) Proceedings to reopen and issue a permit shall follow the same proceedings as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists, and not the entire permit. Such reopening shall be made as expeditiously as practicable.
- (c) Reopenings for cause shall not be initiated before a notice of such intent is provided to the permittee by the Technical Secretary at least 30 days in advance of the date that the permit is to be reopened except that the Technical Secretary may provide a shorter time period in the case of an emergency. An emergency shall be established by the criteria of T.C.A. 68-201-109 or other compelling reasons that public welfare is being adversely affected by the operation of a source that is in compliance with its permit requirements.
- (d) If the Administrator finds that cause exists to terminate, modify, or revoke and reissue a permit as identified in A13, he is required under federal rules to notify the Technical Secretary and the permittee of such findings in writing. Upon receipt of such notification, the Technical Secretary shall investigate the matter in order to determine if he agrees or disagrees with the Administrator's findings. If he agrees with the Administrator's findings, the Technical Secretary shall conduct the reopening in the following manner:

1. The Technical Secretary shall, within 90 days after receipt of such notification, forward to EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate. If the Administrator grants additional time to secure permit applications or additional information from the permittee, the Technical Secretary shall have the additional time period added to the standard 90-day time period.
2. EPA will evaluate the Technical Secretary's proposed revisions and respond as to their evaluation.
3. If EPA agrees with the proposed revisions, the Technical Secretary shall proceed with the reopening in the same manner prescribed under Condition A13(b) and Condition A13(c).
4. If the Technical Secretary disagrees with either the findings or the Administrator that a permit should be reopened or an objection of the Administrator to a proposed revision to a permit submitted pursuant to Condition A13(d), he shall bring the matter to the Board at its next regularly scheduled meeting for instructions as to how he should proceed. The permittee shall be required to file a written brief expressing their position relative to the Administrator's objection and have a responsible official present at the meeting to answer questions for the Board. If the Board agrees that EPA is wrong in their demand for a permit revision, they shall instruct the Technical Secretary to conform to EPA's demand, but to issue the permit under protest preserving all rights available for litigation against EPA.

TAPCR 1200-03-09-.02(11)(f)6 and 7

- A14. Permit transference.** An administrative permit amendment allows for a change of ownership or operational control of a source where the Technical Secretary determines that no other change in the permit is necessary, provided that the following requirements are met:
- (a) Transfer of ownership permit application is filed consistent with the provisions of TAPCR paragraph 1200-03-09-.03(6), and
 - (b) written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee has been submitted to the Technical Secretary.

TAPCR 1200-03-09-.02(11)(f)4(i)(IV) and 1200-03-09-.03(6)

- A15. Air pollution alert.** When the Technical Secretary has declared that an air pollution alert, an air pollution warning, or an air pollution emergency exists, the permittee must follow the requirements for that episode level as outlined in TAPCR paragraph 1200-03-09-.03(1) and TAPCR Rule 1200-03-15-.03.

- A16. Construction permit required.** Except as exempted in TAPCR Rule 1200-03-09-.04, or excluded in TAPCR subparagraph 1200-03-02-.01(1)(aa) or TAPCR subparagraph 1200-03-02-.01(1)(cc), this facility shall not begin the construction of a new air contaminant source or the modification of an air contaminant source which may result in the discharge of air contaminants without first having applied for and received from the Technical Secretary a construction permit for the construction or modification of such air contaminant source.

TAPCR 1200-03-09-.01(1)(a)

- A17. Notification of changes.** The permittee shall notify the Technical Secretary 30 days prior to commencement of any of the following changes to an air contaminant source which would not be a modification requiring a construction permit.
- (a) change in air pollution control equipment
 - (b) change in stack height or diameter
 - (c) change in exit velocity of more than 25 percent or exit temperature of more than 15 percent based on absolute temperature.

TAPCR 1200-03-09-.02(7)

- A18. Schedule of compliance.** The permittee will comply with any applicable requirement that becomes effective during the permit term on a timely basis and no later than required by the provisions of the new applicable requirement. If the permittee is not in compliance the permittee must submit a schedule for coming into compliance which must include a schedule of remedial measure(s), including an enforceable set of deadlines for specific actions.

TAPCR 1200-03-09-.02(11)(d)3, 1200-03-09-.03(8), 0400-30-38, 0400-30-39, and 40 CFR Part 70.5(c)

- A19. Title VI.**
- (a) The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR, Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:
 1. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to Section 82.156.

2. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to Section 82.158.

3. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to Section 82.161.

(b) If the permittee performs a service on motor (fleet) vehicles when this service involves ozone depleting substance refrigerant in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR, Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

(c) The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR, Part 82, Subpart G, Significant New Alternatives Policy Program.

TAPCR 1200-03-09-.03(8)

A20. 112 (r). Sources which are subject to the provisions of Section 112(r) of the federal Clean Air Act or any federal regulations promulgated thereunder, shall annually certify in writing to the Technical Secretary that they are properly following their accidental release plan. The annual certification is due in the office of the Technical Secretary no later than January 31 of each year. Said certification will be for the preceding calendar year.

TAPCR 1200-03-32-.03(3)

SECTION B

GENERAL CONDITIONS for MONITORING, REPORTING, and ENFORCEMENT

B1. Recordkeeping. Monitoring and related record keeping shall be performed in accordance with the requirements specified in the permit conditions for each individual permit unit. In no case shall reports of any required monitoring and record keeping be submitted less frequently than every six months.

- (a) Where applicable, records of required monitoring information include the following:
1. The date, place as defined in the permit, and time of sampling or measurements;
 2. The date(s) analyses were performed;
 3. The company or entity that performed the analysis;
 4. The analytical techniques or methods used;
 5. The results of such analyses; and
 6. The operating conditions as existing at the time of sampling or measurement.

(b) Digital data accumulation which utilizes valid data compression techniques shall be acceptable for compliance determination as long as such compression does not violate an applicable requirement and its use has been approved in advance by the Technical Secretary.

TAPCR 1200-03-09-.02(11)(e)1(iii)

B2. Retention of monitoring data. The permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

TAPCR 1200-03-09-.02(11)(e)1(iii)(II)II

B3. Reporting. Reports of any required monitoring and record keeping shall be submitted to the Technical Secretary in accordance with the frequencies specified in the permit conditions for each individual permit unit. Reports shall be submitted within 60 days of the close of the reporting period unless otherwise noted. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official. Reports required under "State only requirements" are not required to be certified by a responsible official.

TAPCR 1200-03-09-.02(11)(e)1(iii)

B4. Certification. Except for reports required under "State Only" requirements, any application form, report or compliance certification submitted pursuant to the requirements of this permit shall contain certification by a responsible official of truth, accuracy and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.

TAPCR 1200-03-09-.02(11)(d)4

B5. Annual compliance certification. The permittee shall submit annually compliance certifications with terms and conditions contained in Sections A, B, D and E of this permit, including emission limitations, standards, or work practices. This compliance certification shall include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable):

- (a) The identification of each term or condition of the permit that is the basis of the certification;
- (b) The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period; such methods and other means shall include, at a minimum, the methods and means required by this permit. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Act, which prohibits knowingly making a false certification or omitting material information;
- (c) The status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the method or means designated in B5(b) above. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion* or exceedance** as defined below occurred; and
- (d) Such other facts as the Technical Secretary may require to determine the compliance status of the source.

* “Excursion” shall mean a departure from an indicator range established for monitoring under this paragraph, consistent with any averaging period specified for averaging the results of the monitoring.

** “Exceedance” shall mean a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) are greater than the applicable emission limitation or standard (or less than the applicable standard in the case of a percent reduction requirement) consistent with any averaging period specified for averaging the results of the monitoring.

40 CFR Part 70.6(c)(5)(iii) as amended in the Federal Register Vol. 79, No.144, July 28, 2014, pages 43661 through 43667

B6. Submission of compliance certification. The compliance certification shall be submitted to:

The Tennessee Department of Environment and Conservation Environmental Field Office specified in Section E of this permit	and	Air Enforcement Branch US EPA Region IV 61 Forsyth Street, SW Atlanta, Georgia 30303
--	-----	---

TAPCR 1200-03-09-.02(11)(e)3(v)(IV)

B7. Emergency provisions. An emergency constitutes an affirmative defense to an enforcement action brought against this source for noncompliance with a technology-based emission limitation due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

(a) The affirmative defense of the emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

1. An emergency occurred and that the permittee can identify the probable cause(s) of the emergency. "Probable" must be supported by a credible investigation into the incident that seeks to identify the causes and results in an explanation supported by generally accepted engineering or scientific principles.

2. The permitted source was at the time being properly operated. In determining whether or not a source was being properly operated, the Technical Secretary shall examine the source's written standard operating procedures which were in effect at the time of the noncompliance and any other code as detailed below that would be relevant to preventing the noncompliance. Adherence to the source's standard operating procedures will be the test of adequate preventative maintenance, careless operation, improper operation or operator error to the extent that such adherence would prevent noncompliance. The source's failure to follow recognized standards of practice to the extent that adherence to such a standard would have prevented noncompliance will disqualify the source from any claim of an emergency and an affirmative defense.

3. During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit.

4. The permittee submitted notice of the emergency to the Technical Secretary according to the notification criteria for malfunctions in TAPCR Rule 1200-03-20-.03. For the purposes of this condition, "emergency" shall be substituted for "malfunction(s)" in TAPCR Rule 1200-03-20-.03 to determine the relevant notification threshold. The notice shall include a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

(b) In any enforcement proceeding the permittee seeking to establish the occurrence of an emergency has the burden of proof.

(c) The provisions of this condition are in addition to any emergency, malfunction or upset requirement contained in TAPCR Divisions 1200-03 and 0400-30 or other applicable requirement.

TAPCR 1200-03-09-.02(11)(e)7

B8. Excess emissions reporting.

(a) The permittee shall promptly notify the Technical Secretary when any emission source, air pollution control equipment, or related facility breaks down in such a manner to cause the emission of air contaminants in excess of the applicable emission standards contained in TAPCR Division 1200-03 or any permit issued thereto, or of sufficient duration to cause damage to property or public health. The permittee must provide the Technical Secretary with a statement giving all pertinent facts, including the estimated duration of the breakdown, the probable cause of the deviation, and any corrective actions or preventative measures taken. Violations of the visible emission standard which occur for less than 20 minutes in one day (midnight to midnight) need not be reported. Prompt notification will be within 24 hours of the malfunction and shall be provided by telephone to the Division's Nashville office. The Technical Secretary shall be notified when the condition causing the failure or breakdown has been corrected. In attainment and unclassified areas if emissions other than from sources designated as significantly impacting on a nonattainment area in excess of the standards will not and do not occur over more than a 24-hour period (or will not recur over more than a 24-hour period) and no damage to property and or public health is anticipated, notification is not required.

(b) Any malfunction that creates an imminent hazard to health must be reported by telephone immediately to the Division's Nashville office at (615) 532-0554 and to the State Civil Defense.

(c) A log of all malfunctions, startups, and shutdowns resulting in emissions in excess of the standards in TAPCR Division 1200-03 or any permit issued thereto must be kept at the plant. All information shall be entered in the log no later than twenty-four (24) hours after the startup or shutdown is complete, or the malfunction has ceased or has been corrected. Any later discovered corrections can be added in the log as footnotes with the reason given for the change. This log must record at least the following:

1. Stack or emission point involved
2. Time malfunction, startup, or shutdown began and/or when first noticed
3. Type of malfunction and/or reason for shutdown
4. Time startup or shutdown was complete or time the air contaminant source returned to normal operation
5. The company employee making entry on the log must sign, date, and indicate the time of each log entry

The information under items 1. and 2. must be entered into the log by the end of the shift during which the malfunction or startup began. For any source utilizing continuous emission(s) monitoring, continuous emission(s) monitoring collection satisfies the above log keeping requirement.

TAPCR 1200-03-20-.03 and .04

B9. Malfunctions, startups and shutdowns - reasonable measures required. The permittee must take all reasonable measures to keep emissions to a minimum during startups, shutdowns, and malfunctions. These measures may include installation and use of alternate control systems, changes in operating methods or procedures, cessation of operation until the process equipment and/or air pollution control equipment is repaired, maintaining sufficient spare parts, use of overtime labor, use of outside consultants and contractors, and other appropriate means. Failures that are caused by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions. This provision does not apply to standards found in 40 CFR, Parts 60(Standards of performance for new stationary sources), 61(National emission standards for hazardous air pollutants) and 63(National emission standards for hazardous air pollutants for source categories).

TAPCR 1200-03-20-.02

B10. Reserved.

B11. Report required upon the issuance of a notice of violation for excess emissions. The permittee must submit, within twenty days after receipt of the notice of violation, the data required below. If this data has been made available to the Technical Secretary prior to the issuance of the notice of violation no further action is required of the violating source. However, if the source desires to submit additional information, then this must be submitted within the same 20-day time period. The minimum data requirements are:

- (a) The identity of the stack and/or other emission point where the excess emission(s) occurred;
- (b) The magnitude of the excess emissions expressed in pounds per hour and the units of the applicable emission limitation(s) and the operating data and calculations used in determining the magnitude of the excess emissions;
- (c) The time and duration of the emissions;
- (d) The nature and cause of such emissions;
- (e) For malfunctions, the steps taken to correct the situation and the action taken or planned to prevent the recurrence of such malfunctions;
- (f) The steps taken to limit the excess emissions during the occurrence reported, and
- (g) If applicable, documentation that the air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good operating practices for minimizing emissions.

Failure to submit the required report within the 20-day period specified shall preclude the admissibility of the data for determination of potential enforcement action.

TAPCR 1200-03-20-.06(2), (3) and (4)

SECTION C

PERMIT CHANGES

- C1. Operational flexibility changes.** The source may make operational flexibility changes that are not addressed or prohibited by the permit without a permit revision subject to the following requirements:
- (a) The change cannot be subject to a requirement of Title IV of the Federal Act or TAPCR Chapter 1200-03-30.
 - (b) The change cannot be a modification under any provision of Title I of the federal Act or TAPCR Division 1200-03.
 - (c) Each change shall meet all applicable requirements and shall not violate any existing permit term or condition.
 - (d) The source must provide contemporaneous written notice to the Technical Secretary and EPA of each such change, except for changes that are below the threshold of levels that are specified in TAPCR Rule 1200-03-09-.04.
 - (e) Each change shall be described in the notice including the date, any change in emissions, pollutants emitted, and any applicable requirements that would apply as a result of the change.
 - (f) The change shall not qualify for a permit shield under the provisions of TAPCR part 1200-03-09-.02(11)(e)6.
 - (g) The permittee shall keep a record describing the changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes. The records shall be retained until the changes are incorporated into subsequently issued permits.

TAPCR 1200-03-09-.02(11)(a)4(ii)

- C2. Section 502(b)(10) changes.**
- (a) The permittee can make certain changes without requiring a permit revision, if the changes are not modifications under Title I of the Federal Act or TAPCR Division 1200-03 and the changes do not exceed the emissions allowable under the permit. The permittee must, however, provide the Administrator and Technical Secretary with written notification within a minimum of 7 days in advance of the proposed changes. The Technical Secretary may waive the 7-day advance notice in instances where the source demonstrates in writing that an emergency necessitates the change. Emergency shall be demonstrated by the criteria of TAPCR part 1200-03-09-.02(11)(e)7 and in no way shall it include changes solely to take advantages of an unforeseen business opportunity. The Technical Secretary and EPA shall attach each such notice to their copy of the relevant permit.
 - (b) The written notification must be signed by a facility Title V responsible official and include the following:
 - 1. a brief description of the change within the permitted facility;
 - 2. the date on which the change will occur;
 - 3. a declaration and quantification of any change in emissions;
 - 4. a declaration of any permit term or condition that is no longer applicable as a result of the change; and
 - 5. a declaration that the requested change is not a Title I modification and will not exceed allowable emissions under the permit.
 - (c) The permit shield provisions of TAPCR part 1200-03-09-.02(11)(e)6 shall not apply to Section 502(b)(10) changes.

TAPCR 1200-03-09-.02(11)(a)4(i)

- C3. Administrative amendment.**
- (a) Administrative permit amendments to this permit shall be in accordance with TAPCR part 1200-03-09-.02(11)(f)4. The source may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request.
 - (b) The permit shield shall be extended as part of an administrative permit amendment revision consistent with the provisions of TAPCR part 1200-03-09-.02(11)(e)6 for such revisions made pursuant to item (c) of this condition which meet the relevant requirements of TAPCR subparagraph 1200-03-09-.02(11)(e), TAPCR subparagraph 1200-03-09-.02(11)(f) and TAPCR subparagraph 1200-03-09-.02(11)(g) for significant permit modifications.
 - (c) Proceedings to review and grant administrative permit amendments shall be limited to only those parts of the permit for which cause to amend exists, and not the entire permit.

TAPCR 1200-03-09-.02(11)(f)4

- C4. Minor permit modifications.**
- (a) The permittee may submit an application for a minor permit modification in accordance with TAPCR subpart 1200-03-09-.02(11)(f)5(ii).
 - (b) The permittee may make the change proposed in its minor permit modification immediately after an application is filed with the Technical Secretary.
 - (c) Proceedings to review and modify permits shall be limited to only those parts of the permit for which cause to modify exists, and not the entire permit.
 - (d) Minor permit modifications do not qualify for a permit shield.

TAPCR 1200-03-09-.02(11)(f)5(ii)

C5. Significant permit modifications.

(a) The permittee may submit an application for a significant modification in accordance with TAPCR subpart 1200-03-09-.02(11)(f)5(iv).

(b) Proceedings to review and modify permits shall be limited to only those parts of the permit for which cause to modify exists, and not the entire permit.

TAPCR 1200-03-09-.02(11)(f)5(iv)

C6. New construction or modifications.

Future construction at this facility that is subject to the provisions of TAPCR Rule 1200-03-09-.01 shall be governed by the following:

(a) The permittee shall designate in their construction permit application the route that they desire to follow for the purposes of incorporating the newly constructed or modified sources into their existing operating permit. The Technical Secretary shall use that information to prepare the operating permit application submittal deadlines in their construction permit.

(b) Sources desiring the permit shield shall choose the administrative amendment route of TAPCR part 1200-03-09-.02(11)(f)4 or the significant modification route of TAPCR subpart 1200-03-09-.02(11)(f)5(iv).

(c) Sources desiring expediency instead of the permit shield shall choose the minor permit modification procedure route of TAPCR subpart 1200-03-09-.02(11)(f)5(ii) or group processing of minor modifications under the provisions of TAPCR subpart 1200-03-09-.02(11)(f)5(iii) as applicable to the magnitude of their construction.

TAPCR 1200-03-09-.02(11)(d)1(i)(V)

SECTION D

GENERAL APPLICABLE REQUIREMENTS

D1. Visible emissions.

(a) 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 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 20 percent (6-minute average) except for one six minute period per one hour of not more than 40 percent opacity. Sources constructed or modified after July 7, 1992, shall utilize 6-minute averaging.

(b) 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 Chapter 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 an authorized representative upon request.

TAPCR 1200-03-05-.01(1), TAPCR 1200-03-05-.03(6) and TAPCR 1200-03-05-.02(1)

D2. General provisions and applicability for 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.

TAPCR 1200-03-06-.03(2)

D3. Non-process emission standards. The permittee shall not cause, suffer, allow, or permit particulate emissions from non-process sources in excess of the standards in TAPCR Chapter 1200-03-06.

D4. General provisions and applicability for 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.

TAPCR 1200-03-07-.07(2)

D5. Particulate emissions from process emission sources. The permittee shall not cause, suffer, allow, or permit particulate emissions from process sources in excess of the standards in TAPCR part 1200-03-07.

D6. Sulfur dioxide emission standards. 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 Chapter 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.

D7. Fugitive Dust.

(a) 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, water, or suitable chemicals on dirt roads, material stockpiles, 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.

(b) 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 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 TAPCR Chapter 1200-03-20.

TAPCR 1200-03-08

- D8. Open burning.** The permittee shall comply with the TAPCR Chapter 1200-03-04 for all open burning activities at the facility.

TAPCR 1200-03-04

- D9. Asbestos.** Where applicable, the permittee shall comply with the requirements of 40 CFR Part 61 when conducting any renovation or demolition activities at the facility.

TAPCR 0400-30-38-.01(2) and 40 CFR, Part 61

- D10. 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 insignificant emission units or activities. By annual certification of compliance with the conditions in this Section the permittee shall be considered to meet the monitoring and related record keeping and reporting requirements of TAPCR subpart 1200-03-09-.02(11)(e)1(iii) and part 1200-03-10-.04(2)(b)1 and the compliance requirements of TAPCR subpart 1200-03-09-.02(11)(e)3(i). The permittee shall submit compliance certification for these conditions annually.

- D11. Emission Standards for Hazardous Air Pollutants.** The permittee shall comply with all applicable requirements of TAPCR Chapter 0400-30-38 for all emission sources subject to a requirement contained therein.

- D12. Standards of Performance for New Stationary Sources.** The permittee shall comply with all applicable requirements of TAPCR chapters 0400-30-39 and 1200-03-16 for all emission sources subject to a requirement contained therein.

- D13. Gasoline Dispensing Facilities.** The permittee shall comply with all applicable requirements of TAPCR Rule 1200-03-18-.24 for all emission sources subject to a requirement contained therein.

- D14. 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 TAPCR Rule 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 TAPCR Chapter 0400-30-39.

(c) All stationary spark ignition internal combustion engines, including engines deemed insignificant activities and insignificant emission units, shall comply with the applicable provisions of TAPCR Chapter 0400-30-39.

TAPCR 0400-30-38 and 39

- D15. Maintenance and Repair**

The permittee shall maintain and repair each emission source, associated air pollution control device(s), and compliance assurance monitoring equipment as required to maintain and assure compliance with the specified emission limits.

TAPCR 1200-03-09-.03(8)

SECTION E

SOURCE SPECIFIC EMISSION STANDARDS, OPERATING LIMITATIONS, and MONITORING, RECORDKEEPING and REPORTING REQUIREMENTS

82-0003 MSOP-19	Facility Description:	Eastman Chemical Company - Tennessee Eastman Division facility in Kingsport manufactures chemicals, fibers, and plastics. The production of triethyl phosphate, copolyester monomer manufacturing and solvent manufacturing and refining in the Chemicals Manufacturing Division is identified as MSOP-19 for Title V permitting purposes.
----------------------------	------------------------------	--

Conditions E1 through E2 apply to all sources in Section E of this permit unless otherwise noted.

E1. Fee payment

FEE EMISSIONS SUMMARY TABLE FOR MAJOR SOURCE 82-0003

REGULATED POLLUTANTS	ALLOWABLE EMISSIONS (tons per AAP)	ACTUAL EMISSIONS (tons per AAP)	COMMENTS
PARTICULATE MATTER (PM)	0.50	AEAR	N/A
SO₂	0.11	AEAR	N/A
VOC	25.02	AEAR	Does not include VOC HAPs
NO_x	13.19	AEAR	N/A
Facility-Wide Total HAP Limit	N/A	AEAR	N/A
Facility-Wide Individual HAP Limit	N/A	AEAR	N/A
HAZARDOUS AIR POLLUTANTS (HAPs) NOT INCLUDED ABOVE*			
Formaldehyde	0.12	AEAR	
Hexane	0.46	AEAR	
Methanol	5.09	AEAR	
2,2,4-Trimethylpentane	3.49	AEAR	
MISCELLANEOUS POLLUTANTS NOT LISTED ABOVE**			
EACH MISC POLLUTANT NOT LISTED ABOVE		AEAR	
		AEAR	
		AEAR	
		AEAR	

NOTES

AAP The Annual Accounting Period (AAP) is a 12 consecutive month period that either (a) begins each July 1st and ends June 30th of the following year when fees are paid on a fiscal year basis, or (b) begins January 1st and ends December 31st of the same year when paying on a calendar year basis. The AAP at the time of permit renewal issuance began **January 1, 2026**, and ends **December 31, 2026**. The next AAP begins **January 1, 2027**, and ends **December 31, 2027**, unless a request to change the annual accounting period is submitted by the responsible official as required by subparagraph 1200-03-26-.02(9)(b) of the TAPCR and approved by the Technical Secretary. If the permittee wishes to revise their annual accounting period or their annual emission fee basis as allowed by subparagraph 1200-03-26-.02(9)(b) of the TAPCR, the responsible official must submit the request to the Division in writing on or before December 31 of the annual accounting period for which the fee is due. If a change in fee basis from allowable emissions to actual emissions for any pollutant is requested, the request from the responsible official must include the methods that will be used to determine actual emissions. **Changes in fee bases must be made using the Title V Fee Selection form, form number APC 36 (CN-1583), included as an attachment (Attachment 3) to this permit and available on the Division of Air Pollution Control's website.**

N/A N/A indicates that no emissions are specified for fee computation.

AEAR If the permittee is paying annual emission fees on an actual emissions basis, **AEAR** indicates that an **Actual Emissions Analysis is Required** to determine the actual emissions of:

- (1) **each regulated pollutant** (Particulate matter [PM], SO₂, VOC, NO_x and so forth. See TAPCR 1200-03-26-.02(2)(i) for the definition of a regulated pollutant.),
- (2) the “**HAP Not Included Above**” **Category (non-VOC and non-PM HAP not included in a facility-wide limit)**, and
- (3) the **Miscellaneous Category**

under consideration during the **Annual Accounting Period**.

* **Hazardous Air Pollutants Not Included Above:** This category is made-up of hazardous air pollutants that are not included in the VOC or PM category, such as HCl and HF, and are not included in a facility-wide HAP emission limitation. **For fee computation**, each individual hazardous air pollutant is subject to the 4,000-ton cap provisions of subparagraph 1200-03-26-.02(2)(i) of the TAPCR.

** **Miscellaneous Pollutants Not Listed Above:** This category is for pollutants that are not included in one of the other categories but for which an emission limitation has been established in this permit (including NSPS pollutants). **For fee computation**, each pollutant in this category is subject to the 4,000-ton cap provisions of subparagraph 1200-03-26-.02(2)(i).

END NOTES

-
- The permittee shall:**
- (1) Pay Title V **annual fees** (including the emissions fee, base fee, significant modification fee, & minor modification fee), on the emissions and year bases requested by the responsible official and approved by the Technical Secretary, for each annual accounting period (AAP) by the payment deadline(s) established in TAPCR 1200-03-26-.02(9)(a). Fees may be paid on an **actual, allowable, or mixed** emissions basis, and on either a **state fiscal year** or a **calendar year**, provided the requirements of TAPCR 1200-03-26-.02(9)(b) are met. If any part of any fee imposed under TAPCR 1200-03-26-.02 is not paid within 15 days of the due date, penalties shall at once accrue as specified in TAPCR 1200-03-26-.02(8).
 - (2) Sources paying annual fees on an allowable emissions basis: pay annual fees for each AAP no later than April 1 of each year pursuant to TAPCR 1200-03-26-.02(9)(d). TAPCR 1200-03-26-.02(9)(a)2(i)
 - (3) Sources paying annual fees on a calendar year basis and an actual or mixed emissions basis: pay annual allowable based emission fees for each AAP no later than April 1 of each year pursuant to TAPCR 1200-03-26-.02(9)(d), except as allowed by TAPCR 1200-03-26-.02(9)(g)3. TAPCR 1200-03-26-.02(9)(a)2(ii)
 - (4) Sources paying annual fees on a fiscal year basis and an actual or mixed emissions basis: for each AAP, pay an estimated 65% of the fee due no later than April 1 of the current fiscal year. The remainder of the fee for each annual accounting period is due no later than August 1 of each year pursuant to TAPCR 1200-03-26-.02(9)(d), except as allowed by TAPCR 1200-03-26-.02(9)(g)3. TAPCR 1200-03-26-.02(9)(a)2(iii)
 - (5) Sources paying annual fees on an actual emissions basis: prepare an **actual emissions analysis** for each AAP and pay **actual based emission fees** pursuant to TAPCR 1200-03-26-.02(9)(d). The **actual emissions analysis** shall include:
 - (a) the completed **Fee Emissions Summary Table**,
 - (b) each **actual emissions analysis** required, and
 - (c) the actual emission records for each pollutant and each source as required for actual emission fee determination, or a summary of the actual emission records required for fee determination, as specified by the Technical Secretary or the Technical Secretary’s representative. The summary must include sufficient information for the Technical Secretary to determine the accuracy of the calculations. These calculations must be based on the Fee Year basis approved by the Technical Secretary (a state fiscal year [July 1 through June 30] or a calendar year [January 1 through December

31]). These records shall be used to complete the **actual emissions analyses** required by the above **Fee Emissions Summary Table**.

TAPCR 1200-03-26-.02(9)(g)2

- (6) Sources paying annual fees on a Fee Choice of a mixed emissions basis: for all pollutants and all sources for which the permittee has chosen an actual emissions basis, prepare an **actual emissions analysis** for each AAP and pay **actual based emission fees** pursuant to TAPCR 1200-03-26-.02(9)(d). The **actual emissions analysis** shall include:
 - (a) the completed **Fee Emissions Summary Table**,
 - (b) each **actual emissions analysis** required, and
 - (c) the actual emission records for each pollutant and each source as required for actual emission fee determination, or a summary of the actual emission records required for fee determination, as specified by the Technical Secretary or the Technical Secretary’s representative. The summary must include sufficient information for the Technical Secretary to determine the accuracy of the calculations. These calculations must be based on the Fee Year basis approved by the Technical Secretary (a state fiscal year [July 1 through June 30] or a calendar year [January 1 through December 31]). These records shall be used to complete the **actual emissions analysis**.

For all pollutants and all sources for which the permittee has chosen an allowable emissions basis, pay allowable based emission fees pursuant to TAPCR 1200-03-26-.02(9)(d).

TAPCR 1200-03-26-.02(9)(g)2

- (7) When paying on an actual or mixed emissions basis, submit the **actual emissions analyses** at the time the fees are paid in full or earlier.

TAPCR 1200-03-26-.02(9)(g)2

- (8) Include with each required AEAR report the following statement signed by the Responsible Official: *“I have reviewed this document in its entirety, and to the best of my knowledge, based on information and belief formed after reasonable inquiry, the statements and information contained in this document are true, accurate, and complete.”*

TAPCR 1200-03-09-.02(11)(d)4

The annual fee due dates are specified in TAPCR 1200-03-26-.02(9)(a) and are dependent on the Responsible Official’s choice of fee bases as described above. If any part of any fee imposed under TAPCR 1200-03-26-.02 is not paid within 15 days of the due date, penalties shall at once accrue as specified in TAPCR 1200-03-26-.02(8). Emissions for regulated pollutants shall not be double counted as specified in Condition A8(d) of this permit.

Payment of the fee due and the actual emissions analysis (if required) shall be submitted to the Technical Secretary at the following address:

Payment of Fee to:

Tennessee Department of Environment and Conservation
 Division of Fiscal Services
 Consolidated Fee Section – APC
 Davy Crockett Tower, 6th Floor
 500 James Robertson Parkway
 Nashville, Tennessee 37243

Actual Emissions Analyses to:

A “Title V Emissions Summary Form” and the AEAR must be submitted electronically as directed by the Division. Additional information can be found at <https://www.tn.gov/environment/air/inventory.html>

TAPCR 1200-03-26-.02(3), (8), and (9), and TAPCR 1200-03-09-.02(11)(e)1(vii)

E2-1. Reporting requirements.

- (a) **Semiannual reports.** Semiannual reports shall cover the six-month periods from **January 1 to June 30** and **July 1 to December 31** and shall be submitted within 60 days after the end of each six-month period. Subsequent reports shall be submitted within 60 days after the end of each 6-month period following the first report. The first semiannual report following issuance of this permit shall cover the following permits and reporting periods:

Permit Number	Reporting Period Begins	Reporting Period Ends
575805	January 1, 2026	day before new permit issuance (with year)
582964	Issuance Date of new permit (with year)	June 30, 2026

These semiannual reports shall include:

- (1) Any monitoring and recordkeeping required by conditions **E3-1, E3-6, and E3-7** of this permit. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.
- (2) The MACT reports required by 40 CFR 63 Subpart A, 40 CFR 63 Subpart FFFF, and Subpart DDDDD (Condition **E2-6**). **Note:** Portions of the TMCD MCPU are found in MSOP-04 and MSOP-19. The semiannual reporting requirement for this permit includes only the portions of the TMCD MCPU that are in MSOP-19.
- (3) The NSPS reports required by 40 CFR 60 Subpart A and 40 CFR 60 Subpart VVa (Condition **E2-5**).
Note: The NSPS NNN and NSPS RRR affected facilities for PES B-545-1 are covered by the overlap provisions of 40 CFR 63 Subpart FFFF (see Attachment 2 of this permit). The reporting requirements of Subparts NNN and RRR do not apply.
- (4) The visible emission evaluation readings from condition **E3-2** of this permit if required. However, a summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.
- (5) Identification of all instances of deviations from **ALL PERMIT REQUIREMENTS**. The record of deviations/excursions shall include, at a minimum, the time the deviation/excursion was discovered, the corrective action taken, and the time that the deviation/excursion was rectified.

These reports must be certified by a responsible official consistent with condition B4 of this permit and shall be submitted to The Technical Secretary at the address in Condition E2(b) of this permit.

TAPCR 1200-03-09-.02(11)(e)1.(iii)

- (b) **Annual compliance certification.** The permittee shall submit annually compliance certifications with each term or condition contained in Sections A, B, D and E of this permit, including emission limitations, standards, or work practices. This compliance certification shall include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports, as applicable):
 - (1) The identification of each term or condition of the permit that is the basis of the certification;
 - (2) The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period; Such methods and other means shall include, at a minimum, the methods and means required by this permit. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Act, which prohibits knowingly making a false certification or omitting material information;
 - (3) The status of compliance with each term or condition of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certification shall be based on the method or means designated in E2(b)2 above. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion* or exceedance** as defined below occurred; and
 - (4) Such other facts as the Technical Secretary may require to determine the compliance status of the source.

* "Excursion" shall mean a departure from an indicator range established for monitoring under this paragraph, consistent with any averaging period specified for averaging the results of the monitoring.

** “Exceedance” shall mean a condition that is detected by monitoring that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) are greater than the applicable emission limitation or standard (or less than the applicable standard in the case of a percent reduction requirement) consistent with any averaging period specified for averaging the results of the monitoring.

Annual compliance certifications shall cover the 12-month period from July 1 of each calendar year to June 30 of the following calendar year and shall be submitted within 60 days after the end of each 12-month period. The first annual compliance certification following issuance of this permit shall cover the following permits and reporting periods:

Permit Number	Reporting Period Begins	Reporting Period Ends
575805	July 1, 2025	day before new permit issuance (with year)
582964	Issuance Date of new permit (with year)	June 30, 2026

These certifications shall be submitted to: **TN APCD** and **EPA**

<p>Division of Air Pollution Control Davy Crockett Tower 500 James Robertson Parkway, 7th Floor Nashville, TN 37243 Or Email (PDF): Air.Pollution.Control@tn.gov</p>	<p>and</p>	<p>Air Enforcement Branch US EPA Region IV 61 Forsyth Street, SW Atlanta, Georgia 30303 or Through the EPA CDX (https://cdx.epa.gov/)</p>
--	-------------------	---

40 CFR Part 70.6(c)(5)(iii) as amended in the Federal Register Vol. 79, No.144, July 28, 2014, pages 43661 through 43667
TAPCR 1200-03-09-.02(11)(e)3.(v)

(c) **MACT Reports (40 CFR 63 Subpart DDDDD).** The permittee shall submit the MACT reports required by 40 CFR 63 Subpart DDDDD (Condition **E2- 6**).

Pursuant to §63.10(a)(5), these reports and all subsequent MACT reports shall be included with the semiannual report required by Condition E2-1(a) for the reporting period in which the five-year tuneup occurs.

Pursuant to §63.7550(h)(3) the permittee shall submit all reports required by Table 9 of Subpart DDDDD electronically using CEDRI that is accessed through the EPA's Central Data Exchange (CDX) (www.epa.gov/cdx), if the reporting form specific to Subpart DDDDD is available in CEDRI at the time that the report is due. If the reporting form specific to Subpart DDDDD is not available in CEDRI at the time that the report is due, the permittee must submit the report to the Administrator at the address listed in §63.13.

(d) **Accidental Release Plan.** In accordance with Section 112(r) of the Clean Air Act and Rule 1200-03-32-.03(1) of Tennessee Air Pollution Control Regulations, the permittee has filed a copy of the accidental release plan for this facility. This plan has been filed with both EPA Region IV and the Division of Air Pollution Control. The permittee shall annually certify in writing to the Technical Secretary that they are properly following their accidental release plan. Such certification is due no later than January 31 for the preceding calendar year in accordance with TAPCR 1200-03-32-.03(3).

(e) **Retention of Records** All records required by any condition in Section E of this permit must be retained for a period of not less than five years. Additionally, these records shall be kept available for inspection by the Technical Secretary or a Division representative.

TAPCR 1200-03-09-.02(11)(e)1.(iii)(II)II

E2-2. Conservation Vent Maintenance:

For storage or process vessels subject to emission limitations based upon TAPCR 1200-03-07-.07(2):

Where removal of a pressure relief device such as a conservation vent from a storage or process vessel would otherwise result in excess emissions, the owner or operator is permitted to remove the pressure relief device provided the following applicable conditions are met:

For vessels which under normal operating conditions vent to a downstream piece of process or control equipment, a pressure relief device may be removed for up to a 5-day period of time for maintenance, replacement, calibration, or inspection, under the following conditions:

- (a) Upward level movement of liquid within the vessel is restricted to ten percent of the vessel height during the period in which the pressure relief device is removed, or
- (b) Emissions of air contaminants due to working losses and inert gas purge losses are restricted to 100 pounds per day as determined by standard engineering estimation methods during the period in which the pressure relief device is removed.

Emissions occurring during the period of time the pressure relief device is removed shall not be considered excess emissions.

E2-3. Visible Emissions Evaluation: General Requirements

For all emission sources that use opacity matrix decision trees (Attachment 1) to comply with any visible emissions requirement, including emission sources for which visible emissions are not required by the opacity matrix, if the magnitude and frequency of excursions reported by the permittee in the periodic monitoring for emissions is unsatisfactory to the Technical Secretary, this permit may be reopened to impose additional opacity monitoring requirements.

TAPCR 1200-03-10-.02(1)(a)

E2-4. Identification of Responsible Official, Technical Contact, and Billing Contact

- (a) The application that was utilized in the preparation of this permit is dated November 18, 2024, and signed by Responsible Official Robert Bewley, Chemicals and Fibers Division Manufacturing Leader of the permitted facility. If this person terminates employment or is assigned different duties and is no longer a Responsible Official for this facility as defined in part 1200-03-09-.02(11)(b)21 of the Tennessee Air Pollution Control Regulations, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within 30 days of the change. The notification shall include the name and title of the new Responsible Official and certification of truth and accuracy. All representations, agreement to terms and conditions, and covenants made by the former Responsible Official that were used in the establishment of the permit terms and conditions will continue to be binding on the facility until such time that a revision to this permit is obtained that would change said representations, agreements, and/or covenants.
- (b) The application that was utilized in the preparation of this permit is dated November 18, 2024, and identifies Ms. Sharon Wellman, as the Principal Technical Contact for the permitted facility. If this person terminates employment or is assigned different duties and is no longer the Principal Technical Contact for this facility, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within 30 days of the change. The notification shall include the name and title of the new Principal Technical Contact and certification of truth and accuracy.
- (c) The application that was utilized in the preparation of this permit is dated November 18, 2024, and identifies Ms. Tracy Venett, as the Billing Contact for the permitted facility. If this person terminates employment or is assigned different duties and is no longer the Billing Contact for this facility, the owner or operator of this air contaminant source shall notify the Technical Secretary of the change. Said notification must be in writing and must be submitted within 30 days of the change. The notification shall include the name and title of the new Billing Contact and certification of truth and accuracy.

TAPCR 1200-03-09-.03(8)

- E2-5. New Source Performance Standards (40 CFR Part 60):** The emission sources included in this permit are subject to the NSPS standards identified in **Table E2-5:**

NSPS Subpart	Rule	Applies to:	
		ESRN	PES
A	NSPS General Provisions	82-0003-185	B-545-1
Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984	82-0003-185	B-545-1
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	82-0003-185	B-545-1
NNN	Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry Reactor Processes	82-0003-185	B-545-1
RRR	Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry Distillation Operations	82-0003-185	B-545-1

Compliance Method: A listing of specific applicability determinations for 40 CFR Parts 60 and 63 in effect as of the issuance date of this permit is found in Attachment 2. Compliance with this condition shall be assured by compliance with the specific requirements listed in Attachment 2. Changes that result in a change of applicability shall follow the applicable procedures in Section C of this permit and shall include an update to Attachment 2. The permittee shall comply with the applicable portions of the NSPS General Provisions as specified in 40 CFR 60 Subpart A and/or the referencing Subparts.

TAPCR 1200-03-09-.03(8)

- E2-6. National Emission Standards for Hazardous Air Pollutants for Source Categories (40 CFR Part 63)**

The emission sources included in this permit are subject to the MACT standards identified in **Table E2-6:**

MACT Subpart	Rule	Applies to:	
		ESRN	PES
A	MACT General Provisions	82-0003-185	B-545-1
FFFF	National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing	82-0003-185	B-545-1
DDDDD	National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters	82-0003-185	B-545-1

Compliance Method: A listing of specific applicability determinations for 40 CFR Parts 60 and 63 in effect as of the issuance date of this permit is found in Attachment 2. Compliance with this condition shall be assured by compliance with the specific requirements listed in Attachment 2. Changes that result in a change of applicability shall follow the applicable procedures in Section C of this permit and shall include an update to Attachment 2. The permittee shall comply with the applicable portions of the MACT General Provisions as specified in 40 CFR 63 Subpart A and/or the referencing Subparts.

TAPCR 1200-03-09-.03(8)

**Copolyester Monomer Manufacturing (82-0003-185)
Emission Source Specific Operating Permit Conditions*
Conditions E3-1 through E3-19 Apply to Source**

1. EASTMAN SOURCE NUMBER		2. EMISSION SOURCE DESCRIPTION		3. EMISSION SOURCE REFERENCE NUMBER		4. MSOP NUMBER		5. PERMIT NUMBER	
PES B-545-1		Copolyester Monomer Manufacturing		82-0003-185		MSOP-19		582964	
6. ID	7. PORTION OF SOURCE SUBJECT TO REQUIREMENT	8. POLLUTANT	9. UNDERLYING APPLICABLE REQUIREMENT(S)	10. LIMITATION OR STANDARD	11. REFERENCE TEST METHOD	12. PERIODIC MONITORING METHOD(S)			
FEDERALLY AND STATE ENFORCEABLE CONDITIONS									
E3-1	Entire Source, excluding fugitive equipment leaks from pumps, valves, flanges, etc.	VOC	TAPCR 1200-03-07-.07(2) 1200-03-09-.01(4)(a)11: PSD Avoidance Letter dated November 18, 2024 (Attachment 4).	4.36 tons/year	Engineering Assessment	Vent C: 1. Parametric Monitoring: 24-hour block-average vapor incinerator firebox temperature. See Operating Plan in the Title V application dated November 18, 2024, PES B-545-1, page 12. 2. Recordkeeping: 12-month moving total monomer production and 12-month moving total heat input to vapor incinerator from natural gas. See Operating Plan in the Title V application dated November 18, 2024, PES B-545-1, page 13. 3. Monitoring, recordkeeping, and reporting required by ID Limitation E2-6 (40 CFR 63 Subpart FFFF) will ensure compliance with this limit. Vent I: Parametric Monitoring: 12-month moving total hours of bypass due to planned routine maintenance. See Operating Plan in the Title V Application dated November 18, 2024, PES B-545-1, page 17. Vents B and Q: Certification.			
E3-2	Entire Source	Visible Emissions	TAPCR 1200-03-05	20% Opacity	EPA Method 9	Visible Emissions Evaluation: Emission units requiring initial VEEs – None, per TAPCD Opacity Matrix dated September 11, 2013 (Attachment 1).			

* See Table Notes for additional clarification of permit conditions.

Copolyester Monomer Manufacturing (82-0003-185)
Emission Source Specific Operating Permit Conditions*
Conditions E3-1 through E3-19 Apply to Source

1. EASTMAN SOURCE NUMBER		2. EMISSION SOURCE DESCRIPTION		3. EMISSION SOURCE REFERENCE NUMBER		4. MSOP NUMBER		5. PERMIT NUMBER	
PES B-545-1		Copolyester Monomer Manufacturing		82-0003-185		MSOP-19		582964	
6. ID	7. PORTION OF SOURCE SUBJECT TO REQUIREMENT	8. POLLUTANT	9. UNDERLYING APPLICABLE REQUIREMENT(S)	10. LIMITATION OR STANDARD	11. REFERENCE TEST METHOD	12. PERIODIC MONITORING METHOD(S)			
FEDERALLY AND STATE ENFORCEABLE CONDITIONS									
E3-3	Flow Diagram Point D (Equipment Leaks)	CO, VOC	TAPCR 1200-03-07-.07(2) 1200-03-09-.01(4)(a)11: PSD Avoidance Letter dated November 18, 2024, (Attachment 4).	Quarterly Leak Inspection and Repair, Enhanced Leak Inspection and Repair for Pumps and Pressure Relief Devices (fugitive emissions from pumps, valves, flanges, etc. are estimated at 30.40 tons/year VOC and 0.07 tons/year CO)	See Item 10	See Item 10			
E3-4	Entire source, excluding fugitive equipment leaks from pumps, valves, flanges, etc.	Particulates	TAPCR. 1200-03-07-.01(5): Mutual Agreement for Non-Process Emission Sources. Letter dated November 18, 2024, (Attachment 4) authorizing use of lower than allowable particulate rates as shown on permit applications.	0.13 lb/hr	EPA Method 5	Certification			
E3-5	Entire source, excluding fugitive equipment leaks from pumps, valves, flanges, etc.	Sulfur Dioxide (SO ₂)	TAPCR. 1200-03-14-.01(3): Mutual Agreement for Non-Process Emission Sources. Letter dated November 18, 2024, (Attachment 4), authorizing use of lower than allowable sulfur dioxide rates as shown on permit applications.	0.03 lbs./hr.	EPA Methods 6, 6A, 6B, or 6C	Certification			
E3-6	Entire source, excluding fugitive equipment leaks from pumps, valves, flanges, etc.	Nitrogen Oxides (NO _x)	TAPCR 1200-03-07-.07(2)	13.19 tons/year	EPA Methods 7, 7A, 7B, 7C, 7D, or 7E	Vents B and Q: Parametric Monitoring 12 month moving total heat input to process heaters FA-F-01 and FB-F-01. See Operating Plan in the Title V application dated November 18, 2024, PES B-545-1, page 18. Vent C: Certification.			

* See Table Notes for additional clarification of permit conditions.

**Copolyester Monomer Manufacturing (82-0003-185)
Emission Source Specific Operating Permit Conditions*
Conditions E3-1 through E3-19 Apply to Source**

1. EASTMAN SOURCE NUMBER		2. EMISSION SOURCE DESCRIPTION		3. EMISSION SOURCE REFERENCE NUMBER		4. MSOP NUMBER		5. PERMIT NUMBER	
PES B-545-1		Copolyester Monomer Manufacturing		82-0003-185		MSOP-19		582964	
6. ID	7. PORTION OF SOURCE SUBJECT TO REQUIREMENT	8. POLLUTANT	9. UNDERLYING APPLICABLE REQUIREMENT(S)	10. LIMITATION OR STANDARD	11. REFERENCE TEST METHOD	12. PERIODIC MONITORING METHOD(S)			
FEDERALLY AND STATE ENFORCEABLE CONDITIONS									
E3-7	Entire source, excluding fugitive equipment leaks from pumps, valves, flanges, etc.	Carbon Monoxide (CO)	TAPCR. 1200-03-07-.07(2)	12.63 tons/year	EPA Method 10	Vents B and Q: Certification Vent C: Monitoring, recordkeeping, and reporting required by ID Limitation E3-1 will ensure compliance with this limit.			
E3-8	Entire source, excluding fugitive equipment leaks from pumps, valves, flanges, etc.	Other Organic – Methane	TAPCR 1200-03-07-.07(2)	2.07 tons/year	N/A	Not applicable: the term or condition does not implement relevant requirements of the Federal Act and is not an applicable requirement under the Federal Act.			
E3-9 through E3-13	Reserved – See Condition E2-5 for NSPS requirements.								
E3-14 through E3-15	Reserved – See Condition E2-6 for MACT requirements.								
E3-16	Vent C (VOC and Other Organics) Vent C (HAPs)	VOC	40 CFR 64 – Compliance Assurance Monitoring §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.						
E3-17	Reserved – See Condition E2-6 for MACT requirements.								
E3-18	Vent Q	SO ₂	TAPCR 1200-03-09-.01(5)(b)2.(ii): BACT for new or modified sources in a nonattainment area.	0.01 lbs./hr.	EPA Methods 6, 6A, 6B, or 6C	Certification			
E3-19	Vents B and Q	NO _x	TAPCR 1200-03-07-.07(2) 1200-03-09-.01(1)(d)	Only low-NO _x burners (NO _x emission rate ≤ 0.05 lb/MMBtu when burning natural gas) shall be used.	N/A	Vendor specifications or test data for each burner shall be maintained at the source location and made available for inspection by the Technical Secretary or representative. These specifications shall be retained for the life of the burner.			

* See Table Notes for additional clarification of permit conditions.

Table Notes (February 26, 2021, Revision)

Item 1 EASTMAN SOURCE NUMBER

Permittee's designation for the emission source.

Item 2 EMISSION SOURCE DESCRIPTION

Permittee's description of the emission source.

Item 3 EMISSION SOURCE REFERENCE NUMBER

TDEC-APC assigned number for the emission source.

Item 4 MSOP NUMBER

Permittee's designation for major source operating permit

Item 5 PERMIT NUMBER

TDAPC assigned major source operating permit number

Item 6 ID

Emission limitation or standard identification

Item 7 PORTION OF SOURCE SUBJECT TO REQUIREMENT

Identifies emission units to which the permit term or condition applies.

Item 8 POLLUTANT

Identifies the air contaminant, regulated air pollutant, or other parameter to which the emission limitation or standard applies. Where the term "other organics" is used it means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates and ammonium carbonate.

Item 9 UNDERLYING APPLICABLE REQUIREMENTS

Specifies and references the origin of and authority for each term or condition.

States the compliance dates for effective applicable requirements with future compliance dates.

Glossary

Descriptions of regulatory citations that appear in Item 9 are given below:

NSPS	Standards of Performance for New Stationary Sources (40 CFR Part 60)
40 CFR 60 Subpart A	General Provisions
40 CFR 60 Subpart D	Standards of Performance for Fossil-Fuel Fired Steam Generators for Which Construction is Commenced After August 17, 1971
40 CFR 60 Subpart Da	Standards of Performance for Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978
40 CFR 60 Subpart Db	Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
40 CFR 60 Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
40 CFR 60 Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984
40 CFR 60 Subpart Y	Standards of Performance for Coal Preparation Plants
40 CFR 60 Subpart VV	Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry

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
40 CFR 60 Subpart DDD	Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing industry
40 CFR 60 Subpart III	Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes
40 CFR 60 Subpart NNN	Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations
40 CFR 60 Subpart RRR	Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes
40 CFR 60 Subpart YYY	Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry (SOCMI) Wastewater
40 CFR 60 Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
40 CFR 60 Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines
40 CFR 61 Subpart E	National Emission Standard for Mercury
40 CFR Part 63	National Emission Standards for Hazardous Air Pollutants for Source Categories
40 CFR 63 Subpart A	General Provisions
40 CFR 63 Subpart F	National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry
40 CFR 63 Subpart G	National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater
40 CFR 63 Subpart H	National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks
40 CFR 63 Subpart DD	National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations
40 CFR 63 Subpart JJ	National Emission Standards for Wood Furniture Manufacturing Operations
40 CFR 63 Subpart JJJ	National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resins
40 CFR 63 Subpart FFFF	National Emission Standards for Hazardous Air Pollutants Miscellaneous Organic Chemical Manufacturing
40 CFR 63 Subpart GGGG	National Emission Standards for Hazardous Air Pollutants: Site Remediation
40 CFR 63 Subpart ZZZZ	National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines
40 CFR 63 Subpart DDDDD	National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters
40 CFR Part 68	Chemical Accident Prevention Provisions.

Item 10 **LIMITATION OR STANDARD**

Gives the regulatory citation or expression of the emission limitation or standard. This expression identifies any difference in form as compared to the applicable requirement upon which the term or condition is based. The following general requirements apply to each allowable emission rate established in Item 10:

- (a) For non-process or process gaseous emissions subject to TAPCR 1200-03-06-.03(2) or 1200-03-07-.07(2), compliance with hourly emission limits shall be based on a 24-hour block average, unless a performance test is required to demonstrate compliance or a different averaging period is specified in the permit condition, application, or other applicable requirement.
- (b) For particulate matter and sulfur dioxide limits established by mutual agreement pursuant to TAPCR 1200-03-06-.01(7), 1200-03-07-.01(5), 1200-03-14-.01(3), compliance with hourly emission limits shall be based on a 24-hour block average, unless a

performance test is required to demonstrate compliance or a different averaging period is specified in the permit condition, application, or agreement. Notwithstanding any mutual agreement, particulate matter and sulfur dioxide emission rates may not exceed the allowable emission rates established by TAPCR 1200-03-06, 1200-03-07, and 1200-03-14.

- (c) If a performance test is required to demonstrate compliance with a limitation or standard, compliance will be based on the averaging period specified in the underlying applicable requirement. If no averaging period is specified in the underlying applicable requirement, compliance will be based on the average of three one-hour test runs unless otherwise approved by the Technical Secretary.
- (d) Compliance with annual emission limits shall be based on a 12-month rolling total, unless a different period is specified in the permit condition, application, or other applicable requirement.

Emission work practice standards notated as “Quarterly Leak Inspection and Repair” or “Annual Leak Inspection and Repair” are detailed below:

Quarterly and Annual Leak Inspection (TAPCR 1200-03-07-.07(2))

- (a)
 - (1) **Quarterly Leak Inspection:** 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, 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 that 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.
 - (2) **Annual Leak Inspection:** 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, 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.
- (b) 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 in paragraph (c) below.
- (c)
 - (1) 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.
 - (2) 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.

- (3) 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.
 - (4) 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 six months after the first process unit shutdown.
 - (5) Delay of repair of pumps for up to six months after leak detection is allowed if the pump is replaced with (i) a dual mechanical seal system, (ii) a pump with no externally actuated shaft penetrating the pump housing, or (iii) a new system that the permittee has determined will provide better performance.
- (d) Recordkeeping Requirements
- (1) Records must be maintained that identify piping systems or process areas subject to this plan.
 - (2) 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.
 - (3) When a leak is detected, the following information shall be recorded:
 - (i) Component identifier or description of location and operator name, initials, or identification number.
 - (ii) The date the leak was detected.
 - (iii) The date the initial attempt at repair is made.
 - (iv) The date of successful repair of the leak. "Successful repair" means the leak is no longer detected using the inspection procedure outlined in item 10(a).
 - (v) "Repair delayed" and the reason for the delay if a leak is not repaired within 30 days after discovery of the leak.

**Additional LDAR provisions for Pumps in Light Liquid Service
and Pressure Relief Devices in Gas/Vapor Service, MSOP-19, PES B-545-1
(TAPCR 1200-03-07-.07(2))**

- (a) Equipment subject to this plan is defined as pumps in light liquid service and pressure relief devices in gas/vapor service (as defined in 40 CFR §63.161), except that "air contaminant" is substituted for "hazardous air pollutant."
 - (i) A visual inspection of all pumps in light liquid service shall be performed weekly, as outlined in §63.163(b)(3).
 - (ii) Monthly monitoring of all pumps in light liquid service shall be performed using the instrument method specified in §63.180. A leak is defined as an instrument reading of 2,000 ppm or greater.
 - (iii) Pressure relief devices shall be monitored as specified in §63.165, using the instrument method specified in §63.180.

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 60 Subpart VV, 40 CFR 63 Subpart H, 40 CFR 265 Subpart BB) is exempt from this inspection.

- (b) When a leak is detected, an initial attempt at repair shall be made no later than 5 calendar days after the leak is detected. Repair or replacement of leaking pumps shall be completed within 15 calendar days after detection of each leak, except as provided in paragraph (c) below.

- (c) (1) 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.
- (2) 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.
- (3) Delay of repair of pumps for up to six months after leak detection is allowed if the pump is replaced with (i) a dual mechanical seal system, (ii) a pump with no externally actuated shaft penetrating the pump housing, or (iii) a new system that the permittee has determined will provide better performance.
- (d) Quality Improvement Program: Pumps in light liquid service shall comply with §63.176.
- (e) Recordkeeping Requirements
 - (1) Records must be maintained that identify equipment subject to this plan.
 - (2) 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.
 - (3) When a leak is detected, the following information shall be recorded:
 - (i) Component identifier or description of location and operator name, initials, or identification number.
 - (ii) The date the leak was detected.
 - (iii) The date the initial attempt at repair is made.
 - (iv) The date of successful repair of the leak. "Successful repair" means the leak is no longer detected using the inspection procedure outlined in paragraph (a).
 - (v) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 days (5 days for pressure relief devices) after discovery of the leak.

Item 11 REFERENCE TEST METHODS (TAPCR 1200-03-10-.01(2))

- (a) Those emissions measuring test method(s) or procedure(s) by which demonstration of compliance with the emission limitation or standard would be determined as prescribed by the applicable requirement or if requested by the Technical Secretary pursuant to 1200-03-10-.01(2). Citations for performance test methods that may appear in item 11 are shown below:

<u>Pollutant or Parameter</u>	<u>Testing Methodology</u>
Gas Volumetric Flow Rate	EPA Methods 2, 2A, 2C, and 2D as published in the current 40 CFR 60, Appendix A
Dry Molecular Weight	EPA Method 3 as published in the current 40 CFR 60, Appendix A
Oxygen and Carbon Dioxide	EPA Method 3A as published in the current 40 CFR 60, Appendix A
Moisture Content	EPA Method 4 as published in the current 40 CFR 60, Appendix A
Particulate Matter	EPA Method 5 as published in the current 40 CFR 60, Appendix A
Sulfur Dioxide	EPA Method 6, 6A, 6B, or 6C as published in the current 40 CFR 60, Appendix A
Nitrogen Oxides	EPA Method 7, 7A, 7B, 7C, 7D, or 7E as published in the current 40 CFR 60, Appendix A
Sulfuric Acid Mist and Sulfur Dioxide	EPA Method 8 as published in the current 40 CFR 60, Appendix A
Carbon Monoxide	EPA Methods 10, 10A, or 10B as published in the current 40 CFR 60, Appendix A

<u>Pollutant or Parameter</u>	<u>Testing Methodology</u>
Total Fluoride Emissions	EPA Method 13A or 13B as published in the current 40 CFR 60, Appendix A
Gaseous Organic Compounds	EPA Method 18 as published in the current 40 CFR 60, Appendix A
Volatile Organic Compounds Leaks	EPA Method 21 as published in the current 40 CFR 60, Appendix A
Total Gaseous Nonmethane Organics	EPA Method 25 as published in the current 40 CFR 60, Appendix A
Total Gaseous Organics	EPA Method 25A as published in the current 40 CFR 60, Appendix A
Hydrogen Chloride & Chlorine	EPA Method 26 or 26A as published in the current 40 CFR 60, Appendix A
Visible Emissions (six-minute average)	EPA Method 9 as published in the current 40 CFR 60, Appendix A
Visible Emissions (Fugitives from Material Sources and Smoke from Flares)	EPA Method 22 as published in the current 40 CFR 60, Appendix A
Visible Emissions (aggregate count)	Tennessee Visible Emission Evaluation Method 2 as adopted by the Tennessee Air Pollution Control Board on August 24, 1984.
Visible Emissions (Roads and Parking Areas)	Tennessee Visible Emission Evaluation Method 1 as adopted by the Tennessee Air Pollution Control Board on April 29, 1982, as amended on September 15, 1982 and as amended on August 24, 1984.
Fugitive Dust Emissions Crossing a Property Line	Tennessee Visible Emission Evaluation Method 4 as adopted by the Tennessee Air Pollution Control Board on April 16, 1986.
Sulfur Content of Fuels	EPA Method 19 as published in the current 40 CFR 60, Appendix A

- (b) In cases where the underlying applicable requirement does not specify performance testing requirements, the following shall apply:
- (1) Performance tests shall be conducted and data reduced in accordance with the test methods and procedures listed in Item 11 unless the Technical Secretary (1) specifies or approves, in specific cases, the use of a reference method with minor changes in methodology, (2) approves the use of an equivalent method, (3) approves the use of an alternative method that is determined to be adequate for indicating whether a specific source is in compliance or (4) approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors.
 - (2) Performance tests shall be conducted under such conditions as the Technical Secretary shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Technical Secretary such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test.
 - (3) The owner or operator of an affected facility shall provide the Technical Secretary at least 30 days prior notice of any performance test to afford the Technical Secretary the opportunity to have an observer present. The Technical Secretary may waive the right to such prior notice.
- (c) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:
- (1) Sampling ports adequate for test methods applicable to such facility. This includes (i) constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures and (ii) providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.
 - (2) Safe sampling platform(s).
 - (3) Safe access to sampling platform(s).
 - (4) Utilities for sampling and testing equipment.
- (d) Unless otherwise specified in the applicable requirement, each performance test shall consist of three separate runs using the

applicable test method. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Technical Secretary's approval, be determined using the arithmetic mean of the results of the two other runs.

- (e) Where performance testing is technically infeasible or otherwise not specified by the permit, an engineering assessment, consisting of material or energy balances, emission factors, vapor-liquid equilibria, or other appropriate calculations, may be used to calculate emissions from an emission source or vent.

Item 12 PERIODIC MONITORING METHODS (TAPCR 1200-03-09-.02(11)(e)(iii)(I), TAPCR 1200-03-10-.02(1)(a))

- (a) Includes all of the following:
- (1) All emissions monitoring and analysis procedures or test methods required under the applicable requirements, including any procedures and methods promulgated pursuant to sections 114(a)(3) or 504(b) of the Federal Act.
 - (2) Those monitoring, recordkeeping, and reporting requirements prescribed by the Technical Secretary in accordance with the powers granted at chapter 1200-03-10.
 - (3) Where the applicable requirement does not require periodic testing or instrumental or non-instrumental monitoring (which may consist of recordkeeping designed to serve as monitoring), periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit. These requirements assure use of such terms, test methods, units, averaging periods, and other statistical conventions consistent with the applicable requirements.
 - (4) Requirements concerning the use, maintenance, and installation of monitoring equipment or methods.
- (b) **Operating Plans:** Operating Plans referred to in this column are found in the permit application with page references given in this column. These Operating Plans are incorporated by reference into this Title V permit as fully enforceable conditions of the permit. Changes to an Operating Plan shall follow the applicable procedures in Section C of this permit. A permit shield does not attach to these changes unless the proposed change is processed through significant modification procedures.
- (c) **Applicability:** No monitoring or recordkeeping is required during periods during which the source is not in operation.
- (d) **Generic Periodic Monitoring Methods:** Additional requirements for periodic monitoring methods notated in item 12 by generic headings are shown below:
- (1) **Certification:** Any emission unit or activity which is a subset of a process emission source, fuel burning installation, or incinerator, and which has a potential to emit less than five tons per year of a regulated air pollutant, by annual certification of compliance as required in item 1200-03-09-.02(11)(d)1.(ii)(I), shall be considered to meet the monitoring and related recordkeeping and reporting requirements of subpart 1200-03-09-.02(11)(e)1.(iii) and 1200-03-10-.04(2)(b)(1), and the compliance requirements of subpart 1200-03-09-.02(11)(e)3.(i) for that regulated air pollutant except where generally applicable requirements of the state implementation plan specifically impose monitoring and related record keeping and reporting requirements, or except where any applicable procedures and methods are required pursuant to rule 1200-03-10-.04. This provision shall not apply to emissions unit or activity that is subject to monitoring and related record keeping and reporting requirements under Chapters 1200-03-11 and 1200-03-31, and subparagraph 1200-03-02-.01(1)(dd).

For emission units or activities using annual certification of compliance to meet the monitoring, recordkeeping, and reporting requirements of TAPCR 1200-03-09-.02(11), potential emission calculations and other required documentation, including performance test results, material or energy balances, emission factors, vapor-liquid equilibria, or other appropriate calculations, are included with the application(s) of record and are incorporated by reference into this permit as the basis for certification.

- (2) **Parametric Monitoring:** (only applies to applicable requirements which do not specify monitoring requirements and the permit must specify periodic monitoring or testing pursuant to 1200-03-09-.02(11)(e)1.(iii)(I)II.)

- (i) The permittee must implement a system to monitor the control system parameters or process operating parameters shown in item 12 utilizing the averaging times shown.
- (ii) The permittee must develop and obtain the approval of the Technical Secretary of an operating plan that includes a description of the parameter(s) to be monitored; an explanation for the selection of the parameter; description and location (if applicable) of monitoring equipment; the range (and the rationale for establishing the range) for each monitored parameter that indicates proper operation and maintenance of the control technology or pollution prevention measure; monitoring frequency; and any necessary data collection/compression procedures.
- (iii) An excursion means a departure from an indicator range established for monitoring by this Title V permit, consistent with any averaging period specified for averaging the results of the monitoring.
- (iv) Operation of each air contaminant source shall be in accordance with the provisions and stipulations set forth in the operating permit, all provisions of TAPCR 1200-03 and 0400-30, and all provisions of the Tennessee Air Quality Act. Some excursions, as defined under TAPCR1200-03-09-.02(11)(b)31 or in the operating permit and which occur during periodic monitoring for compliance assurance, may be excused by the Technical Secretary. This authority is not extended to excursions that demonstrate noncompliance with an applicable emission limitation.
- (v) For continuous monitoring systems, the following shall apply;
 - (I) The monitoring system shall measure data values at least once every 15 minutes.
 - (II) The owner or operator shall record either:
 - (A) Each measured value; or
 - (B) At least one measured value every 15 minutes; or
 - (C) Block average values for 15-minute or shorter periods calculated from all measured data values during each period or at least one measured data value per minute if measured more frequently than once per minute.
 - (III) Except as noted in Item 12(d)(2)(vi) (data requirements for valid one-hour averages), for a given averaging period, a valid average must include at least 75% percent of the measured values within the averaging period.
- (vi) Where the permit requires 24-hour block averages of each continuously monitored parameter, the 24-hour block average shall be calculated from midnight of each day to midnight of the following day, unless a different averaging period is specified in the approved operating plan. The 24-hour block average shall be calculated as either the average of all values for a monitored parameter recorded under (d)(2)(vi)(ii) above during the 24-hour period or as the average of all valid one-hour averages for a monitored parameter recorded during the 24-hour period. If one-hour averages are used, they shall be calculated from four or more equally spaced data averages over each one-hour period, except during periods of monitoring system breakdown, monitoring system repairs, and periods of non-operation of the source. During these periods, a valid one-hour average shall consist of at least two 15-minute averages.
- (vii) Data recorded during periods of monitoring system breakdown, monitoring system repairs, and periods of non-operation of the source shall not be included in the data averages. Records of the times and durations of all such periods and any other periods during process or control device operation when monitors are not operating shall be retained at the source location and kept available for inspection by the Technical Secretary or authorized representative.
- (viii) It shall also be acceptable to demonstrate that the monitored parameter is within the range stated in the

operating plan for an applicable averaging period by retaining records of all valid measured values obtained during the averaging period where each valid measured value is within the range. For example, when a 24-hour block average is required, compliance may be assured by showing that all valid measurements taken at 15-minute intervals during a 24-hour period are within the applicable range as stated in the operating plan for the parameter. In these cases, it is not mandatory that an average be calculated

(ix) Pursuant to TAPCR 1200-03-10-.04(2)(a)2, monitoring methods must have at least a 95% operational availability during each semiannual reporting period. Missing data in excess of these levels shall be grounds for enforcement action. Each operational availability of less than 100%, and each missing or invalid averaging period, must be identified in the semiannual report required by Condition E2-1 of this permit.

(3) **Tank Monitoring:** The permittee must develop and obtain the approval of the Technical Secretary of an Operating Plan for demonstrating compliance with annual emission limits for a group of storage/process vessels. Table Notes from "Parametric Monitoring" above also apply to Operating Plans that employ continuous parametric monitoring systems (CPMS) for tanks. Tanks that have potential VOC emissions less than five tons per year qualify for meeting the monitoring and related recordkeeping and reporting requirements of subpart 1200-03-09-.02(11)(e)1.(iii) and the compliance requirements of subpart 1200-03-09-.02(11)(e)3.(i) by certification of compliance pursuant to part 1200-03-09-.04(5)(c).

(e) General Requirements for Quarterly, Semiannual, and Annual Periodic Monitoring

Except as specifically indicated otherwise within this permit (or by an applicable requirement referenced within this permit), the following requirements shall apply to periodic monitoring, recordkeeping, or testing.

- (1) Quarterly monitoring shall be completed at least once during each calendar quarter (January 1 through March 31 of each calendar year, April 1 through June 30 of each calendar year, July 1 through September 30 of each calendar year, and October 1 through December 31 of each calendar year).
- (2) Semiannual monitoring shall be completed at least once during each semiannual period corresponding to the semiannual reporting periods specified in Condition E2-1(a) of this permit.
- (3) Annual monitoring shall be completed at least once per each 12-month period corresponding to the annual reporting period specified in Condition E2-1(b) of this permit.
- (4) Periodic monitoring may be delayed for equipment that is out of service for an extended period, as follows:
 - (i) For quarterly periodic monitoring, if equipment is out of service for at least 45 consecutive days during the calendar quarter, periodic monitoring must be completed within 90 operating days of the previous monitoring event.
 - (ii) For semiannual periodic monitoring, if equipment is out of service for at least 90 consecutive days during the calendar semiannual period, periodic monitoring must be completed within 180 operating days of the previous monitoring event.
 - (iii) For annual periodic monitoring, if equipment is out of service for at least 180 consecutive days during the calendar year, periodic monitoring must be completed within 365 operating days of the previous monitoring event.

(f) Recordkeeping: Data Entry Requirements

- (1) For daily recordkeeping, all data, including results of all calculations, must be entered into the log no later than 14 days from the end of the day for which the data is required.
- (2) For weekly recordkeeping, all data, including results of all calculations, must be entered into the log no later than 14 days from the end of the week for which the data is required.

- (3) For all other recordkeeping, all data, including results of all calculations, must be entered into the log no later than 30 days from the date for which the data is required.

END OF PERMIT NUMBER 582964

ATTACHMENT 1

**OPACITY MATRIX DECISION TREE for
VISIBLE EMISSION EVALUATION METHOD 9
dated SEPTEMBER 11, 2013**

Decision Tree PM for Opacity for Sources Utilizing EPA Method 9*

Notes:

PM = Periodic Monitoring required by 1200-03-09-.02(11)(e)(iii).

This Decision Tree outlines the criteria by which major sources can meet the periodic monitoring and testing requirements of Title V for demonstrating compliance with the visible emission standards set forth in the permit. It is not intended to determine compliance requirements for EPA's Compliance Assurance Monitoring (CAM) Rule (formerly referred to as Enhanced Monitoring – Proposed 40 CFR 64).

Examine each emission unit using this Decision Tree to determine the PM required.*

Use of continuous emission monitoring systems eliminates the need to do any additional periodic monitoring.

Visible Emission Evaluations (VEEs) are to be conducted utilizing EPA Method 9. The observer must be properly certified to conduct valid evaluations.

Typical Pollutants

Particulates, VOC, CO, SO₂, NO_x, HCl, HF, HBr, Ammonia, and Methane.

Initial observations are to be repeated within 90 days of startup of a modified source, if a new construction permit is issued for modification of the source.

A VEE conducted by TAPCD personnel after the Title V permit is issued will also constitute an initial reading.

Reader Error

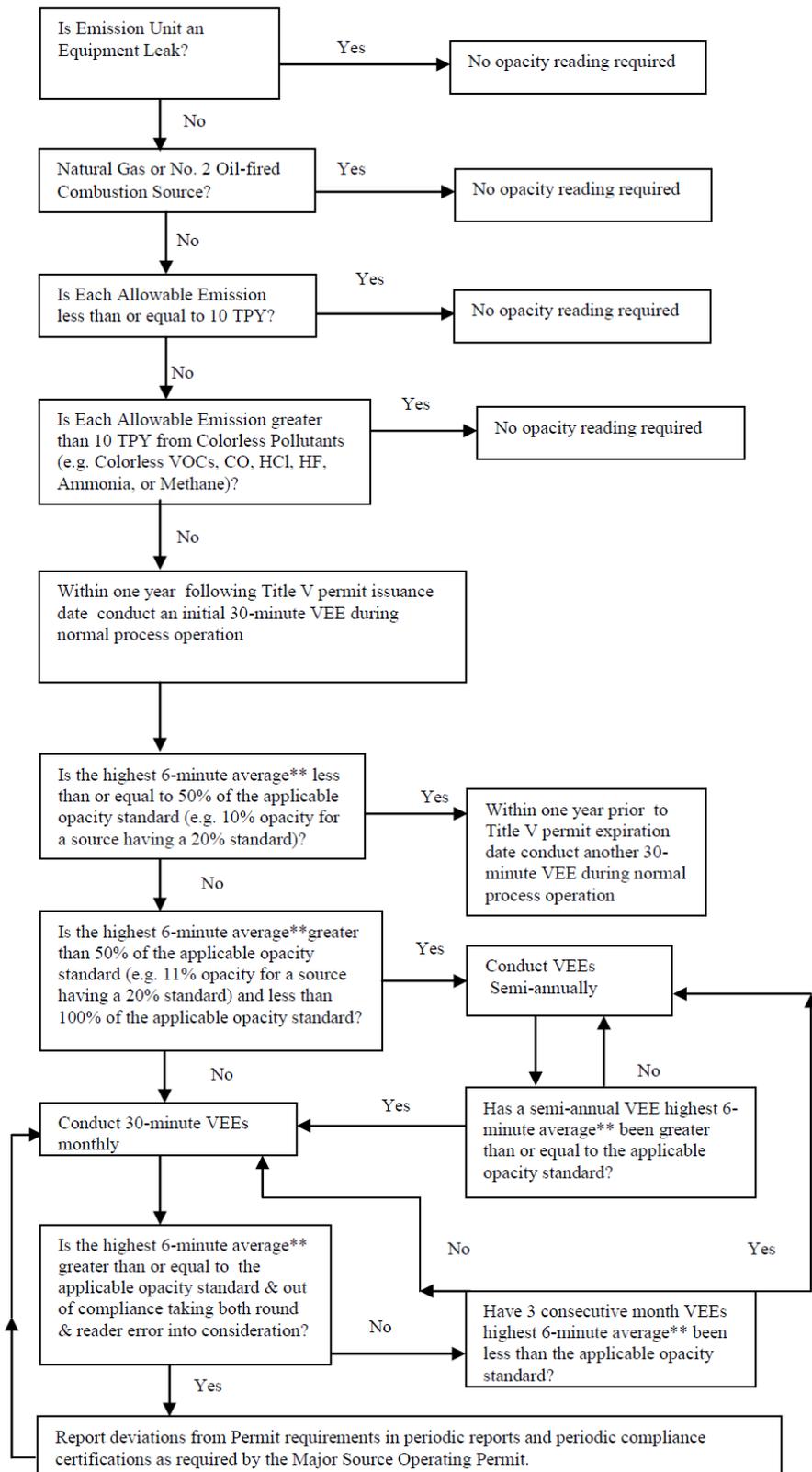
EPA Method 9, Non-NSPS or NESHAPS stipulated opacity standards: The TAPCD guidance is to declare non-compliance when the highest six-minute average** exceeds the standard plus 6.8% opacity (e.g. 26.8% for a 20% standard).

EPA Method 9, NSPS or NESHAPS stipulate opacity standards: EPA guidance is to allow only engineering round. No allowance for reader error is given.

*Not applicable to Asbestos manufacturing subject to 40 CFR 61.142

**Or second highest six-minute average, if the source has an exemption period stipulated in either the regulations or in the permit.

Dated June 18, 1996
Amended September 11, 2013



ATTACHMENT 2

**SPECIFIC APPLICABILITY DETERMINATIONS
FOR 40 CFR 60 (NSPS) AND 40 CFR 63 (MACT)
TO MSOP-19**

40 CFR Part 60			
Specific Applicability Determinations for MSOP-19			
PES	Identification	Category	Rule Citation
Subpart Kb – Storage Vessels			
B-545-1	Storage Tanks TA-D-110, TA-D-220, TA-D-230 (Vent C)	Each storage vessel with a capacity greater than or equal to 75 cubic meters (m ³) that is used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984 and for which compliance is demonstrated through compliance with 40 CFR 63 Subpart G (HON) or 40 CFR 63 Subpart FFFF (MON).	Applicability: §60.110b(a) See following tables for HON and/or MON Overlap Provisions
Subpart VVa – Equipment Leaks			
B-545-1	TMCD Acetic Acid Process Unit (Applicable portion of Flow Diagram Point D in VOC service)	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.	Applicability: §60.480a(a), (b), (c)(2), and (f) Standards: N/A Test Methods and Procedures: §60.485a(d), (e), (f) Recordkeeping Requirements: §60.486a(i) and (j) Reporting Requirements: N/A
	TMCD Acetic Acid Process Unit (Applicable portion of Flow Diagram Point D in acetic acid and/or acetic anhydride service)	Alternative monitoring for equipment in acetic acid and/or acetic anhydride service (letter from Carol Kemker, EPA Region 4 to Barry Stephens, TDAPC, July 1, 2010). See Operating Plan in the Title V application dated November 18, 2024, pp 69-70, for a copy of the plan.	N/A
Subpart NNN - Distillation			
B-545-1	KA Vacuum System affected facility* (Triangle F) VA Vacuum System affected facility** – Triangle M Column DE-01 – Triangle O Column EC-01 – Triangle H Column ED-02 – Triangle N Column EE-01 – Triangle G	Sources Subject to Overlap Provisions Each affected facility that is part of a process unit that produces any of the chemicals listed in §60.667 as a product, co-product, byproduct, or intermediate, for which construction, modification, or reconstruction commenced after December 30, 1983, and for which compliance is demonstrated through compliance with 40 CFR 63 Subpart G or 40 CFR 63 Subpart FFFF.	Applicability: §60.660(a) and (b) See following tables for HON and/or MON Overlap Provisions
Subpart RRR – Reactors			
B-545-1	KA Vacuum System affected facility* (Triangle F)	Sources Subject to Overlap Provisions 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, byproduct, or intermediate, for which construction, modification, or reconstruction commenced after June 29, 1990, and for which compliance is demonstrated through compliance with 40 CFR 63 Subpart G or 40 CFR 63 Subpart FFFF.	Applicability: §60.700(a) and (b) See following tables for HON and/or MON Overlap Provisions

* The KA vacuum system includes reactive distillation columns AA-01 and BA-01 and non-reactive distillation column BB-01.

** VA vacuum system includes distillation columns ED-01 and GA-01.

40 CFR Part 63 Subpart FFFF Specific Applicability Determinations for MSOP-19				
PES	MON MCPU(s)	Identification	Category	Rule Citation
What This Subpart Covers				
B-545-1	All MCPU's	Affected Source	Purpose of this subpart	§63.2430
			Applicability	§63.2435
			Definition of affected source	§§63.2440(a) and (b)
Emission Limits, Work Practice Standards, and Compliance Requirements: General Requirements				
B-545-1	All MCPU's	Affected Source	Sources subject to any emission limits and work practice standards 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)	§63.2450(a)(2), except as specified in (b) through (v)
B-545-1	All MCPU's	Affected Source	Subpart G and Subpart SS referenced exclusions of monitoring data collected during periods of SSM from daily averages do not apply	§63.2450(l)
B-545-1	All MCPU's	Affected Source	General duty to, at all times, operate and maintain any affected source, including associated air pollution control (APC) and monitoring equipment, in a manner consistent with safety and good APC practices for minimizing emissions. This general duty does not require any further efforts to reduce emissions beyond required standards.	§63.2450(u)
B-545-1	All MCPUs	Applicable maintenance vents in all MCPUs	Process vent that is only used during startup, shutdown, maintenance, or inspection of equipment where equipment is emptied, depressurized, degassed, or placed into service.	§63.2450(v)
B-545-1	TMCD MCPU	Vapor Incinerator Inlet	Combined Emission Stream	§63.2450(c)
B-545-1	TMCD MCPU	Triangles F and G, H, M, N, O Tank TA-D-140 Tank TA-D-150 Tank TA-D-110 Tank TA-D-220 Tank TA-D-230	Emission stream using a performance test for compliance demonstrations	§63.2450(g) Subpart SS §63.997, §63.998(a)(2), §63.999(a)(1)(iv), (a)(2)(i), (ii), and (iii)(B)

40 CFR Part 63 Subpart FFFF Specific Applicability Determinations for MSOP-19				
PES	MON MCPU(s)	Identification	Category	Rule Citation
B-545-1	TMCD MCPU	TA-D-140 – Vent C TA-D-150 – Vent C	Surge control vessel or bottoms receiver that... <ul style="list-style-type: none"> Meets the capacity and vapor pressure thresholds for a Group 1 storage tank, and Demonstrates compliance via a performance test, and Reduces emissions by venting emissions through a closed vent system to an incinerator. 	§63.2450(r) §63.2450(c)(1) and (4), (i)(3), (k)(1)(ii), (2), (7), (8) §63.2470(a), (c), (d), (f) Table 4: Item 1(a)(i) Subpart SS §63.982(c)(1), §63.985(a) and (b)(1)(ii), §63.988(a), (b), and (c)(1), §63.996(a)(1), (b), and (c)
B-545-1	TMCD MCPU	ED-57A – Vent C ED-57B – Vent C TA-D-130 – Vent C	Surge control vessel or bottoms receiver that does not meet the capacity and vapor pressure thresholds for a Group 1 storage tank	§63.2450(r)
B-545-1	TMCD MCPU	Vapor Incinerator Inlet	Closed vent system with a bypass line(s)	§63.2450(e)(6) Subpart SS §63.983(a) through (d), §63.998(d)(1), §63.999(c)(2)
Compliance Dates				
B-545-1	TMCD MCPU	Entire MCPU	Existing Affected Source	§63.2455(b), (g)
Emission Limits, Work Practice Standards, and Compliance Requirements: Process Vents				
B-545-1	TMCD MCPU	Triangles F, G, M, N, and O	Continuous process vent that is... <ul style="list-style-type: none"> Designated Group 1, and Reduces HAP emissions by ≥98 wt% or to an outlet concentration of ≤20 ppmv (as HAP or TOC) by venting emissions to an incinerator, and Uses a performance test to demonstrate compliance. Note: General performance test requirements are captured in other sections of this table, and <ul style="list-style-type: none"> Not in ethylene oxide service. 	§63.2450(e)(1) and (4), (i)(3), (k)(1)(ii), (2), (7), (8) §63.2455(a), (b) Table 1: Item 1(a)(i) Subpart SS §63.982(c)(2), §63.988(a), (b), and (c)(1), §63.996(a)(1), (b), and (c), §63.998(b), (c)(1) and (2), and (d)(5), §63.999(b)(3), (c)(1) and (6)

40 CFR Part 63 Subpart FFFF Specific Applicability Determinations for MSOP-19				
PES	MON MCPU(s)	Identification	Category	Rule Citation
Emission Limits, Work Practice Standards, and Compliance Requirements: Storage Tanks				
B-545-1	TMCD MCPU	Tank TA-D-110 – Vent C Tank TA-D-220 – Vent C Tank TA-D-230 – Vent C	Storage tank that is... • Group 1, and • Has a maximum true vapor pressure of total HAP at the storage temperature > 76.6 kPa (11.1 psi), and • Reduces emissions by venting emissions through a closed vent system to an incinerator, and • Uses a performance test to demonstrate compliance. Note: General performance test requirements are captured in other sections of this table.	§63.2450(e)(1) and (4), (i)(3), (k)(1)(ii), (2), (7), and (8) §63.2470(a), (c), (d), (f) Table 4: Item 1(a)(i) Subpart SS §63.982(c)(1), §63.985(a) and (b)(1)(ii), §63.988(a), (b), and (c)(1), §63.996(a)(1), (b), and (c), §63.998(b), (c)(1) and (2), (d)(2)(ii) and (5), §63.999(b)(3), (c)(1), (4), and (6)
B-545-1	TMCD MCPU	TA-D-50 – Vent C ED-70A – Vent C ED-70B – Vent C	Storage tank that is... • At an existing source, and • Group 2.	See general recordkeeping citations
Emission Limits, Work Practice Standards, and Compliance Requirements: Transfer Racks				
B-545-1	TMCD MCPU	Waste Trailer Loading	Group 1 transfer rack that uses a vapor balancing system to demonstrate compliance	§63.2475(a), (b) Table 5: Item 1(d)
Emission Limits, Work Practice Standards, and Compliance Requirements: Equipment Leaks				
B-545-1	TMCD MCPU	Applicable portions of Flow Diagram Point D in organic HAP service	Equipment that is... • In organic HAP service and a part of any MCPU • At an existing source • Not a pressure relief device in gas/vapor service • Complies with the requirements of 40 CFR 63 Subpart H, except as specified in §63.2480(b), (d), and (f)	§63.2480(a), (b), (d), and (f) Table 6: Item 1(a)(ii)
B-545-1	TMCD MCPU	Pressure relief devices as identified in the latest Notification of Compliance Status Report	Pressure relief devices that are... • In organic HAP service and a part of any MCPU • Not routed to a control device, process, fuel gas system, or drain system	Gas/Vapor Service Only §63.2480(e)(1), and (2) All Pressure Relief Devices §63.2480(e)(3), (6), and (7)

40 CFR Part 63 Subpart FFFF Specific Applicability Determinations for MSOP-19				
PES	MON MCPU(s)	Identification	Category	Rule Citation
Emission Limits, Work Practice Standards, and Compliance Requirements: Wastewater Streams and Liquid Streams in Open Systems				
B-545-1	TMCD MCPU	Hexagons WA, WB, WC, WE, and WF	Group 2 wastewater stream	§63.2585(a), (b), (c), and (j) Table 7: Item 1
B-545-1	TMCD MCPU	Applicable maintenance wastewater streams in the TMCD MCPU	Maintenance wastewater streams	§63.2485(a), (b), and q(1) Table 7: Item 2
B-545-1	All MCPUs	Affected Source	Liquid or solid organic materials discarded from an MCPU to water or wastewater, except materials from equipment leaks, activities included in maintenance or SSM plans, spills, or samples of a size necessary for the method of analysis	§63.2485(a), (m), (q)(3) Table 7: Item 1
Emission Limits, Work Practice Standards, and Compliance Requirements: Heat Exchange Systems				
B-545-1	TMCD MCPU	Applicable heat exchange systems in the TMCD MCPU	Heat exchange systems in organic HAP service within any MCPU that have a flow rate greater than 10 gpm, and do not meet the criteria in either §63.104(a)(1), (2), (5), or (6)	§63.2490(a), (d)
Alternative Means of Compliance: Overlap Provisions				
B-545-1	TMCD MCPU	TA-D-110 – Vent C TA-D-220 – Vent C TA-D-230 – Vent C	Storage tank assigned to an MCPU, subject to control under 40 CFR 60 Subpart Kb or 40 CFR 61 Subpart Y, and uses the requirements for Group 1 storage tanks under MON to demonstrate compliance with Subpart Kb or Subpart Y	§63.2535(c)
B-545-1	TMCD MCPU	KA Vacuum System Affected Facility ¹ – Triangle F VA Vacuum System Affected Facility ² – Triangle M Column DE-01 – Triangle O Column EC-01 – Triangle H Column ED-02 – Triangle N Column EE-01 – Triangle G	MON process vent that demonstrates compliance with 40 CFR Part 60 Subpart DDD, III, NNN, or RRR through compliance with MON, considering all TOC (minus methane and ethane) as HAP	§63.2535(h)
Notifications, Reports, and Records				
B-545-1	All MCPU's	MON subject points as applicable	Notifications	§63.2445(c), §63.2515
		MON subject points as applicable	Reporting	§63.2450(m), §63.2520
		MON subject points as applicable	Recordkeeping	§63.2525
Other Requirements and Information				
B-545-1	All MCPU's	MON subject points as applicable	General Provisions applicability	§63.2540, Table 12

40 CFR Part 63 Subpart FFFF Specific Applicability Determinations for MSOP-19				
PES	MON MCPU(s)	Identification	Category	Rule Citation
			Implementation and enforcement	§63.2545
			Definitions	§63.2550

¹KA vacuum system includes reactive distillation columns AA-01 and BA-01 and non-reactive distillation column BB-01.

²VA vacuum system includes distillation columns ED-01 and GA-01.

40 CFR 63 Subpart DDDDD Specific Applicability Determinations for MSOP-19			
PES	Identification	Category	Rule Citation
What This Subpart Covers			
B-545-1	Affected Source	Purpose of the subpart	§63.7480
B-545-1	Affected Source	Applicability	§63.7485
B-545-1	FA-F-01 – Vent B	Existing Source: Collection of all existing industrial, commercial, and institutional boilers and process heaters at the facility	§63.7490(a)(1), (d) §63.7495(b)
B-545-1	FB-F-01 – Vent Q	New Source: Each industrial, commercial, or institutional boiler or process heater at the facility that was constructed or reconstructed after June 4, 2010	§63.7490(a)(2), (b), (c) §63.7495(a)
General Compliance Requirements			
B-545-1	Affected Source	General compliance requirement for all units	§63.7505(a)
Compliance Requirements			
B-545-1	FA-F-01 – Vent B	Each existing unit that uses an oxygen trim system to reduce tune-up frequency to once every 5 years	Emission Limitations and Work Practice Standards: §63.7500(a)(1), (a)(3), (f) Testing, Fuel Analysis, and Initial Compliance Requirements: §63.7510(e); §63.7515(d); §63.7530(e), (f); Table 3 Continuous Compliance Requirements: §63.7540(a)(10)(i) through (vi), (a)(12), (a)(13)
B-545-1	FB-F-01 – Vent Q	Each new or reconstructed unit that uses an oxygen trim system to reduce tune-up frequency to once every 5 years	Emission Limitations and Work Practice Standards: §63.7499(l), (m), or (u); §63.7500(a)(1), (a)(3), (f) Testing, Fuel Analysis, and Initial Compliance Requirements: §63.7510(g); §63.7515(d); Table 3 Continuous Compliance Requirements: §63.7540(a)(10)(i) through (vi), (a)(12), (a)(13)
Notification, Reports, and Records			
B-545-1	Affected Source, as applicable	Notifications	§63.7495(d), §63.7545
	Affected Source, as applicable	Reports	§63.7550
	Affected Source, as applicable	Records	§63.7555, §63.7560
Other Requirements and Information			
B-545-1	Affected Source, as applicable	General Provisions Applicably	§63.7565, Table 10
	Affected Source	Implementation and Enforcement	§63.7570

40 CFR 63 Subpart DDDDD Specific Applicability Determinations for MSOP-19			
PES	Identification	Category	Rule Citation
B-545-1	Affected source	Definitions	§63.7575

ATTACHMENT 3

APC 36 TITLE V FEE SELECTION FORM



DEPARTMENT OF ENVIRONMENT AND CONSERVATION
 DIVISION OF AIR POLLUTION CONTROL
 Davy Crockett Tower
 500 James Robertson Parkway, 7th Floor, Nashville, TN 37243
 Telephone: (615) 532-0554, Email: Air.Pollution.Control@TN.gov

APC 36

TITLE V FEE SELECTION

Type or print and submit to the email address above.

FACILITY INFORMATION

1. Organization's legal name and SOS control number [as registered with the TN Secretary of State (SOS)]	
2. Site name (if different from legal name)	
3. Site address (St./Rd./Hwy.)	County name
City	Zip code
4. Emission source reference number	5. Title V permit number

FEE SELECTION

This fee selection is effective beginning January 1, _____. When approved, this selection will be effective until a new Fee Selection form is submitted. Fee Selection forms must be submitted on or before December 31 of the annual accounting period.

6. Payment Schedule (choose one):

Calendar Year Basis (January 1 – December 31)

Fiscal Year Basis (July 1 – June 30)

7. Payment Basis (choose one):

Actual Emissions Basis Allowable Emissions Basis Combination of Actual and Allowable Emissions Basis

8. If Payment Basis is "Actual Emissions" or "Combination of Actual and Allowable Emissions", complete the following table for each permitted source and each pollutant for which fees are due for that source. See instructions for further details.

Source ID	Pollutant	Allowable or Actual Emissions	If allowable emissions: Specify condition number and limit.
			If actual emissions: Describe calculation method and provide example. Provide condition number that specifies method, if applicable.

ATTACHMENT 4

**Particulates and Sulfur Dioxide Agreement Letter,
PSD Avoidance Agreement**

Mutual Agreement to Establish More Restrictive Emissions Limits

TAPCR References	Rule Section
1200-03-05-.01(3)	General Visible Emission Standards
1200-03-06-.01(7)	General Non-Process Emissions Standards
1200-03-07-.01(5)	General Process Particulate Emissions Standards
1200-03-14-.01(5)	General Provisions for Control of Sulfur Dioxide Emissions
1200-03-26-.02(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-545-1	PM	Limits and periodic monitoring specified in the applicable Title V applications
B-545-1	SO ₂	

Page number: 17 of 20	Revision Number: R4-0 Renewal	Date of Revision: November 18, 2024
--------------------------	----------------------------------	---



PSD AVOIDANCE AGREEMENT

1. COMPANY NAME Eastman Chemical Company, Tennessee Operations		
2. MAILING ADDRESS Eastman Chemical Company, Tennessee Operations 200 South Wilcox Drive Kingsport, TN 37660 Telephone: (423) 229-2000		
3. PRINCIPAL TECHNICAL CONTACT See APC 1 Form		PHONE WITH AREA CODE See APC 1 Form
4. SITE ADDRESS (If different from #2 above) N/A		
5. BRIEF DESCRIPTION OF EMISSION SOURCE PES B-545-1; Co-polyester Monomer Manufacturing		
6. PSD AVOIDANCE AGREEMENT Pursuant to Rule 1200-03-09-.01(4) of the Tennessee Air Pollution Control Regulations (Prevention of Significant Deterioration of Air Quality), any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation, or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is legally enforceable. "Legally enforceable" means all limitations and conditions which are enforceable by the Technical Secretary of the Tennessee Air Pollution Control Board and the EPA Administrator, including those under Chapter 1200-03 (Rules of the Tennessee Department of Health Environment and Conservation, Division of Air Pollution Control), the State Implementation Plan, and any permit requirements established pursuant to Rule 1200-03-09-.01 (Construction Permits) of the Tennessee Air Pollution Control Regulations. By completing and signing this form, the Responsible Official agrees to be bound by these provisions.		
POLLUTANT *	REQUESTED LIMIT	DESCRIBE THE COMPLIANCE METHOD(S) THAT WILL BE USED TO MEET THE REQUESTED LIMIT. ATTACH ADDITIONAL SHEETS AND SUPPORTING DOCUMENTATION AS NECESSARY.
VOC	Entire Source 4.36 tons/yr	Parametric Monitoring: Daily average vapor incinerator fire box temperature. See Operating Plan in the Title V application dated November 18, 2024, PES B-545-1, page 12. Recordkeeping: 12-month moving total monomer production and 12-month moving total heat input to vapor incinerator from natural gas. See Operating Plan in the Title V application dated November 18, 2024, PES B-545-1, page 13. Recordkeeping: 12-month moving total hours of vapor incinerator bypass due to planned routine maintenance. See Operating Plan in the Title V application dated November 18, 2024, PES B-545-1, page 17.
8. CERTIFICATION: BY SIGNING THIS FORM, THE PERMITEE CERTIFIES THAT THEY WILL COMPLY WITH THE LIMITS REQUESTED ABOVE.		
9. SIGNATURE See APC Index Form Statement of Completeness		DATE See APC Index Form Statement of Completeness
10. SIGNER'S NAME (TYPE OR PRINT) See APC Index Form Statement of Completeness	TITLE See APC Index Form Statement of Completeness	PHONE WITH AREA CODE See APC Index Form Statement of Completeness

* USE A SEPARATE FORM FOR EACH POLLUTANT

Page number: 18 of 20	Revision Number: R4-0 Renewal	Date of Revision: November 18, 2024
--------------------------	----------------------------------	---

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 1 pages and they are numbered from page 1 to 1. 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.

¹See Table of Contents for page counts and numbering.

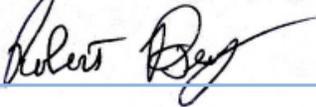
Name and Title of Responsible Official

Robert Bewley – Chemicals and Fibers Division Manufacturing Leader

Telephone Number with Area Code

(423) 229 - 1430

Signature of Responsible Official



Date of Application ~~Signature~~

11/14/2024

(For definition of responsible official, see instructions for APC Form 1)

Page Number:
4 of 20

Revision Number:
R4-0 Renewal

Date of Revision:
November 18, 2024