TENTATIVE AGENDA
STATE OF TENNESSEE
REGULAR MEETING
AIR POLLUTION CONTROL BOARD
Davy Crockett Tower, First Floor
Conference Room 1-A
500 James Robertson Parkway
Nashville, TN 37243-0582
In Person and
Remote Access Via TEAMS

Wednesday, January 14, 2026
9:30 AM

******Public Comments**: If you wish to speak on topic(s) shown here, please print your name on the Sign-In Sheet provided at the guest table or type your name into the Webex chat box. You will be recognized for comments or questions. **********

	Item	**Presenter**	**Page**
1.	Elect Vice-Chairman for 2026		
2.	Roll Call		
3.	Approval of November 12, 2025, Board Meeting Minutes		3
4.	Conflicts of Interest – APC Board Manual 2026 **Comments from the Public or Online Participants**	Grant Ruhl	10
5.	Limited Maintenance Plan, Knoxville, Tennessee Maintenance Area, 2006 24-Hour PM2.5 BO# 26-001 **Comments from the Public or Online Participants**	Hannah Nodell	65
6.	Amendment to the Redesignation Request and 10 Year Maintenance Plan for Sullivan County for the 2010 SO_2 NAAQS Amendment BO# 26-002 **Comments from the Public or Online Participants**	Travis Blake	82

The meeting will be held in compliance with Tennessee Code Annotated Section 8-44-108, as amended by Chapter 490 of the 1999 Public Acts of the Tennessee General Assembly. The meeting will be conducted permitting participation by electronic or other means of communication. Consequently, some members of the Tennessee Air Pollution Control Board are allowed to and may participate by electronic or other means of communication and may not be physically present at the announced location of the meeting.

This agenda is subject to change. For the latest board agenda, please contact: Donna F. Brown (615) 981-3436 or donna.f.brown@tn.gov (Email is preferred for prompt reply)

Air Pollution Control Board
of the
State of Tennessee
Regular Meeting

On Wednesday, November 12, 2025, at 9:31 AM, the Air Pollution Control Board of the State of Tennessee, (hereinafter, referred to as the "Board"), began its meeting on the 1st Floor of the Davy Crockett Tower, Conference Room 1-A. The following Board members were physically present.

Ms. Tara Pedraza
Dr. John Benitez
Dr. Kyle Etheridge
Mr. Mike Haverstick
Dr. Shawn Hawkins
Mayor Ken Moore
Ms. Amy Spann
Mr. Nicholas Ramos
Mayor Larry Waters
Mr. Jimmy West

The following Board member joined the meeting via Microsoft Teams:
Dr. Joshua Fu
Ms. Caitlin Roberts
Mr. Stephen Moore

The following Board members were absent:
Dr. Chunrong Jia

Since the Chairman, David Salyers, P.E., could not attend the meeting, Ms. Michelle Owenby, Director, Division of Air Pollution Control, represented the Chairman by proxy, and served as Technical Secretary.

Ms. Michelle Owenby, Technical Secretary, welcomed Board members and those attending via Microsoft Teams.

The Vice-Chairman, Mayor Larry Waters, called the meeting to order and asked for a roll call and the response was as follows:

Ms. Pedraza	Present	Dr. Benitez	Present
Mr. Etheridge	Present	Dr. Fu	Present
Mr. Haverstick	Present	Dr. Hawkins	Present
Ms. Roberts	Present	Dr. Jia	Absent
Mayor Moore	Present	Mr. Moore	Present
Ms. Spann	Present	Mr. Ramos	Present
Mayor Waters	Present	Mr. Jimmy West	Present

Ten (10) Board members were present, three (3) participated via Microsoft Teams and one (1) was absent.

The next item on the agenda was the approval of the minutes from the October 08, 2025, Board meeting. The Vice-Chairman requested a motion to approve the minutes. Dr. Benitez made a motion to correct the APC24-0247 vote. Dr. Benitez - YES, Mr. Etheridge - ABSENT, Ms. Spann - ABSENT, Dr. Hawkins - ABSENT, Mayor Moore - YES, and Mayor Moore seconded the motion. The Vice-Chairman asked if there were any additional corrections to the minutes. Hearing none, the Vice-Chairman asked for a roll call to approve the corrections of the October 08, 2025 minutes and the response was as follows:

Ms. Pedraza	Yes	Dr. Benitez	Yes
Dr. Etheridge	Yes	Dr. Fu	Yes
Mr. Haverstick	Yes	Dr. Hawkins	Yes
Ms. Roberts	Yes	Dr. Jia	Absent
Mayor Moore	Yes	Mr. Moore	Yes
Ms. Spann	Yes	Mr. Ramos	Yes
Mayor Waters	Yes	Mr. Jimmy West	Yes

The motion carried with Thirteen (13) affirmative votes; the minutes with corrections were approved as presented.

The Vice-Chairman called on Mr. Marc Corrigan, Environmental Consultant to present the Shelby County Second 10-Year Maintenance Plan for the 2008 8-hour Ozone NAAQS; Board Order number 25-014.

Board Order 25-014 regarded a non-regulatory amendment to the Shelby County portion of the State Implementation Plan, specifically a second 10-year Maintenance Plan for the 2008 8-hour Ozone NAAQS. This maintenance plan was developed in compliance with Section 175A of the Clean Air Act which requires states to submit a second 10-year maintenance plan 8 years after redesignation of an area to maintenance.

This second 10-year maintenance plan demonstrates Shelby County will continue to maintain the 8-hour Ozone NAAQS through the remainder of the twenty-year maintenance period. This maintenance plan is only for the Shelby County portion of the Memphis Tennessee, Mississippi, Arkansas 2008 8-hour Ozone maintenance area and was developed by the Shelby County Health Department's Pollution Control Section.

Mr. Corrigan invited Mr. Christopher Boyd from the Shelby County Health Department's Pollution Control Section to the podium to provide an overview of the maintenance plan and answer any questions the Board might have.

Mr. Boyd presented in accordance with Sections 107(d)(3)(E) and 175A, how the following sections demonstrate maintenance of the 2008 8-hour Ozone NAAQS throughout the maintenance period. This plan sets forth measures to be conducted throughout the maintenance period to prevent deterioration of the area's air quality. The Department has developed this plan to demonstrate maintenance of the Ozone NAAQS through 2036. The plan contains commitments to continue existing programs and to implement new programs should the area violate the 2008 8-hour Ozone NAAQS. These would be implemented contingent upon a review of the emission inventory and air quality monitoring results. The provisions of this plan assure both an ongoing effort to maintain the NAAQS and the obligation to implement new measures in the event of unforeseen developments.

Mr. Michael Goldstein, Meteorologist Manager, oversees the Air Monitoring data, validation, and forecasting programs. He spoke with the Board regarding current air quality as it relates to the 2015 Ozone NAAQS. He stated the Health Department is working not only internally but with Mississippi, Arkansas and local MPOs to find solutions and put new programs forward to reduce emissions, especially mobile sources.

Several campaigns are being implemented to reduce these numbers.

The Vice-Chairman requested a motion to approve the Shelby County Second 10-Year Maintenance Plan for the 2008 8-hour Ozone NAAQS, Board Order number 25-014. Mr. Etheridge made a motion to approve the Board Order and Mayor Moore seconded the motion. The Vice-Chairman asked for a roll call and the response was as follows:

Ms. Pedraza	Yes	Dr. Benitez	Yes
Dr. Etheridge	Yes	Dr. Fu	Yes
Mr. Haverstick	Yes	Dr. Hawkins	Yes
Ms. Roberts	Yes	Dr. Jia	Absent
Mayor Moore	Yes	Mr. Moore	Yes
Ms. Spann	Yes	Mr. Ramos	Yes
Mayor Waters	Yes	Mr. Jimmy West	Yes

The motion carried with Thirteen (13) affirmative votes; Board Order number 25-014 approved as presented. The Vice-Chairman called on Mr. James Johnston, P.E., Deputy Director to present the Charles Blalock & Sons Inc. Title V Fee Variance Board Order number 25-015.

Board Order number 25-015 provides variances under the authority of T.C.A. 68-201-118 to reduce the base fee for three facilities that operate air curtain incinerators from $15,000 to $3,000 for Title V fees which are due in 2026.

The Vice-Chairman requested a motion to approve the Charles Blalock & Sons Inc. Title V Fee Variance Board Order number 25-015. Mr. Etheridge made a motion to approve the Board Order and Mr. Moore seconded the motion. The Vice-Chairman asked for a roll call and the response was as follows:

Ms. Pedraza	Yes	Dr. Benitez	Yes

Dr. Etheridge	Yes	Dr. Fu	Yes
Mr. Haverstick	Yes	Dr. Hawkins	Yes
Ms. Roberts	Yes	Dr. Jia	Absent
Mayor Moore	Yes	Mr. Moore	Yes
Ms. Spann	Yes	Mr. Ramos	Yes
Mayor Waters	Yes	Mr. Jimmy West	Yes

The motion carried with Thirteen (13) affirmative votes; Board Order number 25-015 approved as presented.

Mr. James Johnston, P.E., Deputy Director presented Rice Enterprises, LLC. Title V Fee Variance Board Order number 25-016.

Board Order number 25-016 provides variances under the authority of T.C.A. 68-201-118 to reduce the base fee for three facilities that operate air curtain incinerators from $15,000 to $3,000 for Title V fees which are due in 2026.

The Vice-Chairman requested a motion to approve Rice Enterprises LLC. Title V Fee Variance Board Order number 25-016. Mayor Moore made a motion to approve the Board Order and Mr. Etheridge seconded the motion. The Vice-Chairman asked for a roll call and the response was as follows:

Ms. Pedraza	Yes	Dr. Benitez	Yes
Dr. Etheridge	Yes	Dr. Fu	Yes
Mr. Haverstick	Yes	Dr. Hawkins	Yes
Ms. Roberts	Yes	Dr. Jia	Absent
Mayor Moore	Yes	Mr. Moore	Yes
Ms. Spann	Yes	Mr. Ramos	Yes

Mayor Waters	Yes	Mr. Jimmy West	Yes

The motion carried with Thirteen (13) affirmative votes; Board Order number 25-016 approved as presented.

Mr. James Johnston, P.E., Deputy Director presented Universal Environmental Services, LLC. Title V Fee Variance Board Order number 25-017.

Board Order number 25-017 provides variances under the authority of T.C.A. 68-201-118 to reduce the base fee for three facilities that operate air curtain incinerators from $15,000 to $3,000 for Title V fees which are due in 2026.

The Vice-Chairman requested a motion to approve Universal Environmental Services, LLC. Title V Fee Variance Board Order number 25-017. Mayor Moore made a motion to approve the Board Order and Ms. Spann seconded the motion. The Vice-Chairman asked for a roll call and the response was as follows:

Ms. Pedraza	Yes	Dr. Benitez	Yes
Dr. Etheridge	Yes	Dr. Fu	Yes
Mr. Haverstick	Yes	Dr. Hawkins	Yes
Ms. Roberts	Yes	Dr. Jia	Absent
Mayor Moore	Yes	Mr. Moore	Yes
Ms. Spann	Yes	Mr. Ramos	Yes
Mayor Waters	Yes	Mr. Jimmy West	Yes

The motion carried with Thirteen (13) affirmative votes; Board Order number 25-017 approved as presented.

The Vice-Chairman called on Mr. Mark Reynolds P.E., to present Non-Title V Fee Rulemaking.

Mr. Mark Reynolds, Division of Air Pollution Control, briefed the Board on the Non-Title V fee rule revision. Mr. Reynolds stated that the Division is exploring a rule revision to increase

Non-Title V fees. Current expenses exceed revenue for the Non-Title V program. Mr. Reynolds stated that Non-Title V fees have not changed since 2011. The Division has exhausted all options for decreasing expenses and increasing revenue before exploring a fee increase. Mr. Reynolds reviewed the statutory authority for air quality fees and the current Non-Title V fees. The Division is currently seeking stakeholder input, and the fee increase is still to be determined.

The Vice-Chairman called on Mr. Alvin Pratt, Deputy Director of Environmental Measurements & Compliance Assurance, to present the Compliance Update.

Mr. Pratt discussed the need for changes in the penalty assessment to reduce the growing number of orders and the increasing enforcement workload. Slides containing graphs depicting the enforcement workload growth over the past 5 years, comparisons of average penalties assessed by Region IV states per violation, and Penalty amounts vs. the number of violations across each state in Region IV were shown in support of the need for adjustment to the penalty assessment. Finally, a summary of the penalty assessment changes within the BOE Penalty Assessment guidelines was presented and discussed with the Board. The presentation ended with a slide showing next outreach steps and a question-and-answer session.

There being no further business to discuss before the Board, nor members of the public wishing to address the Board, the meeting was adjourned at 11:13 AM.

_____
(Signed) Michelle Owenby, Technical Secretary
Tennessee Air Pollution Control Board

Approved at Nashville, Tennessee on _____

_____
(Signed) Mayor Larry Waters, Vice-Chairman
Tennessee Air Pollution Control Board

_____
(Signed) David Salyers, Chairman
Tennessee Air Pollution Control Board

TN Department of Environment & Conservation

Air Pollution Control Board

Board Orientation Manual

2026

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Tab 1

Board Description and Members

Board Characteristics

Fourteen members: twelve appointed by the Governor for four-year terms and two ex officio. Tenn. Code Ann. § 68-201-104.

Members include:

- A registered professional engineer with at least five years of experience in the field of air pollution control;
- A licensed physician with experience in health effects of air contaminants;
- A person working in a field directly related to agriculture or conservation;
- A person actively working in the management of and with current full-time employment in a private manufacturing concern and has a college degree and eight years of combined technical training and experience in permit compliance for Title 5 or Non-Title 5 sources for a manufacturing facility permitted in the State of Tennessee;
- A county mayor or chief executive officer of a Tennessee county;
- A person working in municipal government;
- Two persons from Tennessee industry and with current full-time employment with a private manufacturing concern and have a college degree in engineering or equal and eight years of combined technical training and experience in air pollution abatement for either a Title 5 permit holder or a Non-Title 5 permitted source in the State of Tennessee;
- A person involved in the program of an institute of higher learning in the state involved in the conducting of training in air pollution evaluation and control;
- A person representing conservation interests;
- A small generator of air pollution representing automotive interests;
- A person representing environmental interests;
- Commissioners of Environment and Conservation and Economic and Community Development or their designees.

Member	Term Expires	Representation
Dr. John Benitez	08-31-2025	Licensed Physician with experience in health effects of air pollutants
Dr. Chunrong Jia	04-30-2026	Environmental Interests
Nicholas Ramos	04-30-2026	Conservation Interests
Stephen Moore	08-31-2023	Working for Eastman Chemical Company with technical experience
Dr. Shawn A. Hawkins	08-31-2024	Working in field related to Agriculture or Conservation
Kyle Etheridge	08-31-2027	Representative of the Tennessee Industry
The Honorable Ken Moore, City of Franklin	08-31-2025	Working in Municipal Government
Dr. Joshua Fu, Ph.D.	04-30-2026	Involved with Institution of Higher Learning on air pollution evaluation and control
Michael Haverstick	08-31-2026	Working in management in Private Manufacturing
Tara Pedraza	Ex-Officio	Commissioner's Designee, Dept. of Environment and Conservation
Caitlin Roberts	06-30-2022	Small Generator of Air Pollution representing Automotive Interests
Amy Spann, P.E.	08-31-2022	Registered Professional Engineer
The Honorable Larry Waters, Sevier County	08-31-2024	County Mayor
Jimmy West	Ex-Officio	Commissioner's Designee, Dept. of Economic and Community Development

Tab 2

OGC Attorney Points of Contact

OGC PERSONNEL	DESK PHONE	CELL PHONE	EMAIL
CATHERINE ANGLIN	N/A	865-306-0902	Catherine.Anglin@tn.gov
GEORGE BELL	615-741-3842	615-906-6666	George.Bell@tn.gov
PAYTON BRADFORD	N/A	615-981-7480	Payton.Bradford@tn.gov
SAMANTHA BULLER-YOUNG	N/A	865-440-8303	Samantha.Buller-Young@tn.gov
MIRANDA CHRISTY	615-532-0124	615-626-1948	Miranda.C.Montgomery@tn.gov
APRIL DOMINICK	615-253-6367	615-339-0656	April.Dominick@tn.gov
DEBBIE DUREN	865-255-4384	N/A	Debbie.Duren@tn.gov
STEPHANIE DURMAN	N/A	615-571-1413	Stephanie.Durman@tn.gov
WAYNE GREGORY	615-253-5420	615-330-7834	Wayne.Gregory@tn.gov
KAREN HEDDEN	865-403-1690	865-801-0135	Karen.Hedden@tn.gov
JENNY HOWARD	615-532-8685	615-218-8143	Jenny.Howard@tn.gov
AMY ILIA	N/A	615-815-5146	Amy.Ilia@tn.gov
HEATHER IVERSON	N/A	615-879-1444	Heather.K.Iverson@tn.gov
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JAMES MARR	N/A	865-393-6018	James.Marr@tn.gov
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SARA PAGE	615-532-0121	629-867-7156	Sara.Page@tn.gov
PATRICK PARKER	615-532-0129	615-571-9304	Patrick.Parker@tn.gov
LEE POPE	N/A	615-748-0278	Lee.Pope@tn.gov
KIM RIDINGS	615-532-0482	615-917-0315	Kim.Ridings@tn.gov
GRANT RUHL	N/A	629-201-0016	Grant.Ruhl@tn.gov
CRAIG SERGEANT	N/A	615-339-0557	Craig.Sergeant@tn.gov
EMILY VANN	N/A	615-626-2782	Emily.Vann@tn.gov
SHELBY WARD	N/A	865-722-1982	Shelby.Ward@tn.gov
KATIE WATTS	N/A	423-502-0854	Katherine.Watts@tn.gov
JEFF ZENTNER	N/A	615-879-3854	Jeff.Zentner@tn.gov
JONNA LILLY (CONTRACT ADMIN)	N/A	N/A	Jonna.Lilly@tn.gov
EDISON HELP DESK	**615-741-4357**		
TDEC HELP DESK	**615-532-0287**		
STS HELP DESK	**615-741-1001**		
CONFERENCE ROOM 5C	**615-532-5843**	**Polycom N/A**	
ENCLAVE 5.303	**615-253-5337**	**Polycom N/A**	
SECURITY	**615-741-2278**		
VOICEMAIL	**615-741-8999**		

Tab 3

Robert's Rules of Order

ROBERT'S RULES IN SHORT:
A GUIDE TO RUNNING AN EFFECTIVE MEETING

"Where there is no law, but every man does what is right in his own eyes, there is the least of real liberty." Henry M. Robert.

Importance of Rules to an Effective Meeting:

While groups sometimes proceed informally or by consensus, it is generally accepted that deliberative bodies operate much more effectively when they follow known rules of procedure.

In most instances and except as changed by the deliberative body, the rules to be followed are **Robert's Rules of Order** (hereinafter referred to as RR). These rules were first established by General Henry M. Robert in 1876. The latest edition of RR is the 11th edition.

A complete copy of RR runs nearly 700 pages. Even abridged versions, which are quite useful, often run 200 pages. Thus it is clear that this is a very brief summary.

RR defines the role of the Chairman, of members of the body, and establishes rules of procedure. These rules have been crafted and adjusted over the years to assist in effective meetings, and to balance carefully the rights of the majority to act and the rights of the minority to be heard, and in some cases, prevent action.

Robert's Rules of Order | Common Motions

A. Proceed by Motion. The most basic element of RR is that matters come before the body by motion. A board member makes a motion simply by saying "I move that" or "Move adoption of," or "Move referral of," or "move to amend." It is not the form of the motion, but the substance of it which governs.

B. Role of the Chairman. It is the obligation of the Chairman to run an orderly meeting. Members of the board should not to speak until they have been recognized by the Chairman. Except for a limited class of motions, a member may not interrupt another member when they have the floor. The Chairman also rules on any votes and rules on any questions of proper procedure. In the event of a disruption in the meeting, the Chairman may call on the "sergeant at arms" or others to return the meeting to order. Generally, under RR, the Chairman does not participate in debate or vote unless the chair's vote affects the outcome of the motion. Some committees have changed this by rule to always allow the Chairman to vote.

C. Types of Motions. Under RR, motions generally fall into one of four classes. These are:

1. The Main Motion: This is the matter that is before the body at that moment. Nearly all other motions bear some relation to the main motion.

2. Subsidiary Motions: These are a series of motions which propose to do something to or with the main motion. Examples include amendment, referral, laying on the table, calling the question. These motions are all subject to an order of precedence which will be discussed below.

   Note that what is the "main motion" for application of the rules of precedence may change during the course of consideration of a matter: For example, if the main motion is to adopt a resolution, and a member offers a subsidiary motion to amend the resolution, the proposal for amendment becomes the main motion for purposes of consideration of the order of precedence of other motions. That is, the motion to amend is subject to further amendment, referral, laying on the table, etc. It is only when that motion has been disposed of that the motion to adopt is then back before the body for consideration.

3. Incidental Motions: Incidental motions relate to the pending matter, but generally relate to it in a procedural way such that the incidental motion must be dealt with before the body may return to either the main or subsidiary motion before it. Incidental motions take precedence over whatever motion is before the body, and in some instances, may be made when the mover does not have the floor. Examples of incidental motions are a point of order or procedure, appeal of a ruling on a point of order or procedure, a point of information, call for a roll call (division of the assembly), or a suspension of the rules.

4. Privileged Motions: These are very few motions that take precedence over all other motions. They include motion to recess, question of privilege, and a motion to adjourn.

D. Common Motions. An almost limitless number of motions may be made. RR lists at least 84 potential motions. This section will discuss some common motions; the reader is also referred to the accompanying "cheat sheet" attached as an appendix to this manual.

1. Adjourn: To end the meeting. Not debatable.

2. Adoption: This is to adopt the matter before the body.

3. Amendment: To modify the main motion before the body.

4. Division of Assembly / Roll Call: A call for division is the same as calling for a roll call vote. Any member may do this and the motion need not be seconded; it is simply granted when asked for. It is not debatable.

5. Division of the Question / Separation: This is a request to have separate votes on different paragraphs or portions of the proposal before the body. It is not debatable,

but does require a second.

6. Lay on the Table / Take off the Table: This is a motion to temporarily defer consideration of a matter and then to ask that the matter be taken up again. It is often used, when, for some reason, information necessary for consideration is temporarily unavailable. Motions to lay on the table or take off the table are not debatable. The motion is often made simply as a motion to "table." The motion should not be used if the intent is essentially to kill a proposal.

7. Place on File / Postpone Indefinitely: This is a common motion and is the equivalent of a motion to postpone or defer indefinitely. This is the motion to be used if the intent is to not adopt the matter before the board, without explicitly voting it down.

8. Point of Information: This is an incidental motion in which a member of the board desires some information prior to proceeding to a vote on the matter before the board. It does not require a second .and no vote is actually taken on the point of information. A member simply says "I rise to a point of information" or "Point of Information?" It is proper when another has the floor.

9. Point of Order or Procedure: This is another incidental motion and again is not subject to a second or a debate. It raises a question about the procedure being followed by the body. The ruling on the Point of Procedure is committed to the Chairman of the board. If a member of the body disagrees with the ruling, they may appeal the ruling of the Chairman to the full body. An appeal does require a second, and a majority of the body must disagree with the Chair's ruling for it to be reversed.
10. Point of Privilege: This is one of the privileged motions, and again does not require a second, nor is it debatable. This normally relates to some personal matter or something relating to the operation of the body, such as a room that is too hot, too cold, too loud, some confidential information which should not be discussed before the body, etc.

11. Previous Question: This is a motion requesting that the board immediately vote on whatever matter is otherwise before it; it cuts off debate and proceeds to an immediate vote. The motion can be made either by "calling the question", "moving the previous question," or simply stating "Question." The motion requires a second and is non-debatable and requires a two-thirds vote.

12. Recess. The motion asks that the board take a short break. The length of time of the recess should be established. This is a privileged motion, in that it takes precedence over almost all other pending motions. It requires a second, it is not debatable, and requires a majority vote.

13. Reconsideration: A motion for reconsideration asks that the body reconsider something it has already acted upon. It must be made either at the same meeting at which the matter was considered, or at the next succeeding meeting. If it is to be

made at the next succeeding meeting, it must be on the official agenda of the meeting.

A motion to reconsider may only be made by a member who voted on the winning side of the prior question. This normally will be a member in the majority, but if a matter fails because it does not reach the required majority, it may be that the motion for reconsideration may be made by a member who actually is less than a majority. For example, if a matter needing a 2/3 vote falls one vote short of 2/3, reconsideration may only be moved by a member of the minority. If the motion to reconsider is approved, the prior proposal is then again before the board.

14. Motion to Refer/Commit: This is a subsidiary motion which asks that a matter be referred to another body, or to another meeting of the same board. It is called a motion to commit in RR.

15. Suspension of the Rules: This is an incidental motion because it relates to the manner in which the board will take up an issue. It requires a two-thirds majority, but is not debatable.

E. Debate. Once a debatable motion is before the body, members of the body proceed to debate. In both the making of motions and in debating the motions, members should wait to be recognized by the Chairman. The standing rules of a board may limit the number of times and length of time that a member of the board may participate in debate.

F. Unanimous Consent. Asking for unanimous consent is a quick way to dispose of non-controversial items. The board may do this by proposing a "consent agenda" near the beginning of a meeting. Items that no member of the board objects to can be disposed of by unanimous approval. The Chairman may ask for unanimous consent, or a member may ask for it on any pending matter. The Chairman may do this by asking: "Is there any objection to recording a unanimous vote on item _____ ?"

Precedence of Motions

Some common motions are listed in descending order of precedence, that is, a motion is not in order if it has a higher number than the pending matter.

Undebatable Motions

1. Adjourn
2. Recess
3. Question of Privilege
4. Lay on the Table
5. Previous Question
6. Limit or Extend Debate

Debatable Motions

1. Postpone to a Definite Time
2. Refer or Commit
3. Amend
4. Postpone Indefinitely/ Place on File
5. Main Motion

Incidental Motions (e.g., Point of Order, Point of Information, Suspend the Rules, Division of the Assembly or of the Question) take precedence over whatever matter is pending.

Parliamentary Motions Guide

Based on *Robert's Rules of Order Newly Revised (11th Edition)*

The motions below are listed in order of precedence. Any motion can be introduced if it is higher on the chart than the pending motion.

YOU WANT TO:		YOU SAY:	INTERRUPT?	2ND?	DEBATE?	AMEND?	VOTE?
§21	Close meeting	I move to **adjourn**	No	Yes	No	No	Majority
§20	Take break	I move to **recess** for	No	Yes	No	Yes	Majority
§19	Register complaint	I rise to a **question of privilege**	Yes	No	No	No	None
§18	Make follow agenda	I call for the **orders of the day**	Yes	No	No	No	None
§17	Lay aside temporarily	I move to **lay** the question **on the table**	No	Yes	No	No	Majority
§16	Close debate	I move the **previous question**	No	Yes	No	No	2/3
§15	**Limit or extend debate**	I move that debate be limited to ...	No	Yes	No	Yes	2/3
§14	**Postpone to a certain time**	I move to postpone the motion to ...	No	Yes	Yes	Yes	Majority
§13	**Refer** to committee	I move to refer the motion to …	No	Yes	Yes	Yes	Majority
§12	Modify wording of motion	I move to **amend** the motion by ...	No	Yes	Yes	Yes	Majority
§11	Kill main motion	I move that the motion be **postponed indefinitely**	No	Yes	Yes	No	Majority
§10	Bring business before assembly (a **main motion**)	I move that [or "to"] ...	No	Yes	Yes	Yes	Majority

Jim Slaughter, Certified Professional Parliamentarian-Teacher & Professional Registered Parliamentarian
336-378-1899(W) 336-378-1850(F) P.O. Box 41027, Greensboro 27404 web site: **www.jimslaughter.com**

Parliamentary Motions Guide

Based on *Robert's Rules of Order Newly Revised (11th Edition)*

Incidental Motions - No order of precedence. Arise incidentally and decided immediately.

YOU WANT TO:		YOU SAY:	INTERRUPT?	2ND?	DEBATE?	AMEND?	VOTE?
§23	Enforce rules	**Point of order**	Yes	No	No	No	None
§24	Submit matter to assembly	I **appeal** from the decision of the Chairman	Yes	Yes	Varies	No	Majority
§25	Suspend rules	I move to **suspend the rules** which …	No	Yes	No	No	2/3
§26	Avoid main motion altogether	I **object to the consideration** of the question	Yes	No	No	No	2/3
§27	Divide motion	I move to **divide the question**	No	Yes	No	Yes	Majority
§29	Demand rising vote	I call for a **division**	Yes	No	No	No	None
§33	Parliamentary law question	**Parliamentary inquiry**	Yes (if urgent)	No	No	No	None
§33	Request information	**Request for information**	Yes (if urgent)	No	No	No	None

Motions That Bring a Question Again Before the Assembly - no order of precedence. Introduce only when nothing else pending.

§34	Take matter from table	I move to **take from the table** …	No	Yes	No	No	Majority
§35	Cancel or change previous action	I move to **rescind/ amend something previously adopted**...	No	Yes	Yes	Yes	2/3 or maj. w/ notice
§37	Reconsider motion	I move to **reconsider** the vote ...	No	Yes	Varies	No	Majority

Tab 4

Conflicts of Interest

TENNESSEE AIR POLLUTION CONTROL BOARD

Disclosure of Financial Interests or Other Potential Conflicts of Interest

Pursuant to the terms of Tenn. Code Ann. § 68-201-105(e) and Tenn. Comp. R. & Regs. 0400-30-17-.05(2), the undersigned member of the Air Pollution Control Board ("Board") discloses financial interests as of the date below that are or have the potential to become a conflict of interest (in terms of "significant portion of income") in handling a matter that may arise before the Board. The undersigned also discloses any other potential conflicts of interest (as of the date below) with regard to matters that may come before the Board.

DIRECTIONS: Check the appropriate response(s), provide any required explanation(s) in the lines below, and sign and date.

( ) The undersigned member has none of the financial interests listed below that are or could have the potential to be a conflict of interest.

( ) The undersigned member falls into one or more of the following financial categories that does or could pose a conflict of interest with a particular source because the member derives a "significant portion of income" from a particular source, as defined in rule 0400-30-17-.02(b).

*Please identify all of the following which are applicable and in the space below identify the name of the source(s) in which there is financial interest. Note the exception for mutual funds and other diversified investments.**

( ) Receives 10% or more of gross personal income for a calendar year, including retirement benefits, consultant fees, and stock dividends, from persons subject to Division of Air Pollution Control permits or enforcement orders (or 50% or more of gross personal income for a calendar year if the recipient is over 60 years of age and receiving such portion pursuant to retirement, pension, or similar arrangement).

( ) Receives more than $5,000 annually in investment income from a source. Said investment is limited to those that arise from the purchase of shares of stock in the source that were purchased on the open market and generally available to any person at that price.

( ) Receives more than $100 annually due to a private investment made in a source. Said private investment is one where the purchase of stock or interest in a partnership was made directly with the source and such opportunity was not generally available to the public as a whole.

( ) Receives a salary in any amount from a source for services rendered.

( ) Sells or is about to sell property or equipment to a source. For the purposes of this part, equipment does not include consumer goods that are offered to the public at the same price offered to the source.

( ) Buys or is about to buy property or equipment from a source. For the purposes of this part, equipment does not include consumer goods that can be purchased by the public at the same price the source offered to the Technical Secretary or Board Member.

( ) Has taken out a loan from a source in any amount unless:

(i) The loan is from a financial institution whose deposits are insured by an entity of the federal government, or such loan is made in accordance with existing law and is made in the ordinary course of business. A loan is made in the ordinary course of business if the lender is in the business of making loans, and the loan bears the usual and customary interest rate of the lender for the category of loan involved is made on a basis which assures repayment, is evidenced by a written instrument, and is subject to a due date or amortization schedule;

(ii) The loan is secured by a recorded security interest in collateral, bears the usual and customary interest rate of the lender for the category of loan Involved, is made on a basis which assures repayment, is evidenced by a written instrument, and is subject to a due date or amortization schedule.

*For purpose of the categories above, income derived from mutual-fund payments, or from other diversified investments as to which the recipient does not know the identity of the primary sources of income, shall be considered part of the recipient's gross personal income but shall not be treated as income derived from persons subject to permits or enforcement orders under this rule division 0400-30 or rule division 1200-03 (i.e., shall not be treated as a "significant portion of income"). Tenn. Comp. R. & Regs. 0400-30-17-.02(b).

Name of Source(s): _____

( ) The undersigned has the following other potential conflicts of interest:

_____

_____

_____

_____

_____

_____

( ) The undersigned has no other potential conflicts of interest.

_____ _____

Signature of Board Member Date

_____

Please Print Name

TENNESSEE AIR POLLUTION CONTROL BOARD

Acknowledgement -

Policy of Ethics and Conflicts of Interest Rule

Pursuant to Tenn. Code Ann. § 68-201-105(e) and Tenn. Comp. R. & Regs. 0400-30-17-.05(2), the undersigned member of the Air Pollution Control Board ("Board") acknowledges that, as of the date below, he or she has read and understands all aspects of the Board's Policy of Ethics and the Avoidance of Conflicts of Interest rule, found at Tenn. Comp. R. & Regs. 0400-30-17-.05 (the "Rule"). The undersigned also states, as a condition to serving on the Board, that he or she is not in conflict with the conditions of the Rule.

_____

Signature of Board Member

_____

Please Print Name

_____

Date

TENNESSEE AIR POLLUTION CONTROL BOARD

Board Member Determination - Representing the Public Interest

To enable the Air Pollution Control Board ("Board") to determine whether a majority of Board members "represent the public interest", as required by Tenn. Comp. R. & Regs. 0400-30-17-.02(1), the undersigned board member indicates whether, as of the date below, he or she "represents the public interest."*

DIRECTIONS: Check the appropriate response and sign and date below.

I do (__) / I do not (__):

Own a controlling interest in;

Have 5% or more of capital invested in;

Serve as an attorney for;

Act as a consultant for;

Serve as an officer or director of; or

Hold any other official or contractual relationship with :

(1) Either a person subject to permits or enforcement orders under this rule division, 0400-30- or rule division 1200-03**; or

(2) Any trade or business association of which such person is a member.

_____ _____

Signature of Board Member Date

_____

Please Print Name

*"Represent the public interest" means not owning a controlling interest in, having 5% or more of his or her capital invested in, serve as attorney for, act as a consultant for, serve as officer or director of, or hold any other official or contractual relationship with, either a person subject to permits or enforcement orders under this rule division, 0400-30 or rule division 1200-03, or a trade or business association of which such a person is a member. Tenn. Comp. R. & Regs. 0400-30-17-.02(2)(a)

**"Persons subject to permits or enforcement orders under this rule division, 0400-30 or rule division 1200-03" or a "source," as used in this chapter, includes any individual, corporation, partnership, or association who holds, is an applicant for, or is subject to any permit, or who is or may become subject to any enforcement order under this rule division, 0400-30 or rule division 1200-03, except that it does not include:

1. An individual who is or may become subject to an enforcement order by reason of his or her ownership or operation of a motor vehicle,
2. Any department or agency of a state, local, or regional government; or
3. Any individual who is involved in the program of an institute of higher learning whose duties do not include the institute's compliance with this rule division, 0400-30 or rule division 1200-03. Tenn. Comp. R. & Regs. 0400-30-17-.02(2)(c).

STATE OF TENNESSEE

EXECUTIVE ORDER

BY THE GOVERNOR

No. 2

AN ORDER CONCERNING ETHICS POLICIES APPLICABLE TO, AND ETHICS DISCLOSURES REQUIRED OF, EXECUTIVE BRANCH EMPLOYEES

WHEREAS, establishing, communicating, complying with, and enforcing a robust and comprehensive ethics policy within the Executive Branch of the State of Tennessee is essential to maintaining public trust in government and ensuring the proper performance of government; and

WHEREAS, disclosure is an indispensable element of an effective ethics policy; and

WHEREAS, this Administration is committed to simplifying and streamlining government processes, systems, and policies to a point understandable by Tennessee citizens;

WHEREAS, this Executive Order No. 2 underscores, expands, and enhances the commitment of this Administration to the highest standards of ethics and transparency by employees of the Executive Branch.

NOW THEREFORE, I, Bill Lee, Governor of the State of Tennessee, by virtue of the power and authority vested in me by the Tennessee Constitution and the laws of Tennessee, do hereby direct and order that:

1. Except where otherwise noted, this Order applies to the following employees of the Executive Branch of the State of Tennessee: the Governor, members of the Governor's staff, members of the Governor's Cabinet, and all other Executive Branch employees.
2. Each employee shall avoid any action, whether or not specifically prohibited by statute, regulation, or this Order, which might result in or create the appearance of:
    a. Using public office for private gain;
    b. Giving preferential treatment to any person;
    c. Impeding government efficiency or economy;
    d. Losing complete independence or impartiality;

e. Making a government decision outside of official channels; or

f. Affecting adversely the confidence of the public in the integrity of the government.

3. Each employee is expected to comply with the following ethical principles and policies governing financial interests, use of information, and use of government property:

   a. Financial interests.

      i. No employee shall enter into or derive any benefit, directly or indirectly, from any contractual arrangement with the State or any of its agencies. In recognition of the fact that many spouses have separate careers, the normal employment compensation of a spouse whose regular, ongoing employer or business has a contractual arrangement with the State shall not be considered a "benefit" to the employee, provided the contract with the State was procured without any participation, assistance, or influence by the employee.

      ii. No employee shall have a direct or indirect financial interest that conflicts substantially, or appears to conflict substantially, with his or her government duties or responsibilities. "Indirect financial interest" in this case includes a substantial interest on the part of a member of the employee's household. This subsection shall not apply to interests that have been placed into a "blind trust" arrangement pursuant to which the employee does not have knowledge of the retention or disposition of such interests. This subsection also shall not apply to ownership of publicly traded stocks or bonds where such ownership constitutes less than two percent (2%) of the total outstanding amount of the stocks or bonds of the issuing entity. If, at the time the employee begins employment with the State or at any subsequent time during State employment, the employee possesses such direct or indirect financial interests, the employee shall divest such interest within a reasonable time.

   b. Use of Information.

      i. No employee shall directly or indirectly use, disclose, or allow the use of official information obtained through or in connection with the employee's government employment and not available to the general public for the purpose of furthering the private interest of personal profit of any person, including the employee; or

      ii. Engage in a financial transaction as a result of, or primarily relying upon, information obtained through the employee's government employment.

   c. Use of government property.

i. No employee shall make use of the facilities, equipment, personnel, or supplies of the State or its agencies for private use or gain, except to the extent that the use is incidental or de minimis or is lawfully available to the general public.

4. Gifts.

a. No Executive Branch employee shall solicit or accept, directly or indirectly, on behalf of himself or herself or any member of the employee's household, any gift, including but not limited to any gratuity, service, favor, food, beverage, refreshment, entertainment, lodging, transportation, loan, loan guarantee, or any other thing of monetary value, from any person or entity that: (i) has, or is seeking to obtain, contractual or other business or financial relations with the department or agency of the State of Tennessee in which the individual is employed; (ii) conducts operations or activities that are regulated by the department or agency of the State of Tennessee in which the employee is employed; or (iii) has interests that may be substantially affected by the performance or nonperformance of the employee's official duties.

b. Exceptions. The prohibition on accepting gifts in paragraph 4 does not apply in the following circumstances:

i. A gift given by a member of the employee's immediate family or by an individual if the gift is given for a nonbusiness purpose and is motivated by a close personal friendship and not by the position of the employee. In determining whether a gift falls within this subdivision, the factors contained in Tenn. Comp. R. & Regs. 0580-01-05-.04(2) shall apply;

ii. Informational materials in the form of books, articles, periodicals, other written materials, audiotapes, videotapes, or other forms of communication;

iii. Sample merchandise, promotional items, and appreciation tokens, if they are routinely given to customers, suppliers, or potential customers or suppliers in the ordinary course of business;

iv. Unsolicited tokens or awards of appreciation, honorary degrees, or bona fide awards in recognition of public service in the form of a plaque, trophy, desk item, wall memento, and similar items; provided that any such item shall not be in a form which can be readily converted to cash;

v. Food, refreshments, foodstuffs, entertainment, or beverages provided as part of a meal or other event, if the value of such items does not exceed, per occasion, the dollar amount provided in Tenn. Code Ann. § 3-6-305(b)(8), as updated via posting on the Tennessee Ethics Commission's website to account for changes in the average consumer price index; provided further, that the value of a gift made pursuant to this subsection may not be reduced below the monetary limit by

dividing the cost of the gift among two or more persons or entities identified in paragraph 4;

vi. Food, refreshments, meals, foodstuffs, entertainment, beverages, or interstate travel expenses that are provided in connection with an event where the employee is attending a scheduled meeting of an established or recognized membership organization which holds regular meetings; and

vii. Loans from an established financial institution made in the ordinary course of business on usual and customary terms, so long as there are no guarantees or collateral provided by any person described in paragraph 4.

c. There may be circumstances where refusal or reimbursement of a gift such as a lunch or dinner may be awkward and contrary to the larger interests of the State. In such circumstances, the employee is to use the employee's best judgment and disclose the gift, including a description, estimated value, the person or entity providing the gift, and any explanation necessary within fourteen (14) days to the Chief Ethics Officer on the form titled "Gift Prohibition Exception Disclosure" provided by the Department of Finance and Administration for that purpose.

5. Disclosures.

a. The Commissioner of Finance and Administration shall prepare forms that should be utilized to report the information described in this Order and shall make those forms available to each individual on or before January 1 of each year. Such forms and statements can be located on the Commissioner of Finance and Administration's website and shall be completed and filed by the respective employees as follows:

i. The Governor and Governor's Cabinet and Cabinet Level Staff.

1. Pursuant to Tenn. Code Ann. § 2-10-115 and §§ 8-50-501 and -502 the Governor and the Governor's Cabinet and Cabinet level staff shall file annually the "Statement of Disclosure of Interest Form" with the Tennessee Ethics Commission and the Counsel to the Governor on or before April 15th of each year.

a. The disclosure shall exceed the statutory requirements of Tenn. Code Ann. §§ 8-50-501 and -502 in one respect. Subsequent to appointment, each covered employee shall file annually the complete form required upon appointment (as set forth in Tenn. Code Ann. § 8-50-501), and may not file a letter simply indicating any, or no, changes from the initial filing as is currently authorized by Tenn. Code Ann. § 8-50-504.

2. The Governor and the Governor's Cabinet and Cabinet level staff shall file annually the "Ethics Policy Compliance Certification and Conflict of Interest Statement" with the Chief Ethics Officer on or before April 15th of each year.

ii. All other employees listed on Attachment A of this Order.

1. All other employees listed on Attachment A of this Order shall file annually the "Statement of Disclosure of Interest Form" and the "Conflict of Interest and Ethics Policy Receipt Statement" with the Chief Ethics Officer on or before April 15th of each year.

6. I appoint the Counsel to the Governor to serve as the Chief Ethics Officer for the Executive Branch charged with administering the provisions of this Order and maintaining all records related to the ethics policy.

7. The Chief Ethics Officer shall convene a meeting of the Chief of Staff, the Commissioner of Finance and Administration, and the Commissioner of Human Resources to take any action necessary or convenient to determine or enforce the ethics policy and address any request for exemptions.

8. When an employee is in doubt as to the proper interpretation of this Order, the employee is expected to seek the advice of the Chief Ethics Officer.

9. The Chief Ethics Officer shall make the disclosures and statements required by this Order available for inspection by the public during normal working hours.

10. This Executive Order is intended only to improve the internal management of the Executive Branch of the State of Tennessee and does not create any right to administrative or judicial review, or any other right or benefit, substantive or procedural, enforceable at law or equity by a party against the State of Tennessee, its agencies or instrumentalities, its officers or employees, or any other person.

11. This Executive Order No. 2 supersedes and rescinds Governor Haslam's Executive Order No. 20, dated August 31, 2012, and all other directives and memoranda concerning ethics policies applicable to the Executive Branch, and all previous executive orders, the terms of which are inconsistent with the terms of this Executive Order No.2, are hereby repealed.

IN WITNESS WHEREOF, I have subscribed my signature and caused the Great Seal of the State of Tennessee to be affixed this 24th day of January, 2019.

GOVERNOR

ATTEST:

SECRETARY OF STATE

ATTACHMENT A TO EXECUTIVE ORDER 2
POSITIONS COVERED

Office of the Governor
Governor
Deputy to the Governor
Chief of Staff
Chief Operating Officer
Counsel to the Governor
Senior Advisor to the Governor
Special Assistant to the Governor
Deputy Counsel to the Governor
Director of External Affairs
Legislative Director
All legislative liaisons
Communications Director
Policy Director

All Executive Branch Departments, Except for Department of Military
Commissioner
All deputy commissioners
All assistant commissioners
All chiefs of staff
All general counsels
All chief operating officers
All chief financial officers and budget directors
All chief medical officers
All senior advisors to the commissioner
All special assistants to the commissioner
All legislative directors or liaisons or the equivalent thereof

Department of Military
Adjutant General
All assistant adjutant generals
Director of TEMA
General Counsel
All legislative directors or liaisons or the equivalent thereof

Division of TennCare
Deputy Commissioner/Director
Deputy Directors
All assistant commissioners
Chief of Staff
Chief Medical Officer
General Counsel
Legislative director or legislative liaisons or the equivalent thereof

Ex Parte Communications

An *ex parte* communication is any material oral or written communication relevant to the merits of an adjudicatory proceeding that was neither on the record nor on reasonable prior notice to all parties that takes place between (1) an interested person outside the Board (including such person's counsel) and (2) the administrative law judge handling that proceeding, a member of the Board, or a decisional employee.

From the time the notice is issued by the Board until the date that the Board issues its final decision, no interested person shall make an *ex parte* communication to a member of the Board, the administrative law judge, or a decisional employee (e.g., a staffmember who assists the Board). A request for status of the proceeding does not constitute an *ex parte* communication.

Tenn. Code Ann. § 4-5-304

(a) Unless required for the disposition of ex parte matters specifically authorized by statute, an administrative judge, hearing officer or agency member serving in a contested case proceeding may not communicate, directly or indirectly, regarding any issue in the proceeding, while the proceeding is pending, with any person without notice and opportunity for all parties to participate in the communication.
(b) Notwithstanding subsection (a), an administrative judge, hearing officer or agency member may communicate with agency members regarding a matter pending before the agency or may receive aid from staff assistants, members of the staff of the attorney general and reporter, or a licensed attorney, if such persons do not receive ex parte communications of a type that the administrative judge, hearing officer or agency members would be prohibited from receiving, and do not furnish, augment, diminish or modify the evidence in the record.
(c) Unless required for the disposition of ex parte matters specifically authorized by statute, no party to a contested case, and no other person may communicate, directly or indirectly, in connection with any issue in that proceeding, while the proceeding is pending, with any person serving as an administrative judge, hearing officer or agency member without notice and opportunity for all parties to participate in the communication.
(d) If, before serving as an administrative judge, hearing officer or agency member in a contested case, a person receives an ex parte communication of a type that may not properly be received while serving, the person, promptly after starting to serve, shall disclose the communication in the manner prescribed in subsection (e).
(e) An administrative judge, hearing officer or agency member who receives an ex parte communication in violation of this section shall place on the record of the pending matter all written communications received, all written responses to the communications, and a memorandum stating the substance of all oral communications received, all responses made, and the identity of each person from whom the person received an ex parte communication, and shall advise all parties that these matters have been placed on the record. Any party desiring to rebut

the ex parte communication shall be allowed to do so, upon requesting the opportunity for rebuttal within ten (10) days after notice of the communication.

(f) An administrative judge, hearing officer or agency member who receives an ex parte communication in violation of this section may be disqualified if necessary to eliminate the effect of the communication.

(g) The agency shall, and any party may, report any willful violation of this section to appropriate authorities for any disciplinary proceedings provided by law. In addition, each agency by rule may provide for appropriate sanctions, including default, for any violations of this section.

Tab 5

Past Audits

Air Pollution Control Board and Board of Ground Water Management

TENNESSEE COMPTROLLER OF THE TREASURY

Board Responsibilities

The Tennessee General Assembly created the Air Pollution Control Board pursuant to Chapter 367 of the Public Acts of 1967, codified in Section 68-201-104 et seq., *Tennessee Code Annotated.* The board's responsibilities include promulgating rules and regulations that define ambient air quality standards; setting emission standards; establishing general policies or plans; overseeing a permit system and a schedule of fees for reviewing plans and specifications; issuing or renewing permits; and inspecting air contaminant sources. The board is also authorized to hold hearings and issue orders and determinations to enforce these rules and regulations.

Board Membership

The board is composed of the Commissioner of the Department of Environment and Conservation (TDEC); the Commissioner of the Department of Economic and Community Development (ECD); and 12 Governor-appointed members who represent a variety of fields related to air pollution, including engineering, medicine, academia, government, business, agriculture, conservation, and the environment. Statute also requires that at least 1 person appointed to serve on the board be 60 years of age or older and that at least 1 person be a member of a minority. The 12 Governor-appointed members serve 4-year terms. The other 2 members, the Commissioners of TDEC and ECD, or their designees, are ex-officio members. The commissioner of TDEC serves as chair. At the first meeting of each calendar year, the board elects a vice-chair. The director of TDEC's Division of Air Pollution Control serves as the board's technical secretary. (See **Appendix 1** for a list of members).

Meetings

The board is required to meet at least twice each calendar year.[39] Eight members must be present for a quorum. To comply with the Tennessee Open Meetings Act, Section 8-44-101 et seq., *Tennessee Code Annotated*, the board's technical secretary submits information about the date, place, and time of board meetings to the department's Office of General Counsel for posting on the board's website. A court reporter provides transcription services for the meetings, and the board's technical secretary finalizes and distributes draft meeting minutes to the members. After the board votes on and approves the minutes, the board's technical secretary makes copies for the public upon request.

Members are reimbursed for travel expenses by TDEC and are allowed a per diem of $50, but the per diem is only paid to members for meetings at which a quorum is present. For the period of July 2016 through June 2018, TDEC reported that board members received a total of $19,875.75 in travel and per diem payments.

[39] The board met two times between July 1, 2015, and December 31, 2015; six times in calendar year 2016; eight times in calendar year 2017; and, as of June 2018, the board met two times in 2018.

5. **Audit Objective:** Did the board have a conflict-of-interest policy, and did members sign the disclosures?

Conclusion: In March 2018, at the board's first meeting of the calendar year, members were provided the financial conflict-of-interest forms and the determination of public interest form. All current Governor-appointed members and ex-officio members completed the conflict-of-interest forms.

Methodology to Achieve Objectives

We reviewed board membership; board meeting minutes for the period July 1, 2015, through June 30, 2018; and the board's conflict-of-interest policy and the members' disclosures, and we attended board meetings in December 2017, March 2018, and May 2018. We reviewed board minutes from July 1, 2015, through June 30, 2018, for evidence of activities to show that the board was meeting its statutory responsibilities. We interviewed the chair and the technical secretary of the board and reviewed the board's process for public notices of its meetings. We obtained expense reimbursement information from TDEC's Controller.

EMERGING ISSUE: POTENTIAL EMISSIONS TESTING CHANGES

In the early 1990s, as part of the federal requirements of the Clean Air Act, Tennessee developed air regulations for mobile sources, such as vehicles, to help control pollution from harmful ozone in the state's air. When the regulations were implemented, counties not meeting federal standards for air quality were required to implement emissions testing. The owner of a vehicle must show proof that the vehicle passed emissions testing prior to registering a vehicle in these counties. These counties were Davidson, Hamilton, Rutherford, Sumner, Williamson, and Wilson. The state has used vehicle emissions testing to improve air quality and meet federal air quality standards (National Ambient Air Quality Standards, or NAAQS) in the counties that have vehicle emissions testing.

Public Chapter 953, which Governor Haslam signed on May 15, 2018, amended Section 68-201-119 and Section 55-4-104, *Tennessee Code Annotated*, to effectively eliminate emissions testing in applicable counties.[41] However, before this measure is implemented, the Tennessee Department of Environment and Conservation must demonstrate to the federal Environmental Protection Agency (EPA) that the state will maintain acceptable ozone emission levels without the need to test vehicles. In August 2017, the EPA announced that all counties are now in attainment status for the NAAQS related to ozone; however, the state is required to maintain air quality. It must demonstrate to the EPA that eliminating the vehicle emissions testing program will not interfere with Tennessee meeting the NAAQS. The state must go through this process, or potentially lose federal transportation highway funds.

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[41] The law eliminated testing in Hamilton, Rutherford, Sumner, Williamson, and Wilson counties. It gave Metropolitan Nashville/Davidson County a choice whether to continue its testing program, and the Metropolitan Council voted to keep the program.

Conflict-of-interest Disclosures

Section 68-201-105(e), *Tennessee Code Annotated*, requires the board to create for board members a conflict-of-interest policy with annual written disclosures.[40] The members sign conflict-of-interest statements annually at the first meeting of each calendar year. When new members join the board, they sign the conflict-of-interest form at their first meeting.

Board rules require that a majority of members must represent the public interest, meaning that members should not derive any significant portion of their income from people or organizations subject to permits under the rules of the board. At the first meeting of the year, each board member completes and signs a form used to determine if they represent the public interest. The determination is based on whether the member has an investment in, receives income from, or is an officer of entities subject to permits for which the board promulgates rules. An attorney with the TDEC Office of General Counsel explains both forms to members and then reviews the forms after they are signed.

Audit Results

1. **Audit Objective:** Did the Air Pollution Control Board meet its statutory responsibilities?

   Conclusion: Board meeting minutes record discussion of monitoring the Clean Air Act and promulgating rules and regulations.

2. **Audit Objective:** Did the board members meet statutory requirements for membership composition?

   Conclusion: Yes, the board members met the requirements in statute. As of June 30, 2018, one Governor-appointed member's term had expired, but the member is serving until a successor is appointed.

3. **Audit Objective:** Did the board have a quorum at its meetings?

   Conclusion: Yes, the board had a quorum at its meetings. However, one Governor-appointed board member did not attend 8 of 14 meetings between July 1, 2016, and June 30, 2018.

4. **Audit Objective:** Did the board comply with the Tennessee Open Meetings Act for public notice and meeting minute requirements?

   Conclusion: Yes, the board provided adequate public notice and recorded minutes of its meetings as required by the Clean Air Act.

[40] The federal Clean Air Act, Title 42, *United States Code*, Section 7401 et seq., sets the requirements for the conflict-of-interest policies.

Tab 6

Laws Applicable to All Boards

Highlights of General Statutes Applicable to All Boards

I. Public Records § 10-7-503

All state, county, and municipal governmental records are open, unless there is an exception in the law. The public records statute is different from the federal Freedom of Information Act (FOIA). Records are open for personal inspection by any citizen of Tennessee. Records do not include the device used to create or store the public record.

II. Sunshine Law § 8-44-101, et seq.

All meetings of multi-member bodies are open and notice must be given. Minutes must be kept. Meetings are prohibited without notice, including those of a subset of the board. This statute also pertains to deliberations and voting.

III. Sunset Law § 4-29-201, et seq.

All entities of state government terminate, unless extended by the General Assembly. The Comptroller does a performance audit of larger entities in year prior to sunset. Legislation is required for setting the term of extension for a particular board or group extension.

IV. Contested Cases § 4-5-301, et seq.

- Due process is background
- Determines rights of a single person in regard to a permit/license or violation
- Appeals
- Roles of Board, Staff, Attorneys, ALJs at hearings
- Representation by Counsel
- Procedure and conduct at the Hearing
- Declaratory Order
- Procedural requirements before and after hearing

V. Rule Making § 4-5-201, et seq.

The statute lays out the rules' place in the legal system, and the steps of the rulemaking process.

Excerpts of General Statutes Applicable to All Boards

I. Public Records § 10-7-503

(a)(1)(A)(i) As used in this part and title 8, chapter 4, part 6, "public record or records" or "state record or records" means all documents, papers, letters, maps, books, photographs, microfilms, electronic data processing files and output, films, sound recordings or other material, regardless of physical form or characteristics, made or received pursuant to law or ordinance or in connection with the transaction of official business by any governmental agency.

(a)(1)(A)(ii) "Public record or records" or "state record or records" does not include the device or equipment, including, but not limited to, a cell phone, computer, or other electronic or mechanical device or equipment, that may have been used to create or store a public record or state record.

(a)(2)(A) All state, county and municipal records shall, at all times during business hours, which for public hospitals shall be during the business hours of their administrative offices, be open for personal inspection by any citizen of this state, and those in charge of the records shall not refuse such right of inspection to any citizen, unless otherwise provided by state law.

(a)(2)(B) The custodian of a public record or the custodian's designee shall promptly make available for inspection any public record not specifically exempt from disclosure. In the event it is not practicable for the record to be promptly available for inspection, the custodian shall, within seven (7) business days:

(a)(2)(B)(i) Make the information available to the requestor;

(a)(2)(B)(ii) Deny the request in writing or by completing a records request response form developed by the office of open records counsel. The response shall include the basis for the denial; or

(a)(2)(B)(iii) Furnish the requestor a completed records request response form developed by the office of open records counsel stating the time reasonably necessary to produce the record or information.

II. Open Meetings Act ("Sunshine Law")

§ 8-44-102

(a) All meetings of any governing body are declared to be public meetings open to the public at all times, except as provided by the Constitution of Tennessee.

(b)(1) "Governing body" means:

(b)(1)(A) The members of any public body which consists of two (2) or more members, with the authority to make decisions for or recommendations to a public body on policy or administration and also means a community action agency which administers community action programs under the provisions of 42 U.S.C. § 2790. Any governing body so defined by this section shall remain so defined, notwithstanding the fact that such governing body may have designated itself as a negotiation committee for collective bargaining purposes, and strategy sessions of a governing body under such circumstances shall be open to the public at all times;

(c) Nothing in this section shall be construed as to require a chance meeting of two (2) or more members of a public body to be considered a public meeting. No such chance meetings, informal assemblages, or electronic communication shall be used to decide or deliberate public business in circumvention of the spirit or requirements of this part.

§ 8-44-103

(a) NOTICE OF REGULAR MEETINGS. Any such governmental body which holds a meeting previously scheduled by statute, ordinance, or resolution shall give adequate public notice of such meeting.

(b) NOTICE OF SPECIAL MEETINGS. Any such governmental body which holds a meeting not previously scheduled by statute, ordinance, or resolution, or for which notice is not already provided by law, shall give adequate public notice of such meeting.

(c) The notice requirements of this part are in addition to, and not in substitution of, any other notice required by law.

§ 8-44-105

Any action taken at a meeting in violation of this part shall be void and of no effect; provided, that this nullification of actions taken at such meetings shall not apply to any commitment, otherwise legal, affecting the public debt of the entity concerned.

§ 8-44-108

(b)(1) A governing body may, but is not required to, allow participation by electronic or other means of communication for the benefit of the public and the governing body in connection with any meeting authorized by law; provided, that a physical quorum is present at the location specified in the notice of the meeting as the location of the meeting.

(b)(2) If a physical quorum is not present at the location of a meeting of a governing body, then in order for a quorum of members to participate by electronic or other means of communication, the governing body must make a determination that a necessity exists. Such determination, and a recitation of the facts and circumstances on which it was based, must be included in the minutes of the meeting.

(b)(3) If a physical quorum is not present at the location of a meeting of a governing body other than a state debt issuer, the governing body other than a state debt issuer must file such determination of necessity, including the recitation of the facts and circumstances on which it was based, with the office of secretary of state no later than two (2) working days after the meeting. The secretary of state shall report, no less than annually, to the general assembly as to the filings of the determinations of necessity. This subdivision (b)(3) shall not apply to the board of regents, to the board of trustees of the University of Tennessee or to the Tennessee higher education commission.

(4) Nothing in this section shall prohibit a governing body from complying with § 8-44-109.

(c)(1) Any meeting held pursuant to the terms of this section shall comply with the requirements of the Open Meetings Law, codified in this part, and shall not circumvent the spirit or requirements of that law.

(c)(2) Notices required by the Open Meetings Law, or any other notice required by law, shall state that the meeting will be conducted permitting participation by electronic or other means of communication.

(c)(3) Each part of a meeting required to be open to the public shall be audible to the public at the location specified in the notice of the meeting as the location of the meeting. Each member participating electronically or otherwise must be able to simultaneously hear each other and speak to each other during the meeting. Any member participating in such fashion shall identify the persons present in the location from which the member is participating.

(c)(4) Any member of a governing body not physically present at a meeting shall be provided, before the meeting, with any documents that will be discussed at the meeting, with substantially the same content as those documents actually presented.

(c)(5) All votes taken during a meeting held pursuant to the terms of this section shall be by roll call vote.

(c)(6) A member participating in a meeting by this means is deemed to be present in person at the meeting for purposes of voting, but not for purposes of determining per diem eligibility. However, a member may be reimbursed expenses of such electronic communication or other means of participation.

§ 8-44-112

(a) A governing body shall, for each public meeting, reserve a period for public comment to provide the public with the opportunity to comment on matters that are germane to the items on the agenda for the meeting.

(b) The governing body may put reasonable restrictions on the period for public comment, such as the length of the period, the number of speakers, and the length of time that each speaker will be allowed to provide comment. The governing body may require a person to give notice in advance of the desire to offer comments at a meeting. The governing body shall take all practicable steps to ensure that opposing viewpoints are represented fairly, if any.

(c) A notice for a public meeting shall indicate the manner in which a person may indicate the person's desire to provide public comment at the meeting.

(d) This section does not apply to:

(1) A meeting of a governing body, or a portion thereof, where the governing body is conducting a disciplinary hearing for a member of the governing body or a person whose profession or activities fall within the jurisdiction of the governing body; or

(2) A meeting for which there are no actionable items on the agenda.

III. Uniform Administrative Procedures Act

§ 4-5-202

(a)(1) and (2) An agency shall precede all its rulemaking with notice and a public hearing unless the rule is adopted as an emergency rule; or the proposed rule is posted to the administrative register web site within the secretary of state's web site within seven (7) days of receipt, together with a statement that the agency will adopt the proposed rule without a public hearing unless within ninety (90) days after filing of the proposed rule with the secretary of state, a petition for a public hearing on the proposed rule is filed by ten (10) persons who will be affected by the rule, an association of ten (10) or more members, a municipality or by a majority vote of any standing committee of the general assembly. If an agency receives such a petition, it shall not proceed with the proposed rulemaking until it has given notice and held a hearing as provided in this section. The agency shall forward the petition to the secretary of state. The secretary of state shall not be required to compile all filings of the preceding month into one (1) document.

(b) Subdivision (a)(2) does not apply if another statute specifically requires the agency to hold a hearing prior to adoption of the rule under consideration.

§ 4-5-203

(a)(1) and (2) Whenever an agency is required by law to hold a public hearing as part of its rulemaking process, the agency shall transmit written notice of the hearings to the secretary of state for publication in the notice section of the administrative register web site and, if a statute applicable to the specific agency or a specific rule or class of rules under consideration requires some other form of publication, publish notice as required by that statute in addition to publication in the notice section of the administrative register web site. Such notice of a hearing

shall remain on the web site until the date of such hearing; and take such other steps as it deems necessary to convey effective notice to persons who are likely to have an interest in the proposed rulemaking.

(b) Except as otherwise permitted by § 4-5-204(e), notice through publication on the administrative register web site shall be given at least forty-five (45) days prior to the date set for the hearing and shall be deemed to have been given seven (7) days from the date notice was transmitted to the secretary of state for such publication.

§ 4-5-211

No rule shall be filed in the office of the secretary of state until such rule has been filed with the office of the attorney general and reporter. The office of the attorney general and reporter shall review the legality and constitutionality of every rule filed pursuant to this section and shall approve or disapprove of rules based upon the attorney general's determination of the legality of such rules. The attorney general and reporter shall not disapprove an emergency rule filed pursuant to § 4-5-208 solely on the basis of failure to meet the statutory criteria for adoption of the rule contained in this chapter, unless the attorney general and reporter determines and states in writing that the attorney general and reporter could not defend the legality of the rule on the basis of failure to meet the statutory criteria for adoption of the rule contained in this chapter, in any action contesting the legal validity of the rule.

§ 4-5-301

(a)(1) and (2) In the hearing of any contested case, the proceedings or any part thereof shall be conducted in the presence of the requisite number of members of the agency as prescribed by law and in the presence of an administrative judge or hearing officer; or by an administrative judge or hearing officer sitting alone.

(c) The agency shall determine whether a contested case shall be conducted by an administrative judge or hearing officer sitting alone or in the presence of members of the agency; provided, that administrative judges or hearing officers employed in the office of the secretary of state shall not be required to conduct a contested case sitting alone in the absence of agreement between the agency and the secretary of state.

Tab 7

Rulemaking

RULE MAKING

AN OVERVIEW

Section .01 – Scope

This is an overview of the legal requirements for the promulgation of rules as they apply to the Department of Environment and Conservation. The primary law governing this subject is the Uniform Administrative Procedures Act (UAPA) compiled in Tenn. Code Ann. Sections 4-5-101 et seq. Although the UAPA establishes the general rulemaking requirements, additional requirements may be established by any other statute administered by the Department of Environment and Conservation (TDEC). The area in which this most commonly occurs is in specifying how notice must be given to the public or the regulated community. If there are any applicable additional requirements, they must also be complied with or the rule may be invalid.

Section .02 - What is a Rule?

(1) The term "rule" should be understood as being synonymous with "regulation." A rule is defined by Section 4-5-102 of the UAPA as:

> An agency's statement of general applicability that implements or prescribes law or policy, or describes the procedures or practice requirements of the agency. The term includes the amendment or repeal of a prior rule, but does not include:
>
> (a) Statements concerning only the internal management of state government and not affecting private rights, privileges, or procedures available to the public; or
>
> (b) Declaratory orders;
>
> (c) Intra-agency memoranda; or
>
> (d) General policy statements that are substantially repetitious of existing law.

(2) A properly promulgated rule has the full force and effect of any law passed by the legislature. The sanction for violating a rule varies and is set by the legislation authorizing the Board or Commissioner to adopt rules.

Section .03 - Is a rule authorized?

(1) Once it has been determined that a statement needs to be made into a rule, it must be determined whether the agency has the authority to make the proposed rule.

(2) An agency may do only what the legislature has delegated to it. An agency may not make a rule which exceeds its delegated authority or which in effect conflicts with any statutory

provision governing the agency. Statutes may contain "express" or "implied" authority for the agency to make rules on a particular subject.

(3) "Express authority" is easy to find in a statute. For example, Tenn. Code Ann. Section 69-3-105(b) says the Board of Water Quality, Oil, and Gas has the power, responsibility and duty to "adopt, modify, repeal, and promulgate after due notice and enforce rules and regulations which the board deems necessary for the proper administration of this part, the prevention, control and abatement of pollution, or…". It is clear that the Board can make rules on all matters pertaining to activities that impact the quality of state waters.

(5) "Implied authority" can be more difficult to identify. What is an implication to one person may be nothing but silence to another. When in doubt, consult the Office of General Counsel (OGC).

Section .04 - What type of rule is required?

(1) Once it has been determined that a contemplated statement needs to be a rule and that authority exists for the rule, it must be determined which type of rule is appropriate. There are three types of rules that differ only in the circumstances under which they may be used, the effective date, and length of time they are effective.

(2) The three types of rules are:

(a) Proposed Rules

(b) Emergency Rules

(c) Rulemaking Hearing Rules

(3) The first two rule types are rarely used by TDEC. Emergency Rules are only temporary. They expire after 180 days. If the content of those rules needs to be permanent, they will have to be followed immediately by a properly promulgated Rulemaking Hearing Rule. The Rulemaking Hearing Rule is the most common type used by TDEC regulatory boards and the Commissioner. Generally, the following determines when a particular type of rule should be used:

(a) A Proposed Rule, authorized by Tenn. Code Ann. Section 4-5-202(a)(2), is typically used only for minor, non-controversial matters or purely housekeeping matters. A proposed rule is filed without a rulemaking hearing.

(b) An Emergency Rule, authorized by Tenn. Code Ann. Section 4-5-208, is used only when:

1. An immediate danger to the public health, safety, or welfare exists, and the nature of this danger is such that the use of any other form of rulemaking would not adequately protect the public;

2. The rule only delays the effective date of another rule that is not yet effective;

3. The rule is required by the Constitution, or court order;

4. The rule is required by an agency of the federal government and adoption of the rule through ordinary rulemaking procedures described in the UAPA might jeopardize the loss of a federal program or funds; or

5. The agency is required by an enactment of the General Assembly to implement rules within a prescribed period of time that precludes utilization of rulemaking procedures described in the UAPA the promulgation of permanent rules (Proposed or Rulemaking Hearing rules).

(c) A Rulemaking Hearing Rule, authorized by Tenn. Code Ann. Sections 4-5-202 through 4-5-204, follows the public notice and approval process prescribed by the UAPA and is used for almost all of the promulgation of new rules and changes or modifications to existing rules by TDEC regulatory boards and the Commissioner..

Section .05 - How to process a rule

(1) Once it has been decided that a rule is necessary, authorized, and what type of rule is needed, the drafting begins. Each of the three types of rules is different in the forms, procedure and format used to process them. However, methods of drafting all types of rules are substantially similar.

(2) Generally, the process to draft and promulgate a rule follows this sequence:

(a) Decide “type” of Rulemaking;

(b) Drafting the rule;

(c) Review by Rulemaking Coordinator and OGC;

(d) Obtaining the concurrence of management;

(e) Filing Notice with Secretary of State;

(f) Notifying the public;

(g) Conduct public hearing(s);

(h) Consider comments received and revising the rule, if appropriate;

(i) Review by Rulemaking Coordinator and OGC;

(j) Adoption of the rule by the Board or Commissioner;

(k) Review and approval by Rulemaking Coordinator and OGC;

(l) Review and approval by the Attorney General;

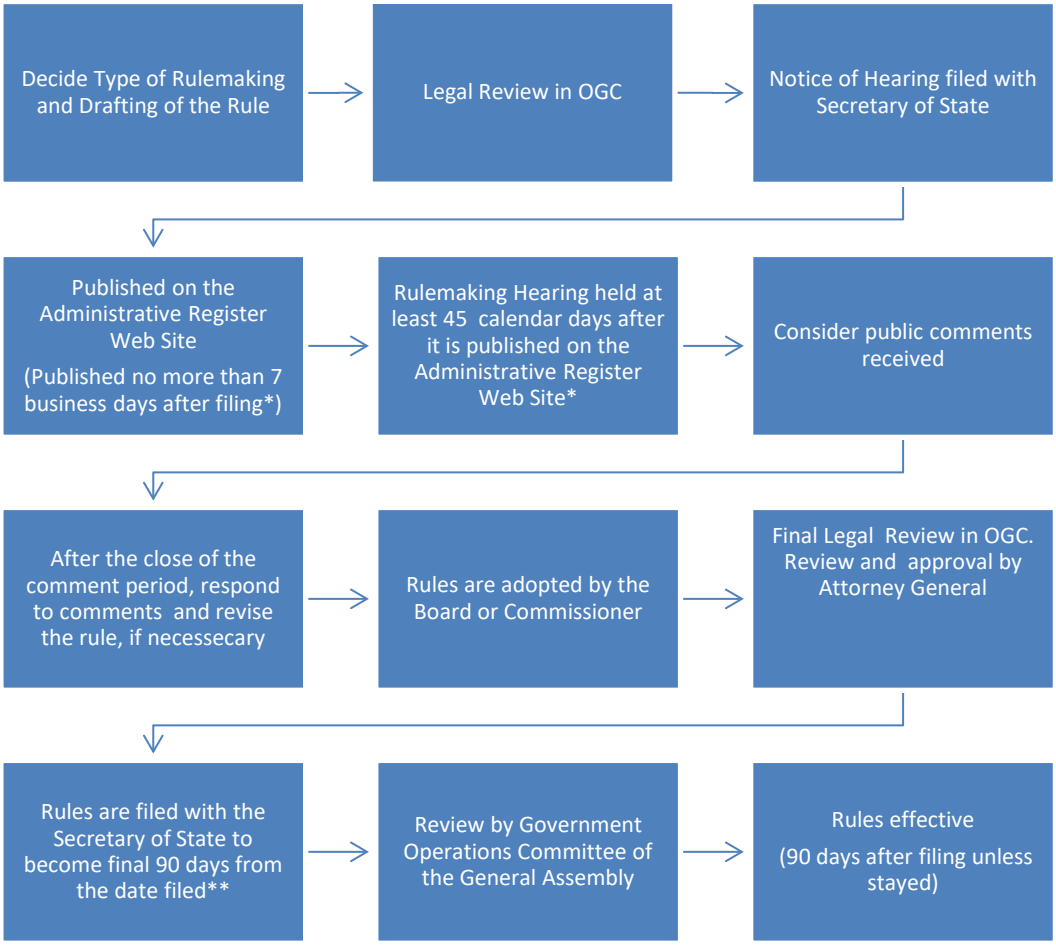
(m) Filing with the Secretary of State's Office, Division of Publications; and

(n) Explaining the rule to the Government Operations Committees of the General Assembly and obtaining their recommendation of the rule.

(o) Rules become effective on the effective date assigned by the Secretary of State's Office, Division of Publications (typically 90 days after filing with Secretary of State or as prescribed by the rule).

PROCESS FLOW DIAGRAM FOR RULEMAKING HEARING RULES

The following flow diagram shows the basic steps used to draft and promulgate Rulemaking Hearing Rules



*TCA 4-5-203
**TCA 4-5-207

Note: Rules may be stayed for up to 75 days within the 90 day period by the agency and up to 75 days by the Government Operations Committees following the filing with the Secretary of State.

Note: Rules may be withdrawn before they become effective by filing a "Withdrawal of Rules". Withdrawal of Rules nullifies all procedures undertaken to promulgate the rules. See Tenn. Code Ann. Section 4-5-214.

(b)(1)(A) The members of any public body which consists of two (2) or more members, with the authority to make decisions for or recommendations to a public body on policy or administration and also means a community action agency which administers community action programs under the provisions of 42 U.S.C. § 2790. Any governing body so defined by this section shall remain so defined, notwithstanding the fact that such governing body may have designated itself as a negotiation committee for collective bargaining purposes, and strategy sessions of a governing body under such circumstances shall be open to the public at all times;

(c) Nothing in this section shall be construed as to require a chance meeting of two (2) or more members of a public body to be considered a public meeting. No such chance meetings, informal assemblages, or electronic communication shall be used to decide or deliberate public business in circumvention of the spirit or requirements of this part.

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(a) NOTICE OF REGULAR MEETINGS. Any such governmental body which holds a meeting previously scheduled by statute, ordinance, or resolution shall give adequate public notice of such meeting.

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§ 8-44-105

Any action taken at a meeting in violation of this part shall be void and of no effect; provided, that this nullification of actions taken at such meetings shall not apply to any commitment, otherwise legal, affecting the public debt of the entity concerned.

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(b)(1) A governing body may, but is not required to, allow participation by electronic or other means of communication for the benefit of the public and the governing body in connection with any meeting authorized by law; provided, that a physical quorum is present at the location specified in the notice of the meeting as the location of the meeting.

(b)(2) If a physical quorum is not present at the location of a meeting of a governing body, then in order for a quorum of members to participate by electronic or other means of communication, the governing body must make a determination that a necessity exists. Such determination, and a recitation of the facts and circumstances on which it was based, must be included in the minutes of the meeting.

(b)(3) If a physical quorum is not present at the location of a meeting of a governing body other than a state debt issuer, the governing body other than a state debt issuer must file such determination of necessity, including the recitation of the facts and circumstances on which it was based, with the office of secretary of state no later than two (2) working days after the meeting. The secretary of state shall report, no less than annually, to the general assembly as to the filings of the determinations of necessity. This subdivision (b)(3) shall not apply to the board of regents, to the board of trustees of the University of Tennessee or to the Tennessee higher education commission.

(4) Nothing in this section shall prohibit a governing body from complying with § 8-44-109.

(c)(1) Any meeting held pursuant to the terms of this section shall comply with the requirements of the Open Meetings Law, codified in this part, and shall not circumvent the spirit or requirements of that law.

(c)(2) Notices required by the Open Meetings Law, or any other notice required by law, shall state that the meeting will be conducted permitting participation by electronic or other means of communication.

(c)(3) Each part of a meeting required to be open to the public shall be audible to the public at the location specified in the notice of the meeting as the location of the meeting. Each member participating electronically or otherwise must be able to simultaneously hear each other and speak to each other during the meeting. Any member participating in such fashion shall identify the persons present in the location from which the member is participating.

(c)(4) Any member of a governing body not physically present at a meeting shall be provided, before the meeting, with any documents that will be discussed at the meeting, with substantially the same content as those documents actually presented.

(c)(5) All votes taken during a meeting held pursuant to the terms of this section shall be by roll call vote.

(c)(6) A member participating in a meeting by this means is deemed to be present in person at the meeting for purposes of voting, but not for purposes of determining per diem eligibility. However, a member may be reimbursed expenses of such electronic communication or other means of participation.

§ 8-44-112

(a) A governing body shall, for each public meeting, reserve a period for public comment to provide the public with the opportunity to comment on matters that are germane to the items on the agenda for the meeting.

(b) The governing body may put reasonable restrictions on the period for public comment, such as the length of the period, the number of speakers, and the length of time that each speaker will be allowed to provide comment. The governing body may require a person to give notice in advance of the desire to offer comments at a meeting. The governing body shall take all practicable steps to ensure that opposing viewpoints are represented fairly, if any.

(c) A notice for a public meeting shall indicate the manner in which a person may indicate the person's desire to provide public comment at the meeting.

(d) This section does not apply to:

(1) A meeting of a governing body, or a portion thereof, where the governing body is conducting a disciplinary hearing for a member of the governing body or a person whose profession or activities fall within the jurisdiction of the governing body; or

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III. Uniform Administrative Procedures Act

§ 4-5-202

(a)(1) and (2) An agency shall precede all its rulemaking with notice and a public hearing unless the rule is adopted as an emergency rule; or the proposed rule is posted to the administrative register web site within the secretary of state's web site within seven (7) days of receipt, together with a statement that the agency will adopt the proposed rule without a public hearing unless within ninety (90) days after filing of the proposed rule with the secretary of state, a petition for a public hearing on the proposed rule is filed by ten (10) persons who will be affected by the rule, an association of ten (10) or more members, a municipality or by a majority vote of any standing committee of the general assembly. If an agency receives such a petition, it shall not proceed with the proposed rulemaking until it has given notice and held a hearing as provided in this section. The agency shall forward the petition to the secretary of state. The secretary of state shall not be required to compile all filings of the preceding month into one (1) document.

(b) Subdivision (a)(2) does not apply if another statute specifically requires the agency to hold a hearing prior to adoption of the rule under consideration.

§ 4-5-203

(a)(1) and (2) Whenever an agency is required by law to hold a public hearing as part of its rulemaking process, the agency shall transmit written notice of the hearings to the secretary of state for publication in the notice section of the administrative register web site and, if a statute applicable to the specific agency or a specific rule or class of rules under consideration requires some other form of publication, publish notice as required by that statute in addition to publication in the notice section of the administrative register web site. Such notice of a hearing

shall remain on the web site until the date of such hearing; and take such other steps as it deems necessary to convey effective notice to persons who are likely to have an interest in the proposed rulemaking.

(b) Except as otherwise permitted by § 4-5-204(e), notice through publication on the administrative register web site shall be given at least forty-five (45) days prior to the date set for the hearing and shall be deemed to have been given seven (7) days from the date notice was transmitted to the secretary of state for such publication.

§ 4-5-211

No rule shall be filed in the office of the secretary of state until such rule has been filed with the office of the attorney general and reporter. The office of the attorney general and reporter shall review the legality and constitutionality of every rule filed pursuant to this section and shall approve or disapprove of rules based upon the attorney general's determination of the legality of such rules. The attorney general and reporter shall not disapprove an emergency rule filed pursuant to § 4-5-208 solely on the basis of failure to meet the statutory criteria for adoption of the rule contained in this chapter, unless the attorney general and reporter determines and states in writing that the attorney general and reporter could not defend the legality of the rule on the basis of failure to meet the statutory criteria for adoption of the rule contained in this chapter, in any action contesting the legal validity of the rule.

§ 4-5-301

(a)(1) and (2) In the hearing of any contested case, the proceedings or any part thereof shall be conducted in the presence of the requisite number of members of the agency as prescribed by law and in the presence of an administrative judge or hearing officer; or by an administrative judge or hearing officer sitting alone.

(c) The agency shall determine whether a contested case shall be conducted by an administrative judge or hearing officer sitting alone or in the presence of members of the agency; provided, that administrative judges or hearing officers employed in the office of the secretary of state shall not be required to conduct a contested case sitting alone in the absence of agreement between the agency and the secretary of state.

Tab 8

Travel Regulations

Board Member Travel Overview

Reimbursement of travel expenses for board members traveling to and from official board meetings must be in accordance with the State of Tennessee, ***Department of Finance and Administration Comprehensive Travel Regulations (Policy 8).***

All claims for travel reimbursement must be made on the **State of Tennessee Claim for Travel Expenses form.**

Current Travel Regulations and Reimbursement Rates can be found at:
https://www.teamtn.gov/finance/travel-information.html

Mileage Reimbursement:

- Reimbursement for the use of personally owned cars is at the standard mileage rate, as reflected in the Reimbursement Rate Schedule.

Meals:

- Per Diem rates, as reflected in the Reimbursement Rate Schedule, include a fixed allowance for meals and incidentals.
- No itemization of expenses is required.
- No receipts are required.
- Reimbursement for meals and incidentals for the day of departure and day of return is three-fourths of the appropriate per diem rate.
- Reimbursement of meals is allowed only when overnight travel is involved.

Parking:

- No receipt is required for daily parking fee of $8.00 or less.
- Receipt is required for daily parking fee greater than $8.00.

Lodging:

- Will be reimbursed for actual lodging costs plus tax up to the applicable maximum amounts listed on the Reimbursement Rate Schedule.
- Receipts are required.
- Receipts must itemize room charges and taxes by date.

Department of Environment & Conservation

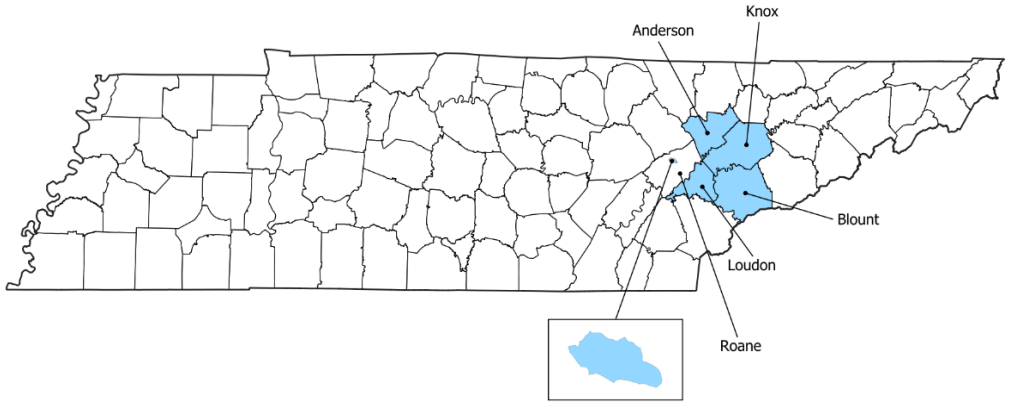
Knoxville Maintenance Area $PM_{2.5}$ Limited Maintenance Plan

APC Board Meeting– January 14, 2026

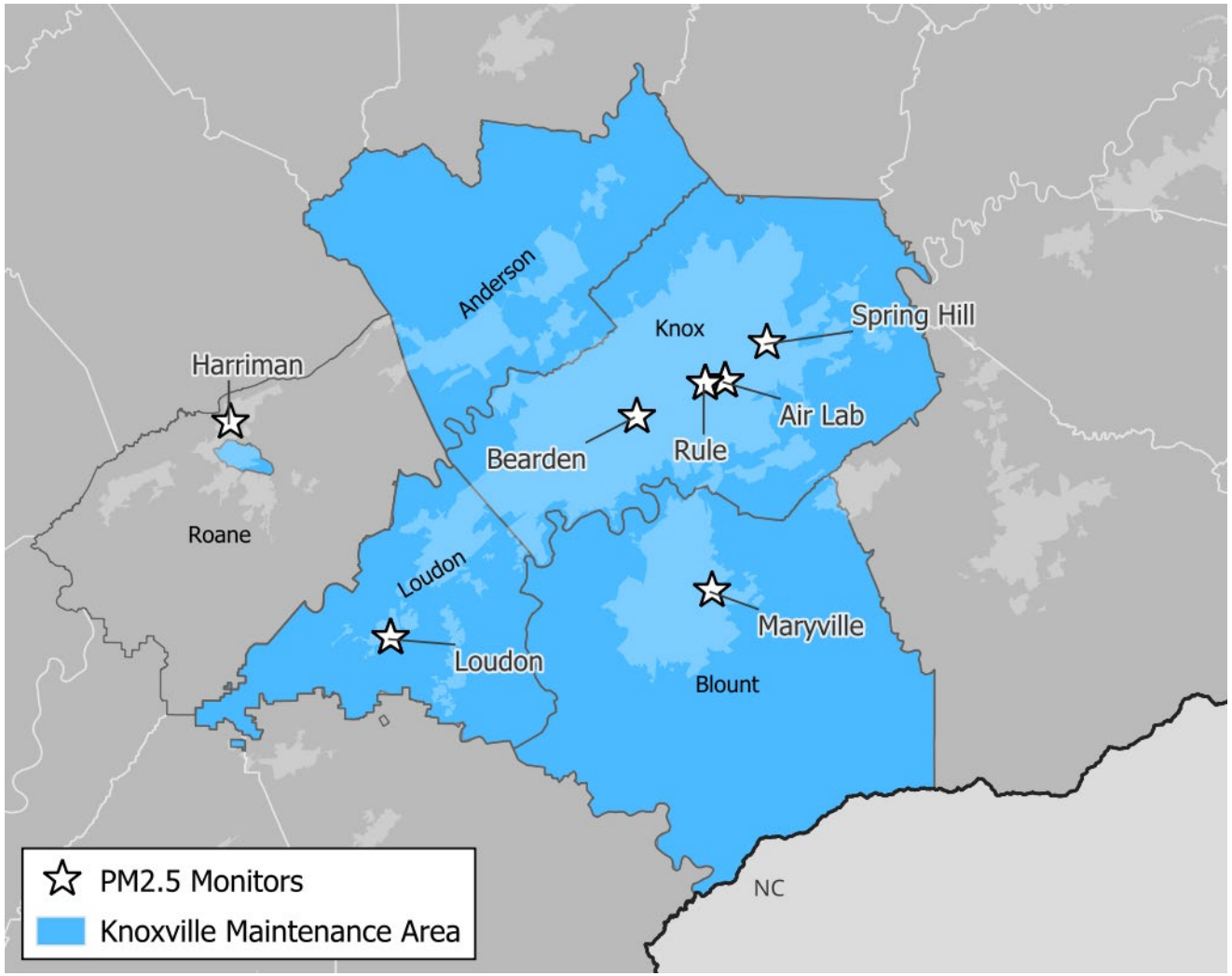
Hannah Nodell, Environmental Consultant

Introduction

- Area Designated as Nonattainment for 2006 24-Hour $PM_{2.5}$ National Ambient Air Quality Standard (NAAQS) effective December 14, 2009
- Maintenance plans are written to ensure continued compliance with the NAAQS after an area is redesignated from nonattainment to attainment.
- Area Redesignated Attainment for 2006 24-Hour $PM_{2.5}$ NAAQS effective September 27, 2017
  - The first 10-year maintenance plan and the redesignation request were submitted to the EPA as one document.
- Anderson, Blount, Knox, Loudon and Partial Roane Counties
- 2nd 10-Year Maintenance Plan due to EPA September 2025 (8 years after the effective date of the redesignation)



Regulatory Monitors located in the Knoxville Maintenance Area



Air Quality Trends

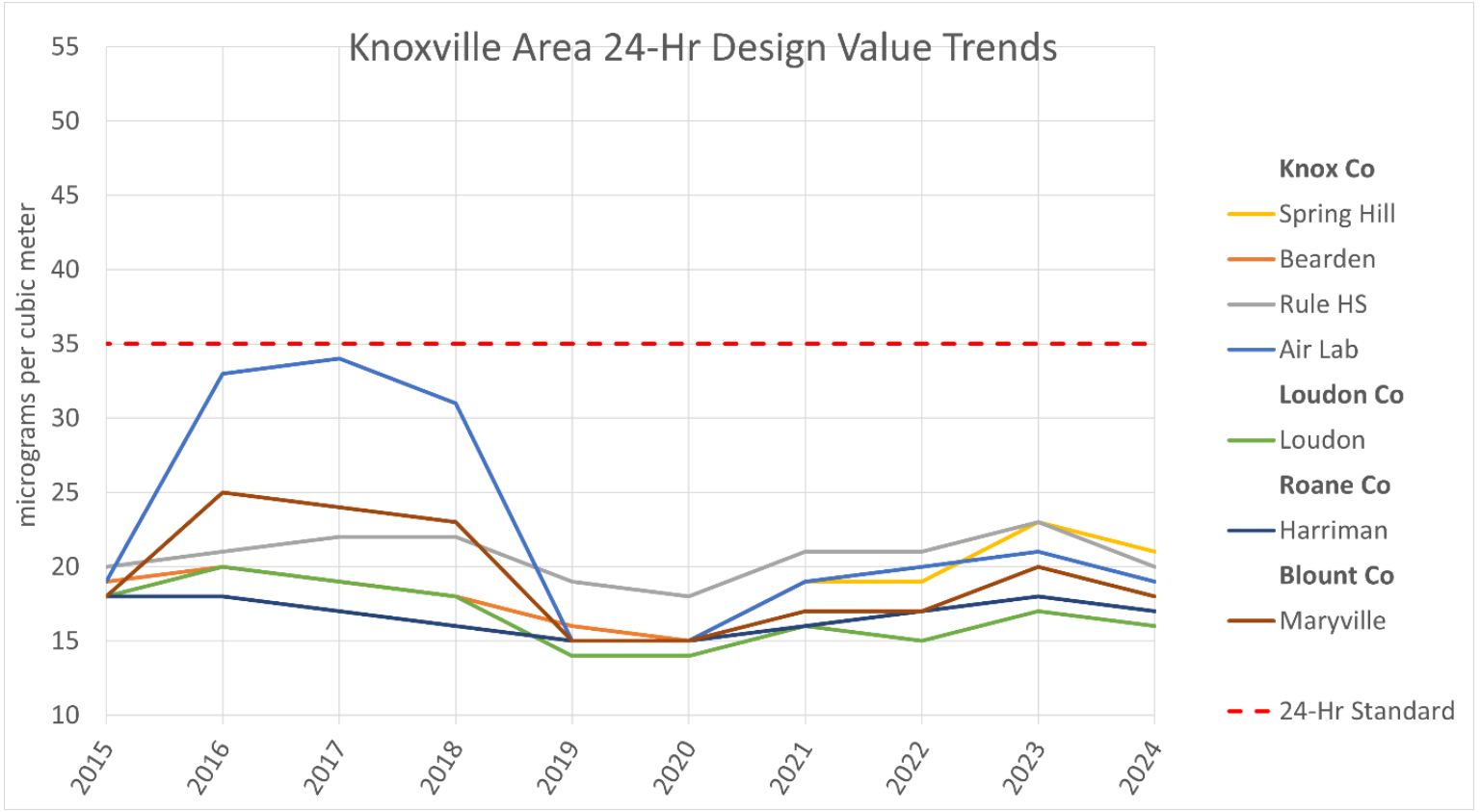


Figure 3. Knoxville Area 3-year Design Values for the 24-hr $PM_{2.5}$ NAAQS 2015-2024

Limited Maintenance Plan

- Knoxville maintenance area not expected to experience significant emissions growth during the 2nd 10-year maintenance period and $PM_{2.5}$ monitored concentrations remained stable and below NAAQS levels, so risk of violating NAAQS in the future is relatively low.

- Limited Maintenance Plan (LMP)=reasonable option
  - Limited maintenance plans are less resource intensive than standard maintenance plans, no future year emissions inventory is required, for example).

- LMP written in accordance with EPA 2022 Guidance Document

- In LMP, future year emissions inventory not required

- Required elements:
  - Attainment year emissions inventory
  - Provisions for continued operation of monitoring network
  - Verification of continued attainment
  - Contingency Plan
  - Meet applicable requirements for exceptional events/data modifications, and for transportation and general conformity programs as set forth in relevant implementing regulations for each program.

Limited Maintenance Plan

- To evaluate whether an area is eligible for an LMP, the EPA Guidance includes a calculation used to determine if the Average Design Value<Critical Design Value for each monitoring site in maintenance area.

- Calculation assesses likelihood of an area to violate the NAAQS in the future based on monitoring trends.
  - If the ADV is less than the CDV, then the likelihood of a NAAQS violation is low
  - If the ADV is lower than the CDV, then the probability of a future exceedance is less than 10%

- Our results demonstrate that the ADV<CDV and that Knoxville maintained the NAAQS for at least 8 years, making the area eligible for an LMP

Attainment Inventory Development

- Attainment Inventory
  - "The inventory should represent emissions during the same five-year period associated with the air quality data used to determine whether the area meets the applicability requirements of this policy (i.e., the most recent five years of air quality data)."

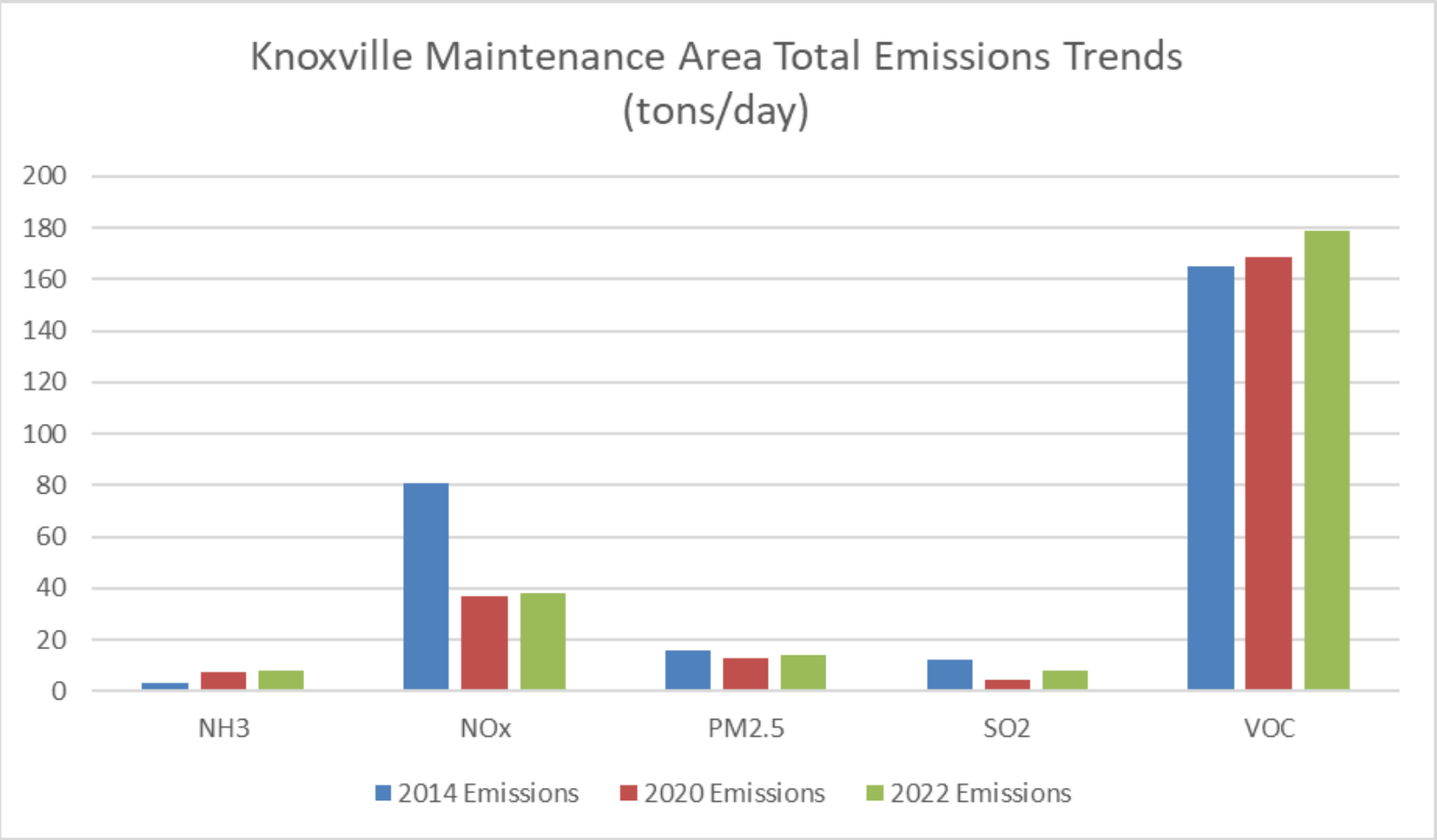
- Analysis Year
  - 2020 National Emission Inventory (NEI): supplemented with 2014 NEI and 2022 Emission Modeling Platform (EMP)
  - 2014 was base year used in 1st Maintenance Plan
  - 2020 affected by the Covid-19 pandemic

- Pollutants:
  - $PM_{2.5,}$
  - Volatile Organic Compounds (VOCs),
  - Sulfur Dioxide (SO_2),
  - Nitrogen Oxide (NOx),
  - Ammonia (NH3)

- Geographic Area
  - Knoxville Maintenance Area

- Inventory Source Sectors: Point, Nonpoint, Non-road mobile, On-road mobile

Emissions Trends



- NO_x, $PM_{2.5}$, and SO_2 levels decreased from 2014 to 2022.
- NO_x decreased by approximately 53%, $PM_{2.5}$ decreased by approximately 10%, and SO_2 decreased by approximately 34%.
- Small increase of approximately 9% in VOC emissions from 2014 to 2022, which was due to increases in the point and non-point emission sectors.
- The first maintenance plan mentioned an expected increase in ammonia levels, and that was confirmed in the 2020 NEI and 2022 EMP data.
  - Methodology changes for calculating NH_3

Contingency Plan

- Section 175A of the Clean Air Act (CAA) requires that a maintenance plan include such contingency measures as EPA deems necessary to assure that the State will promptly correct a NAAQS violation that might occur in the maintenance area after redesignation.

- The primary trigger of the contingency plan will be a quality assured/quality-controlled violating design value (DV) of the 2006 24-hour $PM_{2.5}$ NAAQS at any monitor.

- Tennessee and Knox County DAQM will monitor regional emissions through the Air Emissions Reporting Requirements (AERR) rule.

- Tennessee and the Knox County DAQM will implement the appropriate contingency measures needed to assure future attainment of the $PM_{2.5}$ NAAQS within eighteen to twenty-four months of the monitored violation.

Motor Vehicle Emission Budgets

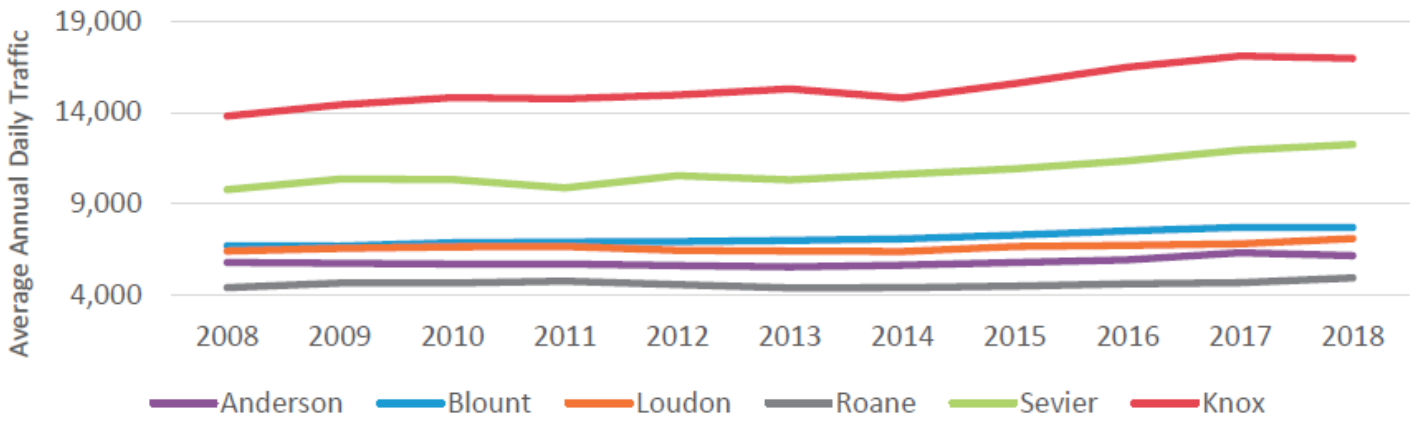
MVEB:

- These budgets are used by the transportation authorities to assure that transportation plans, programs, and projects are consistent with, and conform to, the maintenance of acceptable air quality in the Knoxville area
- Not required in LMPs

40 CFR 93.109(e):

"A limited maintenance plan would have to demonstrate that it would be unreasonable to expect that such an area would experience enough motor vehicle emissions growth for a NAAQS violation to occur."

Despite Vehicle Miles Traveled (VMT) growth…



Source: TDOT

… $PM_{2.5}$ air quality has improved in the region.

MVEBs

VMT Projections from the Transportation Planning Organization's (TPO) most recent Conformity Determination Report (CDR):

Table 5-1 Base Year and Projected Vehicle Miles Traveled

County	2022 HPMS	2026	2035	2040	2050
Anderson	2,614,333	2,661,950	2,797,783	2,902,427	2,971,962
Blount	3,567,522	3,708,824	4,122,471	4,419,940	4,853,147
Knox	17,636,854	18,235,619	19,538,831	20,099,307	21,837,569
Loudon	2,498,786	2,584,771	2,823,810	3,015,419	3,254,724
Roane (partial)	x	165,935	180,254	190,245	204,517
Total Projected VMT		27,357,099	29,463,149	30,627,338	33,121,919

MVEBs

$PM_{2.5}$ emissions projections from most recent Knoxville TPO CDR:

Table 5-2 Knoxville TPO Projected Onroad Emissions of $PM_{2.5}$.

	$PM_{2.5}$ Emissions (tons per day)			
	Analysis Year			
	2026	2035	2040	2050
Anderson	0.04	0.02	0.02	0.02
Blount	0.06	0.04	0.04	0.04
Knox	0.28	0.20	0.19	0.20
Loudon	0.04	0.03	0.03	0.03
Roane (partial)	0.00	0.00	0.00	0.00
Total	0.42	0.30	0.28	0.29
MVEB	1.22	0.67	0.67	0.67

NOx emissions projections from most recent Knoxville TPO CDR:

Table 5-3 Knoxville TPO Projected Onroad Emissions of NO_x

	NO_x Emissions (tons per day)			
	Analysis Year			
	2026	2035	2040	2050
Anderson	1.22	0.44	0.35	0.30
Blount	1.44	0.55	0.43	0.39
Knox	8.15	3.34	2.71	2.53
Loudon	1.44	0.57	0.47	0.42
Roane (partial)	0.10	0.04	0.03	0.03
Total	12.35	4.92	3.99	3.67
MVEB	42.73	19.65	19.65	19.65

Projected emissions for both $PM_{2.5}$ and NO_x are lower than the MVEB established for the first maintenance plan.

Public Hearing

- Public Hearing held on November 20, 2025, at the Knoxville Environmental Field Office
- No comments received

LMP Schedule

Event	Date
Pre-Draft of SIP sent to IAC	July 21, 2025
Pre-Draft of SIP sent to EPA	July 23, 2025
End of IAC Comment Period	August 21, 2025
Public Notice (30-day comment period)	October 20, 2025
Public Hearing	November 20, 2025
APC Board Approval	January 2026
Submit Final SIP to EPA	January 2026
EPA Approval/Disapproval of SIP	TBD

Questions

Hannah Nodell
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Tennessee Department of Environment and Conservation
Division of Air Pollution Control
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TENNESSEE DEPARTMENT OF ENVIRONMENT & CONSERVATION
BUREAU OF ENVIRONMENT
DIVISION OF AIR POLLUTION CONTROL

IN THE MATTER OF

KNOXVILLE AREA SECOND 10-YEAR LIMITED MAINTENANCE PLAN FOR THE 2006 $PM_{2.5}$ NAAQS	)))	ORDER NO. 26-001

BOARD ORDER

The following matter came before the Tennessee Air Pollution Control Board on January 14, 2026.

The Tennessee Department of Environment and Conservation (TDEC), in conjunction with the Knox County Air Quality Management Division, has prepared a Second 10-year Limited Maintenance Plan for the Knoxville Area. The United States Environmental Protection Agency (EPA) promulgated a revised $PM_{2.5}$ NAAQS of 35 $\mu g/m^3$ on October 17, 2006. EPA designated the Knoxville area, which includes Anderson, Blount, Knox, and Loudon counties as well as a portion of Roane County, as nonattainment on November 13, 2009, with an effective date of December 14, 2009. On December 14, 2016, TDEC requested that EPA redesignate the Knoxville Area to attainment based on attaining monitoring data and permanent and enforceable measures. On August 28, 2017, the EPA approved the redesignation request and maintenance plan with an effective date of September 27, 2017. Eight years after redesignation, Tennessee must submit to the EPA a second maintenance plan for the remainder of the 20-year maintenance period. This Knoxville Area $PM_{2.5}$ Limited Maintenance Plan was prepared in accordance with Section 175A of the Clean Air Act and the EPA guidance documents. The Knoxville Area 2006 $PM_{2.5}$ Limited Maintenance Plan includes an attainment emissions inventory, maintenance demonstration, monitoring data, verification of continued attainment and a contingency plan. The Knoxville Area $PM_{2.5}$ Limited Maintenance Plan will last into 2037.

A public hearing notice was posted on the TDEC website on October 20, 2025. A Public Hearing was held on November 20, 2025. The end of the public comment period was November 20, 2025.

Following the Board's approval, the Knoxville Area Second 10-year Limited Maintenance Plan for the 2006 $PM_{2.5}$ NAAQS shall be adopted.

Approved by the following members of the Air Pollution Control Board of the State of Tennessee, and entered on the 14th day of January 2026.

Redesignation Request and Maintenance Plan for the Sullivan County, Tennessee One-Hour Sulfur Dioxide Nonattainment Area (2010 SO_2 NAAQS)

Revised Monitoring Requirements for Hazardous Waste Combustors

January 14, 2026

Prepared by:

Tennessee 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

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Request for Parametric Monitoring Revisions
Eastman Chemical Company Hazardous Waste Incinerators

Introduction

On June 11, 2025, the Division of Air Pollution Control issued SIP permit 082237, which establishes revised emission limits and monitoring requirements for sources of sulfur dioxide (SO_2) emissions at Eastman Chemical Company's Kingsport, Tennessee operations. Condition S5-1 of this permit limited SO_2 emissions Eastman's from Eastman's rotary kilns (MSOP-32[1], PES B-248-1 and B-248-2) to 15.2 lb/hr (combined limit, 30-day rolling average), and Condition S6-1 limited SO_2 emissions from Eastman's liquid chemical destructor (LCD) to 2.0 lb/hr (30-day rolling average).

Emissions from all three incinerator units are controlled by a series of air pollution control devices: a quench chamber, multi-rod scrubber, and a pair of wet electrostatic precipitator (WESP) units connected in series (**Figure 1, Figure 2**). For each unit, the multi-rod scrubber is the primary SO_2 control device, and compliance with these emission limits is based upon parametric monitoring of the sulfur feed rate and the pH of the rod scrubber underflow[2].

The sulfur dioxide removal efficiency was established by process modeling of varying pH values using a commercially available software package (ASPEN®), and simulations of varying sulfur loading conditions to derive a series of correlation curves relating pH and scrubber control efficiency. The correlation curve for the highest sulfur feed modeled was used to develop the relationship programmed into the plant's distributed control system (DCS), and the DCS relationship was programmed as a series of straight lines plotted between the following points (**Table 1**):

Table 1: pH Correlation Curve, SIP Permit 082237

Rod Scrubber Underflow pH	Sulfur Dioxide Removal Efficiency (%)
0.00	0.0
4.13	0.0
4.20	67.2
4.42	82.8
4.74	90.6
5.64	98.1
14.00	98.1

[1] Eastman is a megasource with 25 Title V Operating Permits issued to the facility, and the facility's hazardous waste incinerators and associated operations are designated as Major Source Operating Permit (MSOP)-32.

[2] These parameters are established through the performance testing requirements established pursuant to 40 CFR 63 Subpart EEE (National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors).

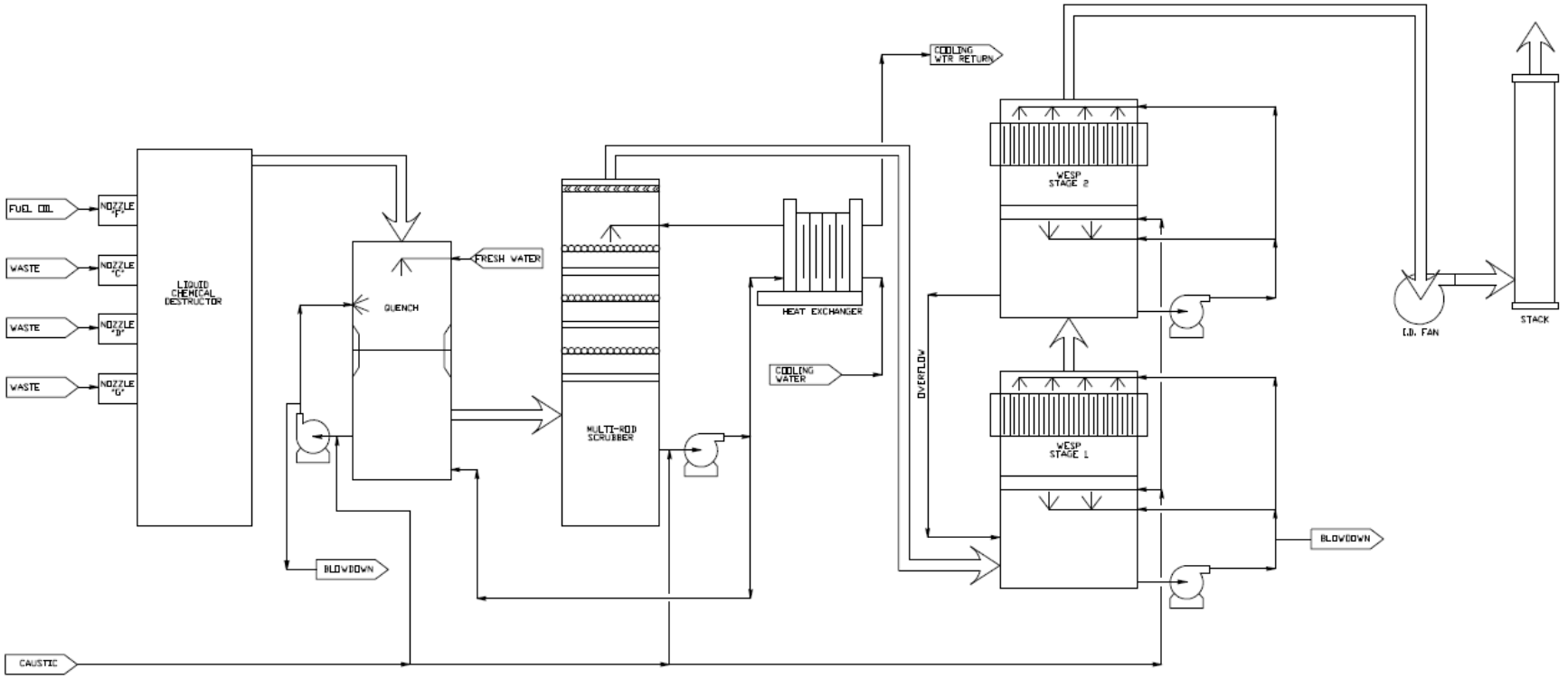

Figure 1: Process Flow Diagram for the Liquid Chemical Destructor[3]

[3] Eastman Chemical Company, *Comprehensive Performance Test Report and Notification of Compliance for the Liquid Chemical Destructor*, May 1, 2023.

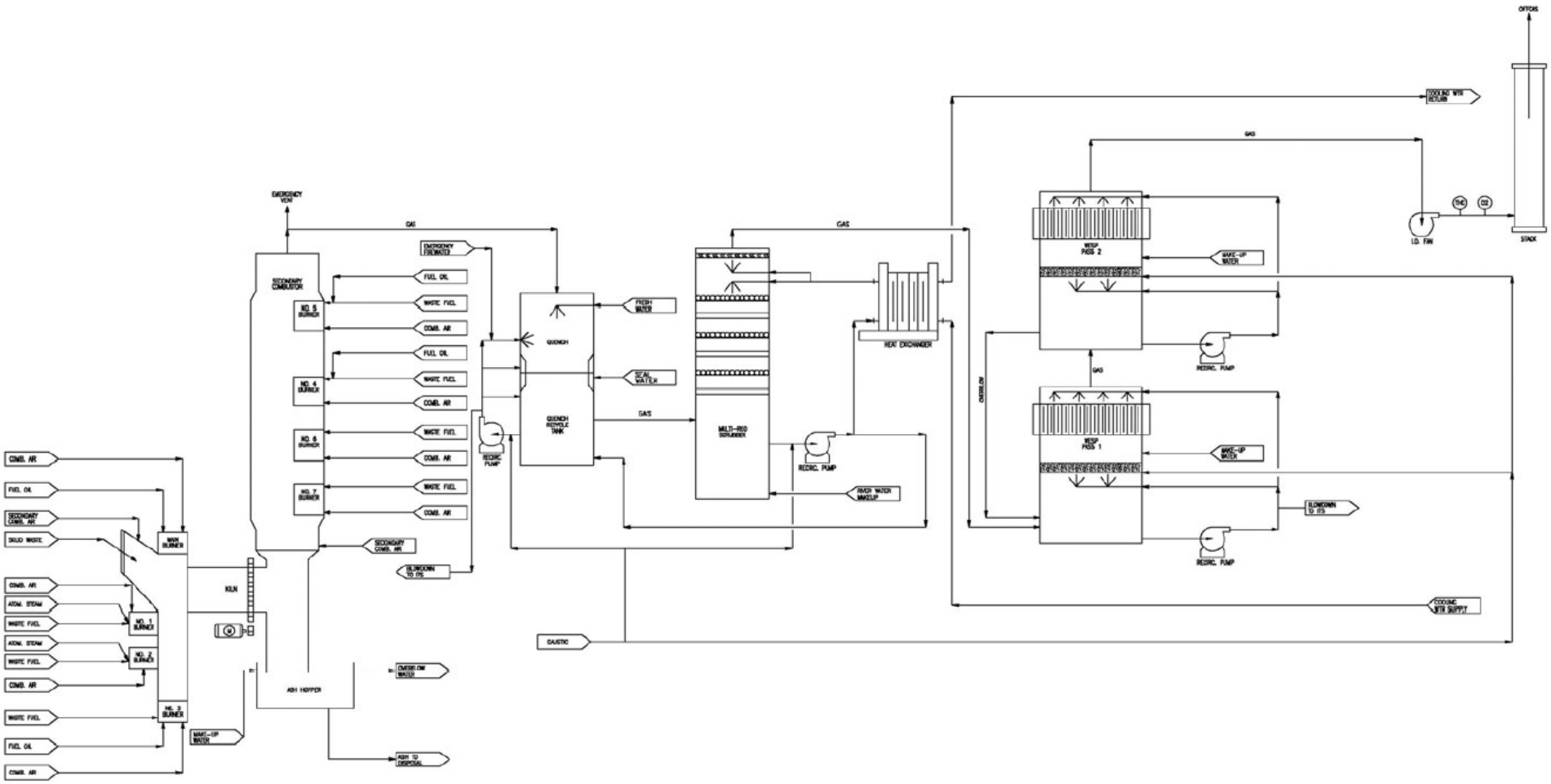

Figure 2: Process Flow Diagram for Rotary Kiln[4]

[4] Eastman Chemical Company, *Comprehensive Performance Test Report and Notification of Compliance for the Rotary Kiln Incinerators*, May 13, 2024.

Request for Parametric Monitoring Update

On May 1, 2025, Eastman submitted a Title V renewal application for MSOP-32, and that application requested that the Division update the parametric relationship between scrubber pH and SO_2 removal efficiency as indicated in **Table 2**. Eastman's proposed removal efficiencies are unchanged for pH values above 4.20, but the application requests approval of non-zero SO_2 removal efficiencies between pH 3.44 and 4.20.

Table 2: pH Correlation Curve, May 1, 2025, Title V Renewal Application	
Scrubbing Media pH	**SO_2 Removal Efficiency (%)**
<3.44	0
3.44	12.1
3.61	18.0
3.81	30.0
4.01	47.9
4.20	67.2
4.42	82.8
4.74	90.6
≥5.64	98.1

The application states that updated computer simulations using ASPEN Plus® were conducted to establish the scrubbing medium pH at varying sulfur loading conditions, and the correlation curve for the highest sulfur feed modeled (2,000 lb/hr) was used to develop the relationship between pH and removal efficiency. The application was also updated to identify the multi-rod scrubber recirculation liquid to gas flow rate (L/G) ratio as a key parameter. All removal efficiencies were determined using the minimum L/G ratio determined during the most recent Comprehensive Performance Test, as required by 40 CFR 63 Subpart EEE, for each unit.

The multi-rod scrubber recirculation liquid to gas flow rate ratio (L/G) is also a key parameter that indicates SO_2 removal efficiency. For each hazardous waste combustor, the minimum rod scrubber liquid input flow to gas flow ratio is not measured directly but is calculated from other directly measured parameters. For each unit, the stack gas flow rate is measured in the ductwork between the final control device (wet electrostatic precipitator) and the induced draft fan located at the stack inlet. The scrubbing liquid flow rates are measured by liquid flow meters located between each heat exchanger and the rod scrubber spray nozzles[5]. The removal efficiencies above at each pH range were all determined using the same minimum L/G ratios as determined during the most recent HWC MACT (40 CFR 63 Subpart EEE) required Comprehensive Performance Test (CPT) on each unit: The minimum rod scrubber liquid-to-gas ratios are 77 gal/1,000 acf for the LCD (average of three test runs determined from the CPT conducted on November 2-3, 2022) and 64.3 gal/1,000 acf for each rotary kiln (average of three test runs determined from the CPT conducted for RK1 on

[5] See Eastman Chemical Company, *Comprehensive Performance Test (CPT) Plan for the Rotary Kiln Incinerators (RKIs)*, October 2017; and Eastman Chemical Company, *Notification of Intent (NOI) to Conduct a Comprehensive Performance Test (CPT) and Continuous Monitoring System (CMS) Performance Evaluation Test at Eastman's Liquid Chemical Destructor (LCD) and Request for Approval of the CPT Plan and CMS Performance Evaluation Test Plan for the LCD*, July 15, 2021.

November 15, 2023). RK1 and RK2 are identical units, and the CPT for RK1 serves as a compliance demonstration for both units. The application states that if the L/G ratio (hourly rolling average) drops below the minimum established by Subpart EEE, then the SO_2 removal efficiency shall be assumed to be zero.

The parametric relationship provided in Table 2 is based on modeled simulations using the ASPEN Plus® Software as of May 1, 2025. Any subsequent updates to the parametric relationship would be used to either confirm that the correlation in the Table is still valid or to re-establish a new correlation using the Aspen Plus® Software simulations (as described above) and/or required comprehensive performance test conducted in accordance with 40 CFR 63 Subpart EEE. The frequency of simulation updates depends on how often a process or control device is changed that could affect the SO_2 removal efficiency provided in the tables at Step 2 of the parametric modeling protocol (CAM Plan, Appendix 1 of permit 083740). For measurement of the L/G ratio, any changes to the existing CPMS or operating parameter limits will be established or confirmed by a performance test or other relevant method, as specified by 40 CFR 63 Subpart EEE, the test or determination results will be submitted to the TDEC's Division of Air Pollution Control for approval, and the updated or revised parametric values will be enforceable in accordance with the requirements of 40 CFR 63 Subpart EEE (see Condition E2-6 and Attachment 2 of Title V Operating Permit 576926 and the Title V renewal application dated May 1, 2025).

Review of Eastman's Request for Updated Monitoring

Absorption of SO_2 in water involves a series of acid-base reactions, and though the individual reactions are straightforward, the interaction of these reactions is relatively complex. The first step involves no chemical change, but a physical change occurs with mass transfer of SO_2 from the stack gas to the scrubbing liquid (**Equation 1**), followed by reaction with water to produce sulfurous acid, a weak diprotic acid that readily loses one hydrogen to produce a free proton and bisulfite anion (**Equation 2**). The aqueous bisulfite anion may further dissociate into the sulfite anion (**Equation 3**), but the second hydrogen ion is more weakly dissociated from the corresponding base[6].

All three reactions are reversible and can be shifted toward products or reactants by changing the reaction conditions. For acid dissociation, a commonly manipulated variable is the removal of hydrogen ions from solution by the addition of sodium hydroxide.

$$SO_2\,(g) \rightleftharpoons SO_2\,(aq) \qquad \textbf{Equation 1}$$

[6] Acid-base reactions are typically quantified by the *acid dissociation constant*, Ka, which is defined as the ratio of products to reactants, as follows:

$$Ka_1 = \frac{[H^+][HSO_3^-]}{[H_2SO_3]} \qquad Ka_2 = \frac{[H^+][SO_3^{2-}]}{[HSO_3^-]}$$

For the reactions described here, $Ka_1 = 0.015849$ and $Ka_2 = 6.31 \times 10^{-8}$, indicating that the first hydrogen ion is more easily lost in aqueous solution. Ka values referenced in this document were taken from McQuarrie and Rock, *General Chemistry*, 2nd Ed., p 593.

$$SO_2\ (aq) + H_2O\ (aq) \rightleftharpoons H^+ + HSO_3^-\ (aq)$$ **Equation 2**

$$HSO_3^-\ (aq) \rightleftharpoons H^+ + SO_3^{2-}\ (aq)$$ **Equation 3**

The primary factors influencing the equilibrium concentrations are the gaseous SO_2 feed rate[7] and the scrubbing liquid pH, but removal efficiency is also affected by factors such as scrubber sizing (liquid to gas ratio and engineering design to ensure adequate liquid-to-gas contact), scrubbing liquid temperature, and the presence of other soluble gases, including HCl and CO_2, in the vent stream. Because it is difficult to account for these variables manually, process simulation is commonly used to ensure that all variables are properly considered.

Description of Multi-Rod Scrubber Modeling[8]

A series of computer simulations using ASPEN Plus® software were conducted to establish the scrubbing medium pH as the key parameter that indicates the SO_2 removal efficiency[9]. The rod scrubber was simulated using the electrolyte-NRTL vapor-liquid equilibria model, including the modeling of the components CO_2, O_2, SO_2, N_2, and HCl using Henry's Law[10]. Electrolyte binary interaction parameters were obtained from the Aspen version 12 electrolyte-NTRL database. The quench was modeled as a single stage flash, while the rod scrubber was modeled as two ideal stages, and the wet electrostatic precipitators (WESPs) were modeled as two ideal stages of separation. The Aspen software does not include the ability to extract example calculations, but Eastman provided the following parts of the output file as examples (**Figure 1**). The results of these analyses were summarized in tabular form and submitted with the Title V renewal application for the hazardous waste incinerators.

[7] The SO_2 feed rate is directly correlated to the feed rate of elemental sulfur to the incinerator:

$$S + O_2 \longrightarrow SO_2$$

[8] The information in this section was provided by Eastman Chemical Company at the request of the Division of Air Pollution Control.

[9] SO_2 removal efficiencies may also be established through performance testing, but as Tennessee explained in a prior submittal (Response to Comments for the SO_2 Attainment Demonstration submitted February 8, 2023), SO2 emissions from the hazardous waste combustion are minimal and are likely to remain low following the sale of Eastman's resins business (this sale was documented in an August 17, 2022, e-mail from Steve Moore, Eastman Chemical Company, to Travis Blake, TDEC-APC, and in a March 31, 2022 press release from Eastman Chemical Company: *Eastman completes sale of adhesives resins business*). Performance testing for SO_2 would be difficult because Eastman is unlikely to have sulfur feed in sufficient quantity to provide valid test results.

[10] Henry's Law states that the solubility of gases in water is directly proportional at equilibrium to the gas's partial pressure over the liquid. This relationship is important for process modeling because the partial pressure of SO_2 will vary depending on the concentration of other gases in the mixture.

Liquid flow (Mass)	Vapor flow (Mass)	Liquid Composition (mass)															
lb/hr	lb/hr	H2O	H3O+	OH-	CO2	CO3--	HCO3-	O2	N2	SO2	SO3--	HSO3-	HCL	CL-	NA+	CA++	CAOH+
1.78E+06	133363	0.971486	2.03E-06	1.98E-11	5.38E-05	2.51E-12	8.30E-07	2.37E-06	8.34E-06	0.000109	4.65E-05	0.022024	2.60E-29	1.37E-11	0.00625	1.75E-05	1.66E-13
1.81E+06	137375	0.971865	2.86E-06	2.15E-11	5.33E-05	1.34E-12	5.80E-07	2.51E-06	9.01E-06	0.000176	2.99E-05	0.021697	4.20E-29	1.39E-11	0.006147	1.73E-05	2.01E-13

		Vapor Composition (mass)															
	Stage	H2O	H3O+	OH-	CO2	CO3--	HCO3-	O2	N2	SO2	SO3--	HSO3-	HCL	CL-	NA+	CA++	CAOH+
	1	0.083887	0	0	0.116461	0	0	0.105546	0.686266	0.007841	0	0	1.78E-19	0	0	0	0
	2	0.104883	0	0	0.113073	0	0	0.102463	0.666221	0.01336	0	0	4.31E-19	0	0	0	0

Figure 1: Example Rod Scrubber Profile

Rod Scrubber Blowdown and Wastewater Treatment[11]

The Rod Scrubber effluent and the Wet Electrostatic Precipitator (WESP) blowdown combine into the enclosed sump for the Rod Scrubber. From the Rod Scrubber sump, the effluent combines with the Quench underflow in an enclosed sump for the Quench. The effluent from the Quench sump then enters a hard piped interceptor sewer (ITS) drain header. The ITS drain header gravity flows through hard piping to one of two lift stations, namely, the B-454 Lift Station (Vent Q, PES WWT-1) or the B-63 Lift Station (Vent O, PES WWT-1). In the lift station, the effluent then combines with other process wastewater streams from across the plant site. From either lift station, the combined wastewater stream is then pumped to the influent pump station of the on-site wastewater treatment facility (Vents A and B, PES WWT-1).

Updates to Parametric Monitoring

Conditions E3-6 and E4-5 of Title V Operating Permit 576926 require Eastman's hazardous waste incinerators to comply with the applicable provisions of 40 CFR Part 64 (Compliance Assurance Monitoring) for the hazardous waste incinerators and associated SO_2 control devices. §64.7(e) (documentation of need for improved monitoring) states that after approval of monitoring, if the owner or operator identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the owner or operator must promptly notify the permitting authority and, if necessary, submit a proposed modification to the part 70 or 71 permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.

Pursuant to Conditions E3-6 and E4-5 of Title V Operating Permit 576926 and §64.7(e). Eastman is required to inform the Division of Air Pollution Control of updates to parametric monitoring values including notification of any comprehensive performance testing or other source specific methodology. Any changes to the parametric monitoring values will be incorporated into Eastman's existing Title V Operating Permit (576926) or subsequent permits pursuant to the permit issuance procedures established by to 40 CFR Part 70 and TAPCR 1200-03-09-.02(11).

[11] The information in this section was provided by Eastman Chemical Company at the request of the Division of Air Pollution Control.

Monitoring changes may be incorporated into a facility's Title V Operating Permit via either a minor modification or significant modification. If a facility determines that a change to existing monitoring is needed, they must perform the necessary technical work (via stack testing or updated process modeling) and submit an application to incorporate the updated parameters into the permit. The Tennessee Department of Environment and Conservation's Division of Air Pollution Control reviews the proposed change and request additional information from the facility as needed, and if the review indicates that the proposed change is approvable, then a permit modification is issued to incorporate the requested change. In general, minor modifications may be issued for changes that do not involve significant changes to existing monitoring, recordkeeping, and reporting, and significant modifications are required for more substantial changes. Minor permit modifications do not include a public comment period, but EPA review is required, and any approval of a minor permit modification request will be publicly available.

With respect to the parametric monitoring for Eastman Chemical Company's hazardous waste incinerators, Tennessee is authorized to approve parametric value changes through a final issued operating permit pursuant to TAPCR 1200-03-09-.02(11)(f)5(ii) (minor permit modifications), TAPCR 1200-03-09-.02(11)(f)5(iv) (significant permit modifications), Conditions C4 and C5 of Title V Operating Permit 576926[12], E3-6 and E4-5 of Title V Operating Permit 576926, and 40 CFR Part 64.

Clean Air Act §110(l)

Section 110(l) of the Clean Air Act requires each SIP revision to be adopted only after reasonable notice and public hearing and states that that the EPA Administrator may not approve any SIP revision that would interfere with any applicable requirement concerning attainment and reasonable further progress, or any other applicable requirement of the federal Act. The proposed revision would not interfere with any applicable requirement concerning attainment or maintenance of a NAAQS, reasonable further progress toward attainment of a NAAQS, or any other applicable requirement of the NAAQS. Specifically, the emission limits that are necessary for continued attainment of the SO_2 NAAQS in the Sullivan County nonattainment area will not change, and the existing monitoring requirements for the hazardous waste incinerators will not significantly change: the only requested change is to demonstrate that SO_2 removal will occur at a broader pH range. This revision will be submitted to the Tennessee Air Pollution Control Board upon completion of the public participation requirements specified by 40 CFR §51.102.

[12] Conditions C4 and C5 are general permit conditions that reference the permit modification requirements of TAPCR 1200-03-09-.02(11)(f)5(ii) and (iv), respectively.

Attachment A: SIP Permit 083740

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

PERMIT TO OPERATE AIR CONTAMINANT SOURCE(S)

Permit Number: 083740

Facility (Permittee): Eastman Chemical Company

Facility ID: 82-0003

Facility Address: 200 South Wilcox Drive, Kingsport
Sullivan County

Facility Classification: Title V

Federal Requirements: SIP

Facility Description: Emission Sources Identified in Section I of this Permit

Operating Permit 083740, consisting of 7 pages, is hereby issued January 14, 2026, pursuant to the Tennessee Air Quality Act and by the Technical Secretary, Tennessee Air Pollution Control Board, Department of Environment and Conservation. The holder of this permit shall comply with the conditions contained in this permit as well as all applicable provisions of the Tennessee Air Pollution Control Regulations (TAPCR).

Michelle W. Owenby
Technical Secretary
Tennessee Air Pollution Control Board

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.

Section I – Sources Included in this Operating Permit

FACILITY DESCRIPTION			
Source Number	**Source Description**	**Status**	**Control Device/Equipment**
282	Solid/Liquid Chemical Waste Incinerators (MSOP-32, PES B-248-1)	Active	Rod Scrubber
283	Liquid Chemical Waste Incinerator (MSOP-32, PES B-248-2)	Active	Rod Scrubber

Section II – Permit Record

Permit Type	Description of Permit Action	Issue Date
Initial	Initial SIP permit issuance	January 14, 2026

Section III - General Permit Conditions

G1. Reserved.

G2. General Recordkeeping Requirements

The information contained in logs, records, and submittals required by this permit shall be kept at the facility's address, unless otherwise noted, and provided to the Technical Secretary or a Division representative upon request. Computer-generated logs are acceptable. Compliance is assured by retaining the logs, records, and submittals specified in this permit for a period of not less than five years at the facility's address.

TAPCR 1200-03-10-.02(2)(a)

G3. Submittals

Unless otherwise specified within this permit, the permittee shall submit, preferably via email and in Adobe Portable Document format (PDF), all applicable plans, checklists, certifications, notifications, test protocols, reports, and applications to the attention of the following Division Programs at the email addresses indicated in the table below:

Permitting Program	Compliance Validation Program	Field Services Program
• Notifications • Startup certifications • Applications • NSPS reports • MACT/GACT/NESHAP reports • Emission statements • Construction permit extension requests	• Test protocols • Emission test reports • Visible emission evaluation reports	• Semiannual reports • Annual compliance certifications/status reports
Division of Air Pollution Control Davy Crockett Tower, 7th Floor 500 James Robertson Parkway Nashville, TN 37243 Air.Pollution.Control@tn.gov		

The permittee shall submit the information identified above as requested in this permit. In lieu of submitting this information to the email addresses above, the permittee may submit the information to the attention of the respective Division Programs at the mailing addresses listed above.

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

G4. Contingency Measures

Upon notification by the Technical Secretary that a reference monitor for the area has registered four validated ambient SO_2 concentrations in excess of the standard (75 parts per billion, 99th percentile of daily maximum one-hour average concentrations determined in accordance with 40 CFR 50, Appendix T) during any maintenance period approved pursuant to CAA §§175a(a) and (b), the permittee shall undertake a full system audit of all emissions units subject to control under this plan. The permittee must submit a written system audit report within 30 days of the notification. The system audit report must detail the operating parameters of all emissions units, including modeled emission units that were excluded from the SIP, for four 10-day periods up to and including the date upon which the reference monitor registered each exceedance, together with recommended provisional SO_2 emission control strategies for each affected unit and evidence that these control strategies have been deployed, as appropriate. Upon consultation with the Technical Secretary, the permittee shall develop and implement operational changes as necessary to prevent future monitored violations of the standard. These changes may include fuel switching, physical or operational reduction of production capacity, or other changes as appropriate. If a permit modification is deemed necessary, any changes to existing permit conditions shall follow the applicable procedures of TAPCR 1200-03-09. If an emission source is found to be noncompliant with a SIP emission limit, the Technical Secretary will, in addition to conducting enforcement proceedings to bring the source into compliance with its SIP limit, determine whether additional limits must be added to the SIP to meet the requirements of section 172(c)(9) of the Clean Air Act.

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

Section IV - Source Specific Permit Conditions

Source Number	Source Description
282	Solid/Liquid Chemical Waste Incinerators (MSOP-32, PES B-248-1)

S5-1. Emission Limitation(s)

On and after September 1, 2023, SO_2 emitted from this source shall not exceed 15.2 lb/hr (combined limit for both rotary kilns, 30-day rolling average).

TAPCR 1200-03-09-.03(8), 40 CFR §§51.110 – 51.112, Condition 1 of SIP permit 080222 Condition S5-1 of SIP permit 082237.

Compliance Method: Compliance with this condition shall be assured as specified in Appendix 1.

S5-2. Periodic Reporting

On and after the issue date of this permit, the permittee shall submit reports of any monitoring or recordkeeping required by this permit with the semiannual reports required by the applicable Title V Operating Permit. Periodic reports shall include the following information:

A. 30-day average SO_2 emission rate for each day in the reporting period. A summary report[1] of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.

B. All instances of deviations from these permit requirements must be clearly identified in the reports. Deviation reports shall include a description of the deviation; the duration of the event; the explanation or probable cause; and identification of corrective actions or preventative measures undertaken to correct the deviation.

This report must be certified by a responsible official consistent with TAPCR 1200-03-09-.02(11)(d)4.

TAPCR 1200-03-09-.03(8) and 1200-03-10-.02(1)(a), Condition S5-2 of SIP permit 082237.

Source Number	Source Description
283	Liquid Chemical Waste Incinerator (MSOP-32, PES B-248-2)

S6-1. Emission Limitation(s)

On and after September 1, 2023, SO_2 emitted from this source shall not exceed 2.0 lb/hr (30-day rolling average).

TAPCR 1200-03-09-.03(8), 40 CFR §§51.110 – 51.112, Condition 1 of SIP permit 080222, Condition S6-1 of SIP permit 082237.

[1] For all emissions reporting requirements identified in this permit, the minimum requirements for summary reporting are the highest measured emission rate, the date on which the measurement occurred, and either a report of all deviations or a statement that no deviations occurred during the reporting period. For reports of parametric monitoring, the minimum requirements for summary reporting are the highest or lowest measured value, as applicable, the date on which the measurement occurred, and either a report of all deviations or a statement that no deviations occurred during the reporting period.

Compliance Method: Compliance with this condition shall be assured as specified in Appendix 1.

S6-2. Periodic Reporting

On and after the issue date of this permit, the permittee shall submit reports of any monitoring or recordkeeping required by this permit with the semiannual reports required by the applicable Title V Operating Permit. Periodic reports shall include the following information:

A. 30-day average SO_2 emission rate for each day in the reporting period. A summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.

B. All instances of deviations from these permit requirements must be clearly identified in the reports. Deviation reports shall include a description of the deviation; the duration of the event; the explanation or probable cause; and identification of corrective actions or preventative measures undertaken to correct the deviation.

This report must be certified by a responsible official consistent with TAPCR 1200-03-09-.02(11)(d)4.

TAPCR 1200-03-09-.03(8) and 1200-03-10-.02(1)(a), Condition S6-2 of SIP permit 082237.

(end of conditions)

Appendix 1: PES B-248-1 and 248-2 SO_2 Monitoring

Stack or Flow Diagram Points	PES B-248-1: Vents D (Rotary Kiln #1) and E (Rotary Kiln #2) PES B-248-2: Vent A (Liquid Chemical Incinerator)
Pollutants	SO_2
Control Equipment	SO_2 emissions from the solid/liquid chemical waste incinerators (82-0003-282, PES-B-248-1) and liquid chemical waste incinerator (82-0003-283, PES B-248-2) shall be continuously controlled by wet scrubbers (Croll-Reynolds Clean Air Technologies multi-rod scrubber for each emission point).
Description of Monitoring Protocol	1. Continuous Monitoring of Rod Scrubber Underflow pH A pH sensor and transmitter are installed in either the rod scrubber underflow line or the sump (which receives the rod scrubber underflow) before any caustic or additional water is added in the recycle loop. The distributed control system (DCS) will receive pH values from the transmitter, and a data archival system shall record the pH reading four or more times equally spaced over the hour. The permittee shall operate and maintain continuous monitoring systems (CMS) for scrubbing liquid pH and shall operate all CMS to document compliance with the applicable operating parameter limits under this section as follows: (a) The permittee shall install and operate the CMS in compliance with the manufacturer's written specifications or recommendations for installation, operation, and calibration. (b) The CMS must sample the regulated parameter without interruption and evaluate the detector response at least once each 15 seconds, and compute and record the average values at least every 60 seconds. (c) The span of the CMS detector shall not be exceeded. (d) Each parameter shall be monitored, and the permittee shall calculate SO_2 emissions from the sulfur feed rate and rod scrubber underflow pH. (e) The permittee shall perform inspections and maintenance of the scrubbers as recommended by the manufacturer. 2. Determination of Sulfur Dioxide Removal Efficiency A series of computer simulations using ASPEN Plus® software have been conducted to establish the scrubbing medium pH as the key parameter that indicates the level of SO_2 removal efficiency. Computer simulations were conducted at varying sulfur loading conditions and correlation curves relating pH and sulfur removal efficiency were derived. The correlation curve for the highest sulfur feed modeled (2,000 lb/hr) was used to develop the relationship between pH and removal efficiency and values in the curve that are summarized in the table below:

Scrubbing Media pH	SO_2 Removal Efficiency (%)
<3.44	0
3.44	12.1
3.61	18.0
3.81	30.0
4.01	47.9

Scrubbing Media pH	SO_2 Removal Efficiency (%)
4.20	67.2
4.42	82.8
4.74	90.6
≥5.64	98.1

The multi-rod scrubber recirculation liquid to gas flow rate ratio (L/G) is also a key parameter that indicates SO_2 removal efficiency. The removal efficiencies above at each pH range were all determined using the same minimum L/G ratios as determined during the most recent HWC MACT (40 CFR 63 Subpart EEE) required Comprehensive Performance Test (CPT) on each unit: The minimum rod scrubber liquid-to-gas ratios are 77 gal/1,000 acf for the LCD (hourly rolling average, based on the average of three test runs determined from the CPT conducted on November 2-3, 2022) and 64.3 gal/1,000 acf for each rotary kiln (hourly rolling average, based on the average of three test runs determined from the CPT conducted for RK1 on November 15, 2023). RK1 and RK2 are identical units, and the CPT for RK1 serves as a compliance demonstration for both units. If the L/G ratio drops below the minimum value set by the most recent CPT, then the SO_2 removal efficiency shall be assumed to be zero.

	Each incinerator is equipped with a bypass vent that only opens in the event of an emergency to safely bypass the combustion gases from the air pollution control devices, including the rod scrubber. Monitoring for detection of bypass events is conducted pursuant to the requirements of HWC MACT. The SO_2 removal efficiency shall be assumed to be zero during any bypass periods. 3. Determination of Sulfur Feed Rates The sulfur feed rate is determined from 1) measured waste and fuel feed flow rates and 2) waste and fuel composition data in the Environmental Management Information System (EMIS). Waste stream sulfur concentrations are determined either from process knowledge or from analysis using ASTM method D4239 or equivalent and are entered into the Environmental Management Information System (EMIS). EMIS provides information to the DCS regulating the feed of waste. As waste streams are burned, sulfur feed rates are calculated by the DCS using waste and fuel mass flow sensors that are required by 40 CFR 60 Subpart EEE (HWC MACT). All elemental sulfur in the feed is assumed to be converted to SO_2 in the combustion chamber. Sulfur removal is determined based on the parametric relationship established with the pH of the scrubbing medium used in the multi-rod scrubber and the multi-rod scrubber recirculation liquid to stack gas flow rate (L/G) ratio. 4. Calculation of Stack Gas SO_2 Concentration At a minimum of four equally spaced intervals in each hour, the DCS shall calculate the SO_2 emissions concentration using the stack gas flow rate (obtained from sensors required by 40 CFR 63 Subpart EEE), assuming all sulfur from Step #3 is converted to SO_2 and using the SO_2 control efficiency determined in Step #2. The hourly SO_2 concentration and annual emission rate are calculated using the following assumptions and equations: Assumptions: 1. Standard conditions are 68° F and 1 atm; 2. Mole weights: sulfur (S) = 32.06, sulfur dioxide (SO_2) = 64.06; 3. SO_2 removal is based on the relationship established in Step #2; 4. All sulfur feeds react completely to SO_2; 5. Density of SO_2 gas at standard conditions = 0.1662 lb/ft^3. **SO_2 emission rate (lb/hr)** = sulfur feed rate (lb/hr) x (64.06 lb SO_2/32.06 lb S) x (1-SO_2 removal) 30-day rolling average SO_2 emission rates will be calculated from hourly emission rates. 5. Future Updates to Correlation The parametric relationship between the scrubber pH and SO_2 removal efficiency provided in Item 2 is based on updated modeled simulations using the ASPEN Plus® Software as of May 1, 2025, to determine the correlation between the scrubber pH and SO_2 removal efficiency for the multi-rod scrubbers at B-248-1 and B-248-2. Any subsequent updates to the parametric relationship would be used to either confirm that the correlation in the Table is still valid or to re-establish a new correlation using the Aspen Plus® Software simulations, as described above. If a comprehensive performance test is conducted in accordance with 40 CFR 63 Subpart EEE after May 1, 2025, the results of that test may be used to determine the SO2 removal rate until a change in the sulfur feed rate makes the test result unrepresentative of current conditions or until a subsequent modeled simulation is performed. The minimum liquid-to-gas flow rate ratio for each rotary kiln and the rod scrubber shall be based on the minimum values (hourly rolling average, based on the average of three test runs) established during the most recent comprehensive performance test for each respective emission unit.
Averaging	The pH of the scrubbing media shall be measured on a continuous basis (at least once every 15-minute block), and one-hour averages 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. Data collected during periods of monitoring system breakdown, monitoring system repairs, required quality assurance or control periods, and periods of non-operation of the source shall not be included in the data averages. Each 30-day rolling average shall be calculated as the arithmetic average of all valid one-hour averages over each 30-day period, beginning on midnight of the first day and ending at midnight on the 30th day. For a given 30-day averaging period, a valid average must include at least 75% percent of the measured values within the averaging period.
Monitoring Downtime Incidents	During periods of pH monitoring downtime, the sulfur dioxide removal efficiency shall be assumed to be zero. Therefore, any pH monitoring system downtime incidents do not count as SO_2 monitoring system downtime and are not required to be included in the semiannual reports.
Minimum Data Availability	The SO_2 monitoring system shall be fully operational for at least 95% of the operational time of the incinerator during each calendar quarter.

QA/QC Practices	The pH probes shall be calibrated at least once per calendar month, unless a unit begins operation with less than seven calendar days remaining in the calendar month. Recirculation liquid flow meters and stack gas flow monitors liquid flow meters and stack gas flow monitors will be calibrated at least once per calendar year. The multi-rod scrubber associated with each incinerator will be inspected at least biennially to ensure proper operation of the control device.
Reference	Operating Plan in the Title V application dated May 1, 2025, PES B-248-1, pages 22 and 23.

Attachment B: Monitoring Plan Redline

Appendix 51: PES B-248-1 and 248-2 SO_2 Monitoring

Stack or Flow Diagram Points	PES B-248-1: Vents D (Rotary Kiln #1) and E (Rotary Kiln #2) PES B-248-2: Vent A (Liquid Chemical Incinerator)
Pollutants	SO_2
Control Equipment	SO_2 emissions from the solid/liquid chemical waste incinerators (82-0003-282, PES-B-248-1) and liquid chemical waste incinerator (82-0003-283, PES B-248-2) shall be continuously controlled by wet scrubbers (Croll-Reynolds Clean Air Technologies multi-rod scrubber for each emission point).
Description of Monitoring Protocol	1. Continuous Monitoring of Rod Scrubber Underflow pH A pH sensor and transmitter are installed in either the rod scrubber underflow line or the sump (which receives the rod scrubber underflow) before any caustic or additional water is added in the recycle loop. The distributed control system (DCS) will receive pH values from the transmitter, and a data archival system shall record the pH reading four or more times equally spaced over the hour. The permittee shall operate and maintain continuous monitoring systems (CMS) for scrubbing liquid pH and shall operate all CMS to document compliance with the applicable operating parameter limits under this section as follows: (a) The permittee shall install and operate the CMS in compliance with the manufacturer's written specifications or recommendations for installation, operation, and calibration. (b) The CMS must sample the regulated parameter without interruption and evaluate the detector response at least once each 15 seconds, and compute and record the average values at least every 60 seconds. (c) The span of the CMS detector shall not be exceeded. (d) Each parameter shall be monitored, and the permittee shall calculate SO_2 emissions from the sulfur feed rate and rod scrubber underflow pH. (e) The permittee shall perform inspections and maintenance of the scrubbers as recommended by the manufacturer. 2. Determination of Sulfur Dioxide Removal Efficiency A series of computer simulations using ~~a commercially available~~ASPEN Plus® software ~~package (ASPEN®)~~ have been conducted to establish the ~~rod scrubber underflow~~scrubbing medium pH as the key ~~process variable~~parameter that indicates ~~sulfur dioxide control~~the level of SO_2 removal efficiency. Computer simulations were conducted at varying sulfur loading conditions and correlation curves relating pH and ~~scrubber control~~sulfur removal efficiency were derived. The correlation curve for the highest sulfur feed modeled (2,000 lb/hr) was used to develop the relationship ~~programmed into the DCS. The DCS relationship is programmed as a series of straight lines plotted~~ between pH and removal efficiency and values in the curve that are summarized in the ~~following points:~~table below:

~~Point~~	~~Rod Scrubber Underflow pH~~	~~Sulfur Dioxide Removal Efficiency (%)~~
~~1~~	~~0.00~~	~~0.0~~
~~2~~	~~4.13~~	~~0.0~~
~~3~~	~~4.20~~	~~67.2~~
~~4~~	~~4.42~~	~~82.8~~
~~5~~	~~4.74~~	~~90.6~~
~~6~~	~~5.64~~	~~98.1~~
~~7~~	~~14.00~~	~~98.1~~

Scrubbing Media pH	SO_2 Removal Efficiency (%)
<3.44	0
3.44	12.1
3.61	18.0
3.81	30.0
4.01	47.9

Scrubbing Media pH	SO_2 Removal Efficiency (%)
4.20	67.2
4.42	82.8
4.74	90.6
≥5.64	98.1

~~**Description of Monitoring Protocol (Continued)**~~	The multi-rod scrubber recirculation liquid to gas flow rate ratio (L/G) is also a key parameter that indicates SO_2 removal efficiency. The removal efficiencies above at each pH range were all determined using the same minimum L/G ratios as determined during the most recent HWC MACT (40 CFR 63 Subpart EEE) required Comprehensive Performance Test (CPT) on each unit: The minimum rod scrubber liquid-to-gas ratios are 77 gal/1,000 acf for the LCD (hourly rolling average, based on the average of three test runs determined from the CPT conducted on November 2-3, 2022) and 64.3 gal/1,000 acf for each rotary kiln (hourly rolling average, based on the average of three test runs determined from the CPT conducted for RK1 on November 15, 2023). RK1 and RK2 are identical units, and the CPT for RK1 serves as a compliance demonstration for both units. If the L/G ratio drops below the minimum value set by the most recent CPT, then the SO_2 removal efficiency shall be assumed to be zero. Each incinerator is equipped with a bypass vent that only opens in the event of an emergency to safely bypass the combustion gases from the air pollution control devices, including the rod scrubber. Monitoring for detection of bypass events is conducted pursuant to the requirements of HWC MACT. The SO_2 removal efficiency shall be assumed to be zero during any bypass periods. 3. Determination of Sulfur Feed Rates The sulfur feed rate is determined from 1) measured waste and fuel feed flow rates and 2) waste and fuel composition data in the Environmental Management Information System (EMIS). Waste stream sulfur concentrations are determined either from process knowledge or from analysis using ASTM method D4239 or equivalent and are entered into the Environmental Management Information System (EMIS). ~~-~~EMIS provides information to the DCS regulating the feed of waste.~~-~~ As waste streams are burned, sulfur feed rates are calculated by the DCS using waste and fuel mass flow sensors that are required by 40 CFR 60 Subpart EEE~~,~~ (HWC MACT). All elemental sulfur in the feed is assumed to be converted to SO_2 in the combustion chamber. Sulfur removal is determined based on the parametric relationship established with the pH of the scrubbing medium used in the multi-rod scrubber and the multi-rod scrubber recirculation liquid to stack gas flow rate (L/G) ratio. 4. Calculation of Stack Gas SO_2 Concentration At a minimum of four equally spaced intervals in each hour, the DCS shall calculate the SO_2 emissions concentration using the stack gas flow rate (obtained from sensors required by 40 CFR 63 Subpart EEE), assuming all sulfur from Step #3 is converted to SO_2 and using the SO_2 control efficiency determined in Step #2. The hourly SO_2 concentration and annual emission rate are calculated using the following assumptions and equations: Assumptions: 1. Standard conditions are 68° F and 1 atm; 2. Mole weights: sulfur (S) = 32.06, sulfur dioxide (SO_2) = 64.06; 3. SO_2 removal is based on the relationship established in Step #2; 4. All sulfur feeds react completely to SO_2; 5. Density of SO_2 gas at standard conditions = 0.1662 lb/ft^3. **SO_2 emission rate (lb/hr)** = sulfur feed rate (lb/hr) x (64.06 lb SO_2/32.06 lb S) x (1-SO_2 removal) 30-day rolling average SO_2 emission rates will be calculated from hourly emission rates. 5. Future Updates to Correlation The parametric relationship between the scrubber pH and SO_2 removal efficiency provided in Item 2 is based on updated modeled simulations using the ASPEN Plus® Software as of May 1, 2025, to determine the correlation between the scrubber pH and SO_2 removal efficiency for the multi-rod scrubbers at B-248-1 and B-248-2. Any subsequent updates to the parametric relationship would be used to either confirm that the correlation in the Table is still valid or to re-establish a new correlation using the Aspen Plus® Software simulations, as described above. If a comprehensive performance test is conducted in accordance with 40 CFR 63 Subpart EEE after May 1, 2025, the results of that test may be used to determine the SO_2 removal rate until a change in the sulfur feed rate makes the test result unrepresentative of current conditions or until a subsequent modeled simulation is performed. The minimum liquid-to-gas flow rate ratio for each rotary kiln and the rod scrubber shall be based on the minimum values (hourly rolling average, based on the average of three test runs) established during the most recent comprehensive performance test for each respective emission unit.
Averaging	~~One~~The pH of the scrubbing media shall be measured on a continuous basis (at least once every 15-minute block), and one-hour averages 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. Data collected during periods of monitoring system breakdown, monitoring system repairs, required quality assurance or control periods, and periods of non-operation of the source shall not be included in the data averages. ~~-Compliance will be based on a~~ Each 30-day rolling average ~~basis. 30-day rolling averages~~ shall be calculated as the arithmetic average of all valid one-hour averages over each 30-day period, beginning on midnight of the first day and ending at midnight on the 30th day. For a given 30-day averaging period, a valid average must include at least 75% percent of the measured values within the averaging period.

Monitoring Downtime Incidents	During periods of pH monitoring downtime, the sulfur dioxide removal efficiency shall be assumed to be zero ~~in Step #2 above.~~. Therefore, ~~and~~any pH monitoring system downtime incidents do not ~~need to be reported~~count as ~~required by 40 CFR §64.9(a)(2)(ii). Any~~SO_2 monitoring system downtime ~~incidents shall be reported~~and are not required to be included in the semiannual reports~~, unless, in the case of a feed rate flow sensor, the feed line block valve is closed during the incident.~~.
Minimum Data Availability	The SO_2 monitoring system shall be fully operational for at least 95% of the operational time of the incinerator during each ~~semiannual reporting period.~~ calendar quarter.
QA/QC Practices	~~The pH sensors shall be calibrated once per month.~~ The pH probes shall be calibrated at least once per calendar month, unless a unit begins operation with less than seven calendar days remaining in the calendar month. Recirculation liquid flow meters and stack gas flow monitors liquid flow meters and stack gas flow monitors will be calibrated at least once per calendar year. The multi-rod scrubber associated with each incinerator will be inspected at least biennially to ensure proper operation of the control device.
Reference	Operating Plan in the Title V application dated May ~~24, 2019~~1, 2025, PES B-248-1, pages ~~25~~22 and ~~26.~~ ~~Operating Plan in the Title V application dated September 28, 2017, PES B-248-2, pages 12 and 13~~23.

Attachment C: Public Participation

Table of Contents for Attachment C

Attachment C1	Public Hearing Notice
Attachment C2	Public Participation E-mails
Attachment C3	Public Participation Information

Attachment C1: Public Hearing Notice

NOTICE OF HEARING

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF AIR POLLUTION CONTROL
DAVY CROCKETT TOWER
500 JAMES ROBERSTON PARKWAY, 7th FLOOR
NASHVILLE, TENNESSEE 37243
PHONE: (615) 532-0554 FAX: (615) 532-0614

NOTICE IS HEREBY GIVEN, the Division of Air Pollution Control will hold a public hearing pursuant to Tennessee Code Annotated, Section 68-201-105

Location: Tennessee Department of Environment and Conservation, John City Environmental Field Office, 2305 Silverdale Drive, Johnson City, TN 37601

Date: December 4, 2025

Time: 10:30 AM Eastern Time

There will be a public hearing before the Technical Secretary of the Tennessee Air Pollution Control Board to consider a proposed State Implementation Plan (SIP) revision under the authority of Tennessee Code Annotated, Section 68-201-105. Tennessee is proposing to revise the SIP submitted to the U. S. EPA on June 17, 2025, which requested the redesignation of the portion of Sullivan County encompassing a circle having its center at coordinates 36.5186 N; 82.5350 W (B-253 powerhouse, Eastman Chemical Company), and having a three-kilometer radius from nonattainment to attainment for the one-hour sulfur dioxide (SO_2) National Ambient Air Quality Standard (NAAQS).

Tennessee proposes to revise Condition S5-1 of existing SIP permit 082237 (SO_2 emission limits and associated monitoring for three hazardous waste incinerators at Eastman Chemical Company) to update the parametric relationship between the scrubber pH and SO_2 removal efficiency for each control device. There would be no change to the existing SO_2 emission limits for the hazardous waste incinerators. An updated SIP permit (permit number 083740) would be issued to incorporate the revised parametric relationship.

HEARING INFORMATION

The hearing will take place at the location, date, and time indicated above. All persons interested in the air quality of the State of Tennessee are urged to attend and will have the opportunity to present testimony to the hearing officer regarding the draft redesignation request. Anyone desiring to make oral comments at this public hearing is requested to prepare a written copy of their comments to be submitted to the hearing officer at the public hearing. The hearing officer may limit the length of oral comments in order to allow all parties an opportunity to speak, and will require that all comments be relevant to the redesignation request.

Written statements not presented at the hearing will only be considered part of the record if received by close of business (4:30 PM Central time) on **December 4, 2025**, at the office of the Technical Secretary, Tennessee Division of Air Pollution Control, Davy Crockett Tower, 500 James Robertson Parkway, 7th Floor, Nashville, TN 37243. 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 Michelle Owenby, Division of Air Pollution Control, Davy Crockett Tower, 500 James Robertson Parkway, 7th Floor, Nashville, TN 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 participate in these proceedings (or review the file record) should contact TDEC to discuss any auxiliary aids or services needed to facilitate such participation. Contact may be in person, by writing, telephone, or other means, and should be made no less than ten working days prior to **December 4, 2025**, to allow time to provide such aid or services. Contact the ADA Coordinator (1-866-253-5827) for further information. Hearing impaired callers may use the Tennessee Relay Service (1-800-848-0298). If you have any questions about the redesignation request, you may contact Mr. Travis Blake by phone at (615) 306-1990 or by e-mail at travis.blake@tn.gov.

HEARING OPTIONS

This is a hybrid hearing. You may attend the hearing in person at the following location: **Tennessee Department of Environment and Conservation, John City Environmental Field Office, 2305 Silverdale Drive, Johnson City, TN 37601**

Or you may attend online via Microsoft Teams:

Microsoft Teams Need help?
Join the meeting now
Meeting ID: 235 957 852 031 2
Passcode: 2VY744Ce

Dial in by phone
+1 629-209-4396,,884139634# United States, Triune
Find a local number
Phone conference ID: 884 139 634#
Join on a video conferencing device
Tenant key: stateoftn@m.webex.com
Video ID: 115 278 217 4
More info
For organizers: Meeting options | Reset dial-in PIN

Public Hearing Notice – List of Attachments

Attachment A	Redesignation Request and Maintenance Plan for the Sullivan County, Tennessee, One-Hour Sulfur Dioxide Nonattainment Area (2010 SO_2 NAAQS): Revised Monitoring Requirements for Hazardous Waste Combustors
Attachment B	SIP Permit 083740
Attachment C	Redline/strikeout Showing Changes to Existing Monitoring Plan

Attachment A

Redesignation Request and Maintenance Plan for the Sullivan County, Tennessee, One-Hour Sulfur Dioxide Nonattainment Area (2010 SO_2 NAAQS): Revised Monitoring Requirements for Hazardous Waste Combustors

Redesignation Request and Maintenance Plan for the Sullivan County, Tennessee One-Hour Sulfur Dioxide Nonattainment Area (2010 SO_2 NAAQS)

Revised Monitoring Requirements for Hazardous Waste Combustors

Prehearing-Draft, December 4, 2025

Prepared by:

Tennessee 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

Request for Parametric Monitoring Revisions
Eastman Chemical Company Hazardous Waste Incinerators

Introduction

On June 11, 2025, the Division of Air Pollution Control issued SIP permit 082237, which establishes revised emission limits and monitoring requirements for sources of sulfur dioxide (SO_2) emissions at Eastman Chemical Company's Kingsport, Tennessee operations. Condition S5-1 of this permit limited SO_2 emissions Eastman's from Eastman's rotary kilns (MSOP-32[1], PES B-248-1 and B-248-2) to 15.2 lb/hr (combined limit, 30-day rolling average), and Condition S6-1 limited SO_2 emissions from Eastman's liquid chemical destructor (LCD) to 2.0 lb/hr (30-day rolling average).

Emissions from all three incinerator units are controlled by a series of air pollution control devices: a quench chamber, multi-rod scrubber, and a pair of wet electrostatic precipitator (WESP) units connected in series (**Figure 1, Figure 2**). For each unit, the multi-rod scrubber is the primary SO_2 control device, and compliance with these emission limits is based upon parametric monitoring of the sulfur feed rate and the pH of the rod scrubber underflow[2].

The sulfur dioxide removal efficiency was established by process modeling of varying pH values using a commercially available software package (ASPEN®), and simulations of varying sulfur loading conditions to derive a series of correlation curves relating pH and scrubber control efficiency. The correlation curve for the highest sulfur feed modeled was used to develop the relationship programmed into the plant's distributed control system (DCS), and the DCS relationship was programmed as a series of straight lines plotted between the following points (**Table 1**):

Table 1: pH Correlation Curve, SIP Permit 082237

Rod Scrubber Underflow pH	Sulfur Dioxide Removal Efficiency (%)
0.00	0.0
4.13	0.0
4.20	67.2
4.42	82.8
4.74	90.6
5.64	98.1
14.00	98.1

[1] Eastman is a megasource with 25 Title V Operating Permits issued to the facility, and the facility's hazardous waste incinerators and associated operations are designated as Major Source Operating Permit (MSOP)-32.

[2] These parameters are established through the performance testing requirements established pursuant to 40 CFR 63 Subpart EEE (National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors).

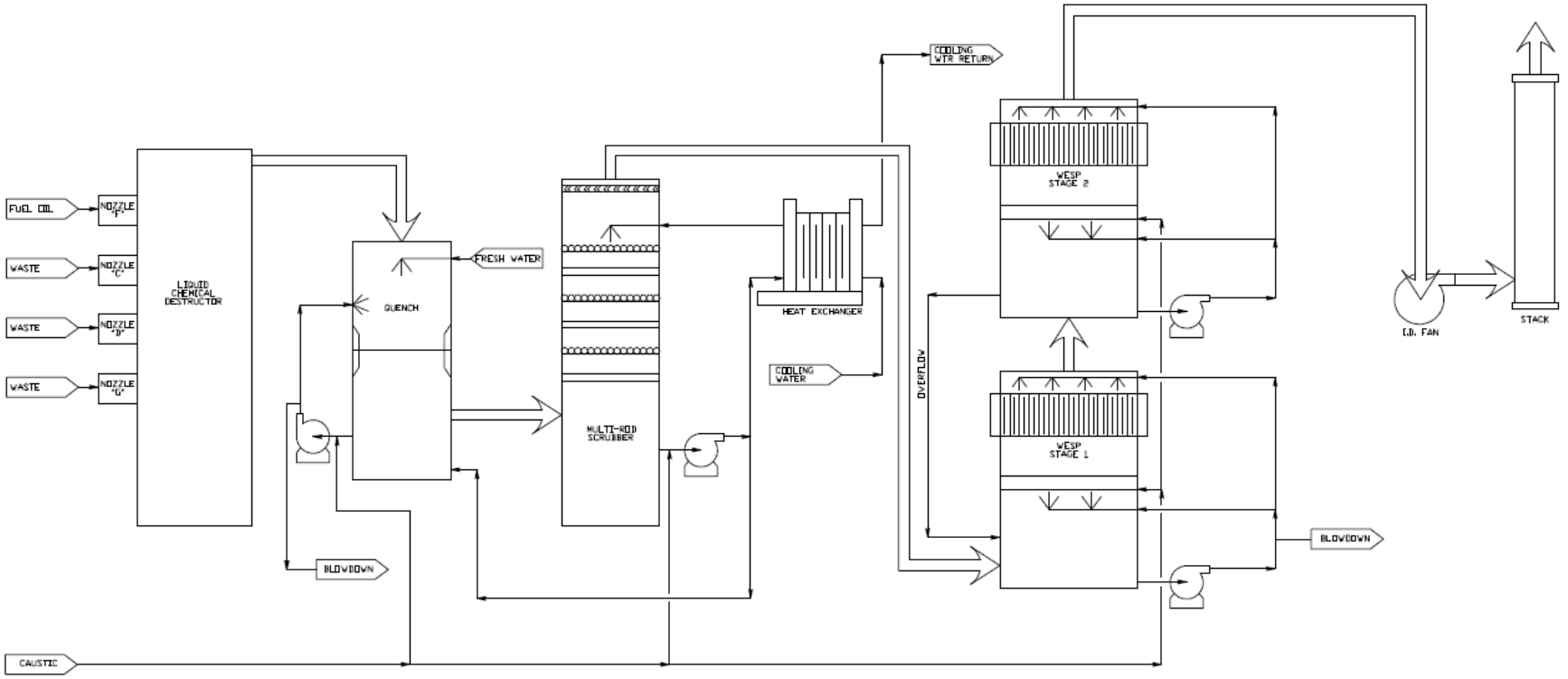

Figure 1: Process Flow Diagram for the Liquid Chemical Destructor[3]

[3] Eastman Chemical Company, *Comprehensive Performance Test Report and Notification of Compliance for the Liquid Chemical Destructor*, May 1, 2023.

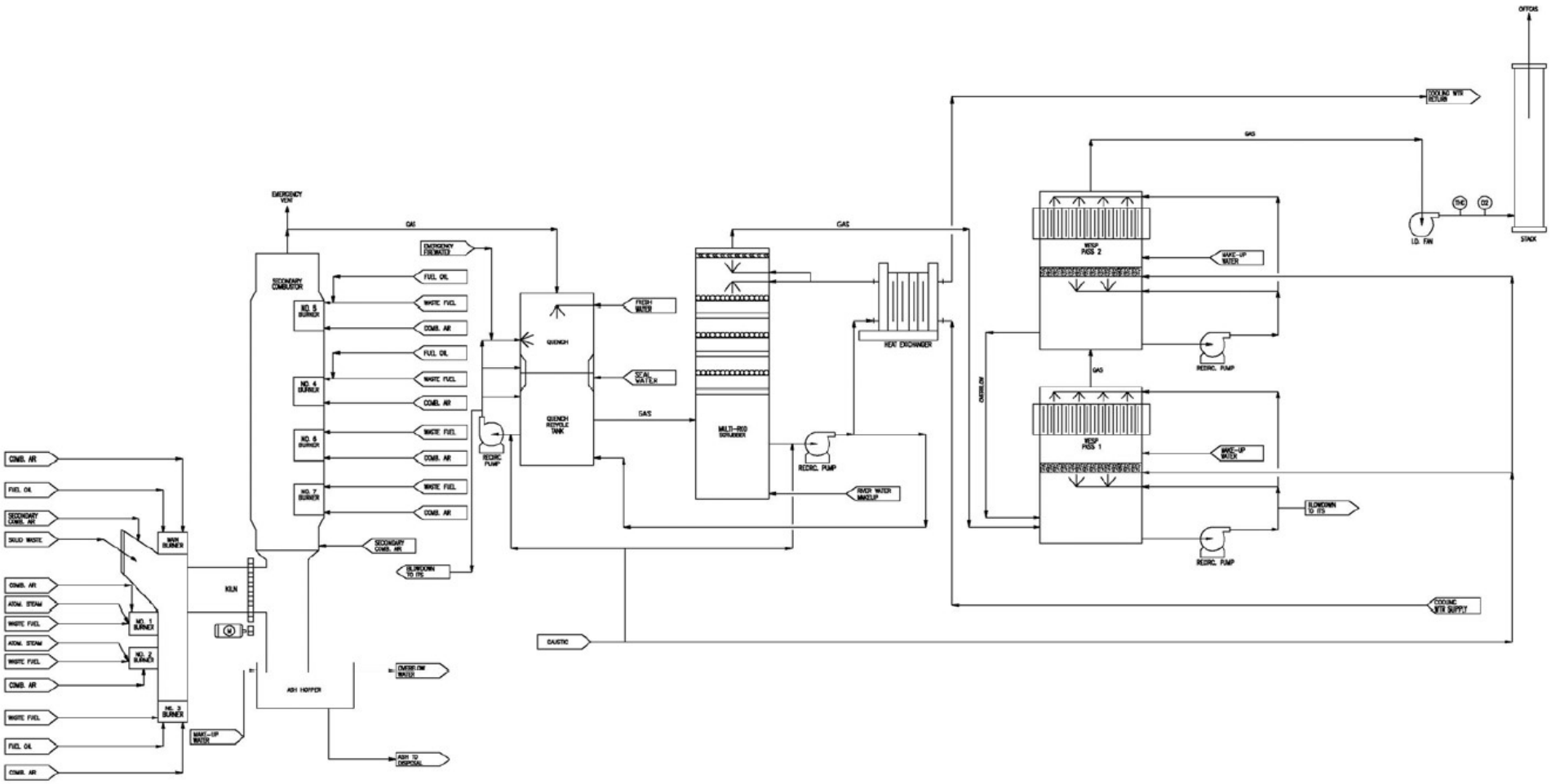

Figure 2: Process Flow Diagram for Rotary Kiln[4]

[4] Eastman Chemical Company, *Comprehensive Performance Test Report and Notification of Compliance for the Rotary Kiln Incinerators*, May 13, 2024.

Request for Parametric Monitoring Update

On May 1, 2025, Eastman submitted a Title V renewal application for MSOP-32, and that application requested that the Division update the parametric relationship between scrubber pH and SO_2 removal efficiency as indicated in **Table 2**. Eastman's proposed removal efficiencies are unchanged for pH values above 4.20, but the application requests approval of non-zero SO_2 removal efficiencies between pH 3.44 and 4.20.

Table 2: pH Correlation Curve, May 1, 2025, Title V Renewal Application	
Scrubbing Media pH	**SO_2 Removal Efficiency (%)**
<3.44	0
3.44	12.1
3.61	18.0
3.81	30.0
4.01	47.9
4.20	67.2
4.42	82.8
4.74	90.6
≥5.64	98.1

The application states that updated computer simulations using ASPEN Plus® were conducted to establish the scrubbing medium pH at varying sulfur loading conditions, and the correlation curve for the highest sulfur feed modeled (2,000 lb/hr) was used to develop the relationship between pH and removal efficiency. The application was also updated to identify the multi-rod scrubber recirculation liquid to gas flow rate (L/G) ratio as a key parameter. All removal efficiencies were determined using the minimum L/G ratio determined during the most recent Comprehensive Performance Test, as required by 40 CFR 63 Subpart EEE, for each unit.

The multi-rod scrubber recirculation liquid to gas flow rate ratio (L/G) is also a key parameter that indicates SO_2 removal efficiency. For each hazardous waste combustor, the minimum rod scrubber liquid input flow to gas flow ratio is not measured directly but is calculated from other directly measured parameters. For each unit, the stack gas flow rate is measured in the ductwork between the final control device (wet electrostatic precipitator) and the induced draft fan located at the stack inlet. The scrubbing liquid flow rates are measured by liquid flow meters located between each heat exchanger and the rod scrubber spray nozzles[5]. The removal efficiencies above at each pH range were all determined using the same minimum L/G ratios as determined during the most recent HWC MACT (40 CFR 63 Subpart EEE) required Comprehensive Performance Test (CPT) on each unit: The minimum rod scrubber liquid-to-gas ratios are 77 gal/1,000 acf for the LCD (average of three test runs determined from the CPT conducted on November 2-3, 2022) and 64.3 gal/1,000 acf for each rotary kiln (average of three test runs determined from the CPT conducted for RK1 on

[5] See Eastman Chemical Company, *Comprehensive Performance Test (CPT) Plan for the Rotary Kiln Incinerators (RKIs)*, October 2017; and Eastman Chemical Company, *Notification of Intent (NOI) to Conduct a Comprehensive Performance Test (CPT) and Continuous Monitoring System (CMS) Performance Evaluation Test at Eastman's Liquid Chemical Destructor (LCD) and Request for Approval of the CPT Plan and CMS Performance Evaluation Test Plan for the LCD*, July 15, 2021.

November 15, 2023). RK1 and RK2 are identical units, and the CPT for RK1 serves as a compliance demonstration for both units. The application states that if the L/G ratio (hourly rolling average) drops below the minimum established by Subpart EEE, then the SO_2 removal efficiency shall be assumed to be zero.

The parametric relationship provided in Table 2 is based on modeled simulations using the ASPEN Plus® Software as of May 1, 2025. Any subsequent updates to the parametric relationship would be used to either confirm that the correlation in the Table is still valid or to re-establish a new correlation using the Aspen Plus® Software simulations (as described above) and/or required comprehensive performance test conducted in accordance with 40 CFR 63 Subpart EEE. The frequency of simulation updates depends on how often a process or control device is changed that could affect the SO_2 removal efficiency provided in the tables at Step 2 of the parametric modeling protocol (CAM Plan, Appendix 1 of permit 083740). For measurement of the L/G ratio, any changes to the existing CPMS or operating parameter limits will be established or confirmed by a performance test or other relevant method, as specified by 40 CFR 63 Subpart EEE, the test or determination results will be submitted to the TDEC's Division of Air Pollution Control for approval, and the updated or revised parametric values will be enforceable in accordance with the requirements of 40 CFR 63 Subpart EEE (see Condition E2-6 and Attachment 2 of Title V Operating Permit 576926 and the Title V renewal application dated May 1, 2025).

Review of Eastman's Request for Updated Monitoring

Absorption of SO_2 in water involves a series of acid-base reactions, and though the individual reactions are straightforward, the interaction of these reactions is relatively complex. The first step involves no chemical change, but a physical change occurs with mass transfer of SO_2 from the stack gas to the scrubbing liquid (**Equation 1**), followed by reaction with water to produce sulfurous acid, a weak diprotic acid that readily loses one hydrogen to produce a free proton and bisulfite anion (**Equation 2**). The aqueous bisulfite anion may further dissociate into the sulfite anion (**Equation 3**), but the second hydrogen ion is more weakly dissociated from the corresponding base[6].

All three reactions are reversible and can be shifted toward products or reactants by changing the reaction conditions. For acid dissociation, a commonly manipulated variable is the removal of hydrogen ions from solution by the addition of sodium hydroxide.

$$SO_2\,(g) \rightleftharpoons SO_2\,(aq) \qquad \textbf{Equation 1}$$

[6] Acid-base reactions are typically quantified by the *acid dissociation constant*, Ka, which is defined as the ratio of products to reactants, as follows:

$$Ka_1 = \frac{[H^+][HSO_3^-]}{[H_2SO_3]} \qquad Ka_2 = \frac{[H^+][SO_3^{2-}]}{[HSO_3^-]}$$

For the reactions described here, $Ka_1 = 0.015849$ and $Ka_2 = 6.31 \times 10^{-8}$, indicating that the first hydrogen ion is more easily lost in aqueous solution. Ka values referenced in this document were taken from McQuarrie and Rock, *General Chemistry*, 2nd Ed., p 593.

$$SO_2\,(aq) + H_2O\,(aq) \rightleftharpoons H^+ + HSO_3^-\,(aq)$$ **Equation 2**

$$HSO_3^-\,(aq) \rightleftharpoons H^+ + SO_3^{2-}\,(aq)$$ **Equation 3**

The primary factors influencing the equilibrium concentrations are the gaseous SO_2 feed rate[7] and the scrubbing liquid pH, but removal efficiency is also affected by factors such as scrubber sizing (liquid to gas ratio and engineering design to ensure adequate liquid-to-gas contact), scrubbing liquid temperature, and the presence of other soluble gases, including HCl and CO_2, in the vent stream. Because it is difficult to account for these variables manually, process simulation is commonly used to ensure that all variables are properly considered.

Description of Multi-Rod Scrubber Modeling[8]

A series of computer simulations using ASPEN Plus® software were conducted to establish the scrubbing medium pH as the key parameter that indicates the SO_2 removal efficiency[9]. The rod scrubber was simulated using the electrolyte-NRTL vapor-liquid equilibria model, including the modeling of the components CO_2, O_2, SO_2, N_2, and HCl using Henry's Law[10]. Electrolyte binary interaction parameters were obtained from the Aspen version 12 electrolyte-NTRL database. The quench was modeled as a single stage flash, while the rod scrubber was modeled as two ideal stages, and the wet electrostatic precipitators (WESPs) were modeled as two ideal stages of separation. The Aspen software does not include the ability to extract example calculations, but Eastman provided the following parts of the output file as examples (**Figure 1**). The results of these analyses were summarized in tabular form and submitted with the Title V renewal application for the hazardous waste incinerators.

[7] The SO_2 feed rate is directly correlated to the feed rate of elemental sulfur to the incinerator:

$$S + O_2 \longrightarrow SO_2$$

[8] The information in this section was provided by Eastman Chemical Company at the request of the Division of Air Pollution Control.

[9] SO_2 removal efficiencies may also be established through performance testing, but as Tennessee explained in a prior submittal (Response to Comments for the SO_2 Attainment Demonstration submitted February 8, 2023), SO2 emissions from the hazardous waste combustion are minimal and are likely to remain low following the sale of Eastman's resins business (this sale was documented in an August 17, 2022, e-mail from Steve Moore, Eastman Chemical Company, to Travis Blake, TDEC-APC, and in a March 31, 2022 press release from Eastman Chemical Company: *Eastman completes sale of adhesives resins business*). Performance testing for SO_2 would be difficult because Eastman is unlikely to have sulfur feed in sufficient quantity to provide valid test results.

[10] Henry's Law states that the solubility of gases in water is directly proportional at equilibrium to the gas's partial pressure over the liquid. This relationship is important for process modeling because the partial pressure of SO_2 will vary depending on the concentration of other gases in the mixture.

Liquid flow (Mass)	Vapor flow (Mass)	Liquid Composition (mass)														
lb/hr	lb/hr	H2O	H3O+	OH-	CO2	CO3--	HCO3-	O2	N2	SO2	SO3--	HSO3-	HCL	CL-	NA+	CA++	CAOH+
1.78E+06	133363	0.971486	2.03E-06	1.98E-11	5.38E-05	2.51E-12	8.30E-07	2.37E-06	8.34E-06	0.000109	4.65E-05	0.022024	2.60E-29	1.37E-11	0.00625	1.75E-05	1.66E-13
1.81E+06	137375	0.971865	2.86E-06	2.15E-11	5.33E-05	1.34E-12	5.80E-07	2.51E-06	9.01E-06	0.000176	2.99E-05	0.021697	4.20E-29	1.39E-11	0.006147	1.73E-05	2.01E-13
		Vapor Composition (mass)														
	Stage	H2O	H3O+	OH-	CO2	CO3--	HCO3-	O2	N2	SO2	SO3--	HSO3-	HCL	CL-	NA+	CA++	CAOH+
	1	0.083887	0	0	0.116461	0	0	0.105546	0.686266	0.007841	0	0	1.78E-19	0	0	0	0
	2	0.104883	0	0	0.113073	0	0	0.102463	0.666221	0.01336	0	0	4.31E-19	0	0	0	0

Figure 1: Example Rod Scrubber Profile

Rod Scrubber Blowdown and Wastewater Treatment[11]

The Rod Scrubber effluent and the Wet Electrostatic Precipitator (WESP) blowdown combine into the enclosed sump for the Rod Scrubber. From the Rod Scrubber sump, the effluent combines with the Quench underflow in an enclosed sump for the Quench. The effluent from the Quench sump then enters a hard piped interceptor sewer (ITS) drain header. The ITS drain header gravity flows through hard piping to one of two lift stations, namely, the B-454 Lift Station (Vent Q, PES WWT-1) or the B-63 Lift Station (Vent O, PES WWT-1). In the lift station, the effluent then combines with other process wastewater streams from across the plant site. From either lift station, the combined wastewater stream is then pumped to the influent pump station of the on-site wastewater treatment facility (Vents A and B, PES WWT-1).

Clean Air Act §110(l)

Section 110(l) of the Clean Air Act requires each SIP revision to be adopted only after reasonable notice and public hearing and states that that the EPA Administrator may not approve any SIP revision that would interfere with any applicable requirement concerning attainment and reasonable further progress, or any other applicable requirement of the federal Act. The proposed revision would not interfere with any applicable requirement concerning attainment or maintenance of a NAAQS, reasonable further progress toward attainment of a NAAQS, or any other applicable requirement of the NAAQS. Specifically, the emission limits that are necessary for continued attainment of the SO_2 NAAQS in the Sullivan County nonattainment area will not change, and the existing monitoring requirements for the hazardous waste incinerators will not significantly change: the only requested change is to demonstrate that SO_2 removal will occur at a broader pH range. This revision will be submitted to the Tennessee Air Pollution Control Board upon completion of the public participation requirements specified by 40 CFR §51.102.

[11] The information in this section was provided by Eastman Chemical Company at the request of the Division of Air Pollution Control.

Attachment B

SIP Permit 083740

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

PERMIT TO OPERATE AIR CONTAMINANT SOURCE(S)

Permit Number: 083740

Facility (Permittee): Eastman Chemical Company

Facility ID: 82-0003

Facility Address: 200 South Wilcox Drive, Kingsport
Sullivan County

Facility Classification: Title V

Federal Requirements: SIP

Facility Description: Emission Sources Identified in Section I of this Permit

Operating Permit 083740, consisting of 7 pages, is hereby issued ********, pursuant to the Tennessee Air Quality Act and by the Technical Secretary, Tennessee Air Pollution Control Board, Department of Environment and Conservation. The holder of this permit shall comply with the conditions contained in this permit as well as all applicable provisions of the Tennessee Air Pollution Control Regulations (TAPCR).

Michelle W. Owenby
Technical Secretary
Tennessee Air Pollution Control Board

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.

Section I – Sources Included in this Operating Permit

FACILITY DESCRIPTION			
Source Number	**Source Description**	**Status**	**Control Device/Equipment**
282	Solid/Liquid Chemical Waste Incinerators (MSOP-32, PES B-248-1)	Active	Rod Scrubber
283	Liquid Chemical Waste Incinerator (MSOP-32, PES B-248-2)	Active	Rod Scrubber

Section II – Permit Record

Permit Type	Description of Permit Action	Issue Date
Initial	Initial SIP permit issuance	********

Section III - General Permit Conditions

G1. Reserved.

G2. General Recordkeeping Requirements

The information contained in logs, records, and submittals required by this permit shall be kept at the facility's address, unless otherwise noted, and provided to the Technical Secretary or a Division representative upon request. Computer-generated logs are acceptable. Compliance is assured by retaining the logs, records, and submittals specified in this permit for a period of not less than five years at the facility's address.

TAPCR 1200-03-10-.02(2)(a)

G3. Submittals

Unless otherwise specified within this permit, the permittee shall submit, preferably via email and in Adobe Portable Document format (PDF), all applicable plans, checklists, certifications, notifications, test protocols, reports, and applications to the attention of the following Division Programs at the email addresses indicated in the table below:

Permitting Program	Compliance Validation Program	Field Services Program
• Notifications • Startup certifications • Applications • NSPS reports • MACT/GACT/NESHAP reports • Emission statements • Construction permit extension requests	• Test protocols • Emission test reports • Visible emission evaluation reports	• Semiannual reports • Annual compliance certifications/status reports
Division of Air Pollution Control Davy Crockett Tower, 7th Floor 500 James Robertson Parkway Nashville, TN 37243 Air.Pollution.Control@tn.gov		

The permittee shall submit the information identified above as requested in this permit. In lieu of submitting this information to the email addresses above, the permittee may submit the information to the attention of the respective Division Programs at the mailing addresses listed above.

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

G4. Contingency Measures

Upon notification by the Technical Secretary that a reference monitor for the area has registered four validated ambient SO_2 concentrations in excess of the standard (75 parts per billion, 99th percentile of daily maximum one-hour average concentrations determined in accordance with 40 CFR 50, Appendix T) during any maintenance period approved pursuant to CAA §§175a(a) and (b), the permittee shall undertake a full system audit of all emissions units subject to control under this plan. The permittee must submit a written system audit report within 30 days of the notification. The system audit report must detail the operating parameters of all emissions units, including modeled emission units that were excluded from the SIP, for four 10-day periods up to and including the date upon which the reference monitor registered each exceedance, together with recommended provisional SO_2 emission control strategies for each affected unit and evidence that these control strategies have been deployed, as appropriate. Upon consultation with the Technical Secretary, the permittee shall develop and implement operational changes as necessary to prevent future monitored violations of the standard. These changes may include fuel switching, physical or operational reduction of production capacity, or other changes as appropriate. If a permit modification is deemed necessary, any changes to existing permit conditions shall follow the applicable procedures of TAPCR 1200-03-09. If an emission source is found to be noncompliant with a SIP emission limit, the Technical Secretary will, in addition to conducting enforcement proceedings to bring the source into compliance with its SIP limit, determine whether additional limits must be added to the SIP to meet the requirements of section 172(c)(9) of the Clean Air Act.

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

Section IV - Source Specific Permit Conditions

Source Number	Source Description
282	Solid/Liquid Chemical Waste Incinerators (MSOP-32, PES B-248-1)

S5-1. Emission Limitation(s)

On and after September 1, 2023, SO_2 emitted from this source shall not exceed 15.2 lb/hr (combined limit for both rotary kilns, 30-day rolling average).

TAPCR 1200-03-09-.03(8), 40 CFR §§51.110 – 51.112, Condition 1 of SIP permit 080222 Condition S5-1 of SIP permit 082237.

Compliance Method: Compliance with this condition shall be assured as specified in Appendix 1.

S5-2. Periodic Reporting

On and after the issue date of this permit, the permittee shall submit reports of any monitoring or recordkeeping required by this permit with the semiannual reports required by the applicable Title V Operating Permit. Periodic reports shall include the following information:

A. 30-day average SO_2 emission rate for each day in the reporting period. A summary report[1] of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.

B. All instances of deviations from these permit requirements must be clearly identified in the reports. Deviation reports shall include a description of the deviation; the duration of the event; the explanation or probable cause; and identification of corrective actions or preventative measures undertaken to correct the deviation.

This report must be certified by a responsible official consistent with TAPCR 1200-03-09-.02(11)(d)4.

TAPCR 1200-03-09-.03(8) and 1200-03-10-.02(1)(a), Condition S5-2 of SIP permit 082237.

Source Number	Source Description
283	Liquid Chemical Waste Incinerator (MSOP-32, PES B-248-2)

S6-1. Emission Limitation(s)

On and after September 1, 2023, SO_2 emitted from this source shall not exceed 2.0 lb/hr (30-day rolling average).

TAPCR 1200-03-09-.03(8), 40 CFR §§51.110 – 51.112, Condition 1 of SIP permit 080222, Condition S6-1 of SIP permit 082237.

[1] For all emissions reporting requirements identified in this permit, the minimum requirements for summary reporting are the highest measured emission rate, the date on which the measurement occurred, and either a report of all deviations or a statement that no deviations occurred during the reporting period. For reports of parametric monitoring, the minimum requirements for summary reporting are the highest or lowest measured value, as applicable, the date on which the measurement occurred, and either a report of all deviations or a statement that no deviations occurred during the reporting period.

Compliance Method: Compliance with this condition shall be assured as specified in Appendix 1.

S6-2. Periodic Reporting

On and after the issue date of this permit, the permittee shall submit reports of any monitoring or recordkeeping required by this permit with the semiannual reports required by the applicable Title V Operating Permit. Periodic reports shall include the following information:

A. 30-day average SO_2 emission rate for each day in the reporting period. A summary report of this data is acceptable provided there is sufficient information to enable the Technical Secretary to evaluate compliance.

B. All instances of deviations from these permit requirements must be clearly identified in the reports. Deviation reports shall include a description of the deviation; the duration of the event; the explanation or probable cause; and identification of corrective actions or preventative measures undertaken to correct the deviation.

This report must be certified by a responsible official consistent with TAPCR 1200-03-09-.02(11)(d)4.

TAPCR 1200-03-09-.03(8) and 1200-03-10-.02(1)(a), Condition S6-2 of SIP permit 082237.

(end of conditions)

Appendix 1: PES B-248-1 and 248-2 SO_2 Monitoring

Stack or Flow Diagram Points	PES B-248-1: Vents D (Rotary Kiln #1) and E (Rotary Kiln #2) PES B-248-2: Vent A (Liquid Chemical Incinerator)
Pollutants	SO_2
Control Equipment	SO_2 emissions from the solid/liquid chemical waste incinerators (82-0003-282, PES-B-248-1) and liquid chemical waste incinerator (82-0003-283, PES B-248-2) shall be continuously controlled by wet scrubbers (Croll-Reynolds Clean Air Technologies multi-rod scrubber for each emission point).
Description of Monitoring Protocol	1. Continuous Monitoring of Rod Scrubber Underflow pH A pH sensor and transmitter are installed in either the rod scrubber underflow line or the sump (which receives the rod scrubber underflow) before any caustic or additional water is added in the recycle loop. The distributed control system (DCS) will receive pH values from the transmitter, and a data archival system shall record the pH reading four or more times equally spaced over the hour. The permittee shall operate and maintain continuous monitoring systems (CMS) for scrubbing liquid pH and shall operate all CMS to document compliance with the applicable operating parameter limits under this section as follows: (a) The permittee shall install and operate the CMS in compliance with the manufacturer's written specifications or recommendations for installation, operation, and calibration. (b) The CMS must sample the regulated parameter without interruption and evaluate the detector response at least once each 15 seconds, and compute and record the average values at least every 60 seconds. (c) The span of the CMS detector shall not be exceeded. (d) Each parameter shall be monitored, and the permittee shall calculate SO_2 emissions from the sulfur feed rate and rod scrubber underflow pH. (e) The permittee shall perform inspections and maintenance of the scrubbers as recommended by the manufacturer. 2. Determination of Sulfur Dioxide Removal Efficiency A series of computer simulations using ASPEN Plus® software have been conducted to establish the scrubbing medium pH as the key parameter that indicates the level of SO_2 removal efficiency. Computer simulations were conducted at varying sulfur loading conditions and correlation curves relating pH and sulfur removal efficiency were derived. The correlation curve for the highest sulfur feed modeled (2,000 lb/hr) was used to develop the relationship between pH and removal efficiency and values in the curve that are summarized in the table below:

Scrubbing Media pH	SO_2 Removal Efficiency (%)
<3.44	0
3.44	12.1
3.61	18.0
3.81	30.0
4.01	47.9

Scrubbing Media pH	SO_2 Removal Efficiency (%)
4.20	67.2
4.42	82.8
4.74	90.6
≥5.64	98.1

The multi-rod scrubber recirculation liquid to gas flow rate ratio (L/G) is also a key parameter that indicates SO_2 removal efficiency. The removal efficiencies above at each pH range were all determined using the same minimum L/G ratios as determined during the most recent HWC MACT (40 CFR 63 Subpart EEE) required Comprehensive Performance Test (CPT) on each unit: The minimum rod scrubber liquid-to-gas ratios are 77 gal/1,000 acf for the LCD (hourly rolling average, based on the average of three test runs determined from the CPT conducted on November 2-3, 2022) and 64.3 gal/1,000 acf for each rotary kiln (hourly rolling average, based on the average of three test runs determined from the CPT conducted for RK1 on November 15, 2023). RK1 and RK2 are identical units, and the CPT for RK1 serves as a compliance demonstration for both units. If the L/G ratio drops below the minimum value set by the most recent CPT, then the SO_2 removal efficiency shall be assumed to be zero.

	Each incinerator is equipped with a bypass vent that only opens in the event of an emergency to safely bypass the combustion gases from the air pollution control devices, including the rod scrubber. Monitoring for detection of bypass events is conducted pursuant to the requirements of HWC MACT. The SO_2 removal efficiency shall be assumed to be zero during any bypass periods. 3. Determination of Sulfur Feed Rates The sulfur feed rate is determined from 1) measured waste and fuel feed flow rates and 2) waste and fuel composition data in the Environmental Management Information System (EMIS). Waste stream sulfur concentrations are determined either from process knowledge or from analysis using ASTM method D4239 or equivalent and are entered into the Environmental Management Information System (EMIS). EMIS provides information to the DCS regulating the feed of waste. As waste streams are burned, sulfur feed rates are calculated by the DCS using waste and fuel mass flow sensors that are required by 40 CFR 60 Subpart EEE (HWC MACT). All elemental sulfur in the feed is assumed to be converted to SO_2 in the combustion chamber. Sulfur removal is determined based on the parametric relationship established with the pH of the scrubbing medium used in the multi-rod scrubber and the multi-rod scrubber recirculation liquid to stack gas flow rate (L/G) ratio. 4. Calculation of Stack Gas SO_2 Concentration At a minimum of four equally spaced intervals in each hour, the DCS shall calculate the SO_2 emissions concentration using the stack gas flow rate (obtained from sensors required by 40 CFR 63 Subpart EEE), assuming all sulfur from Step #3 is converted to SO_2 and using the SO_2 control efficiency determined in Step #2. The hourly SO_2 concentration and annual emission rate are calculated using the following assumptions and equations: Assumptions: 1. Standard conditions are 68° F and 1 atm; 2. Mole weights: sulfur (S) = 32.06, sulfur dioxide (SO_2) = 64.06; 3. SO_2 removal is based on the relationship established in Step #2; 4. All sulfur feeds react completely to SO_2; 5. Density of SO_2 gas at standard conditions = 0.1662 lb/ft^3. **SO_2 emission rate (lb/hr)** = sulfur feed rate (lb/hr) x (64.06 lb SO_2/32.06 lb S) x (1-SO_2 removal) 30-day rolling average SO_2 emission rates will be calculated from hourly emission rates. 5. Future Updates to Correlation The parametric relationship between the scrubber pH and SO_2 removal efficiency provided in Item 2 is based on updated modeled simulations using the ASPEN Plus® Software as of May 1, 2025, to determine the correlation between the scrubber pH and SO_2 removal efficiency for the multi-rod scrubbers at B-248-1 and B-248-2. Any subsequent updates to the parametric relationship would be used to either confirm that the correlation in the Table is still valid or to re-establish a new correlation using the Aspen Plus® Software simulations (as described above) and/or required comprehensive performance test conducted in accordance with 40 CFR 63 Subpart EEE.
Averaging	The pH of the scrubbing media shall be measured on a continuous basis (at least once every 15-minute block), and one-hour averages 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. Data collected during periods of monitoring system breakdown, monitoring system repairs, required quality assurance or control periods, and periods of non-operation of the source shall not be included in the data averages. Each 30-day rolling average shall be calculated as the arithmetic average of all valid one-hour averages over each 30-day period, beginning on midnight of the first day and ending at midnight on the 30th day. For a given 30-day averaging period, a valid average must include at least 75% percent of the measured values within the averaging period.
Monitoring Downtime Incidents	During periods of pH monitoring downtime, the sulfur dioxide removal efficiency shall be assumed to be zero. Therefore, any pH monitoring system downtime incidents do not count as SO_2 monitoring system downtime and are not required to be included in the semiannual reports.
Minimum Data Availability	The SO_2 monitoring system shall be fully operational for at least 95% of the operational time of the incinerator during each calendar quarter.
QA/QC Practices	The pH probes shall be calibrated at least once per calendar month, unless a unit begins operation with less than seven calendar days remaining in the calendar month. Recirculation liquid flow meters and stack gas flow monitors liquid flow meters and stack gas flow monitors will be calibrated at least once per calendar year. The multi-rod scrubber associated with each incinerator will be inspected at least biennially to ensure proper operation of the control device.
Reference	Operating Plan in the Title V application dated May 1, 2025, PES B-248-1, pages 22 and 23.

Attachment C

Redline/strikeout Showing Changes to Existing Monitoring Plan

Appendix 51: PES B-248-1 and 248-2 SO_2 Monitoring

Stack or Flow Diagram Points	PES B-248-1: Vents D (Rotary Kiln #1) and E (Rotary Kiln #2) PES B-248-2: Vent A (Liquid Chemical Incinerator)
Pollutants	SO_2
Control Equipment	SO_2 emissions from the solid/liquid chemical waste incinerators (82-0003-282, PES-B-248-1) and liquid chemical waste incinerator (82-0003-283, PES B-248-2) shall be continuously controlled by wet scrubbers (Croll-Reynolds Clean Air Technologies multi-rod scrubber for each emission point).
Description of Monitoring Protocol	1. Continuous Monitoring of Rod Scrubber Underflow pH A pH sensor and transmitter are installed in either the rod scrubber underflow line or the sump (which receives the rod scrubber underflow) before any caustic or additional water is added in the recycle loop. The distributed control system (DCS) will receive pH values from the transmitter, and a data archival system shall record the pH reading four or more times equally spaced over the hour. The permittee shall operate and maintain continuous monitoring systems (CMS) for scrubbing liquid pH and shall operate all CMS to document compliance with the applicable operating parameter limits under this section as follows: (a) The permittee shall install and operate the CMS in compliance with the manufacturer's written specifications or recommendations for installation, operation, and calibration. (b) The CMS must sample the regulated parameter without interruption and evaluate the detector response at least once each 15 seconds, and compute and record the average values at least every 60 seconds. (c) The span of the CMS detector shall not be exceeded. (d) Each parameter shall be monitored, and the permittee shall calculate SO_2 emissions from the sulfur feed rate and rod scrubber underflow pH. (e) The permittee shall perform inspections and maintenance of the scrubbers as recommended by the manufacturer. 2. Determination of Sulfur Dioxide Removal Efficiency A series of computer simulations using ~~a commercially available~~ASPEN Plus® software ~~package (ASPEN®)~~ have been conducted to establish the ~~rod scrubber underflow~~scrubbing medium pH as the key ~~process variable~~parameter that indicates ~~sulfur dioxide control~~the level of SO_2 removal efficiency. Computer simulations were conducted at varying sulfur loading conditions and correlation curves relating pH and ~~scrubber control~~sulfur removal efficiency were derived. The correlation curve for the highest sulfur feed modeled (2,000 lb/hr) was used to develop the relationship ~~programmed into the DCS. The DCS relationship is programmed as a series of straight lines plotted~~ between pH and removal efficiency and values in the curve that are summarized in the ~~following points:~~table below:

~~Point~~	~~Rod Scrubber Underflow pH~~	~~Sulfur Dioxide Removal Efficiency (%)~~
~~1~~	~~0.00~~	~~0.0~~
~~2~~	~~4.13~~	~~0.0~~
~~3~~	~~4.20~~	~~67.2~~
~~4~~	~~4.42~~	~~82.8~~
~~5~~	~~4.74~~	~~90.6~~
~~6~~	~~5.64~~	~~98.1~~
~~7~~	~~14.00~~	~~98.1~~

Scrubbing Media pH	SO_2 Removal Efficiency (%)
<3.44	0
3.44	12.1
3.61	18.0
3.81	30.0
4.01	47.9

Scrubbing Media pH	SO_2 Removal Efficiency (%)
4.20	67.2
4.42	82.8
4.74	90.6
≥5.64	98.1

	The multi-rod scrubber recirculation liquid to gas flow rate ratio (L/G) is also a key parameter that indicates SO_2 removal efficiency. The removal efficiencies above at each pH range were all determined using the same minimum L/G ratios as determined during the most recent HWC MACT (40 CFR 63 Subpart EEE) required Comprehensive Performance Test (CPT) on each unit: The minimum rod scrubber liquid-to-gas ratios are 77 gal/1,000 acf for the LCD (hourly rolling average, based on the average of three test runs determined from the CPT conducted on November 2-3, 2022) and 64.3 gal/1,000 acf for each rotary kiln (hourly rolling average, based on the average of three test runs determined from the CPT conducted for RK1 on November 15, 2023). RK1 and RK2 are identical units, and the CPT for RK1 serves as a compliance demonstration for both units. If the L/G ratio drops below the minimum value set by the most recent CPT, then the SO_2 removal efficiency shall be assumed to be zero. Each incinerator is equipped with a bypass vent that only opens in the event of an emergency to safely bypass the combustion gases from the air pollution control devices, including the rod scrubber. Monitoring for detection of bypass events is conducted pursuant to the requirements of HWC MACT. The SO_2 removal efficiency shall be assumed to be zero during any bypass periods. 3. Determination of Sulfur Feed Rates The sulfur feed rate is determined from 1) measured waste and fuel feed flow rates and 2) waste and fuel composition data in the Environmental Management Information System (EMIS). Waste stream sulfur concentrations are determined either from process knowledge or from analysis using ASTM method D4239 or equivalent and are entered into the Environmental Management Information System (EMIS). EMIS provides information to the DCS regulating the feed of waste. As waste streams are burned, sulfur feed rates are calculated by the DCS using waste and fuel mass flow sensors that are required by 40 CFR 60 Subpart EEE. (HWC MACT). All elemental sulfur in the feed is assumed to be converted to SO_2 in the combustion chamber. Sulfur removal is determined based on the parametric relationship established with the pH of the scrubbing medium used in the multi-rod scrubber and the multi-rod scrubber recirculation liquid to stack gas flow rate (L/G) ratio.
~~Description of Monitoring Protocol (Continued)~~	4. Calculation of Stack Gas SO_2 Concentration At a minimum of four equally spaced intervals in each hour, the DCS shall calculate the SO_2 emissions concentration using the stack gas flow rate (obtained from sensors required by 40 CFR 63 Subpart EEE), assuming all sulfur from Step #3 is converted to SO_2 and using the SO_2 control efficiency determined in Step #2. The hourly SO_2 concentration and annual emission rate are calculated using the following assumptions and equations: Assumptions: 1. Standard conditions are 68° F and 1 atm; 2. Mole weights: sulfur (S) = 32.06, sulfur dioxide (SO_2) = 64.06; 3. SO_2 removal is based on the relationship established in Step #2; 4. All sulfur feeds react completely to SO_2; 5. Density of SO_2 gas at standard conditions = 0.1662 lb/ft^3. **SO_2 emission rate (lb/hr)** = sulfur feed rate (lb/hr) x (64.06 lb SO_2/32.06 lb S) x (1-SO_2 removal) 30-day rolling average SO_2 emission rates will be calculated from hourly emission rates. 5. Future Updates to Correlation The parametric relationship between the scrubber pH and SO_2 removal efficiency provided in Item 2 is based on updated modeled simulations using the ASPEN Plus® Software as of May 1, 2025, to determine the correlation between the scrubber pH and SO_2 removal efficiency for the multi-rod scrubbers at B-248-1 and B-248-2. Any subsequent updates to the parametric relationship would be used to either confirm that the correlation in the Table is still valid or to re-establish a new correlation using the Aspen Plus® Software simulations (as described above) and/or required comprehensive performance test conducted in accordance with 40 CFR 63 Subpart EEE.
Averaging	~~One~~The pH of the scrubbing media shall be measured on a continuous basis (at least once every 15-minute block), and one-hour averages 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. Data collected during periods of monitoring system breakdown, monitoring system repairs, required quality assurance or control periods, and periods of non-operation of the source shall not be included in the data averages. ~~Compliance will be based on a~~ Each 30-day rolling average ~~basis. 30-day rolling averages~~ shall be calculated as the arithmetic average of all valid one-hour averages over each 30-day period, beginning on midnight of the first day and ending at midnight on the 30th day. For a given 30-day averaging period, a valid average must include at least 75% percent of the measured values within the averaging period.
Monitoring Downtime Incidents	During periods of pH monitoring downtime, the sulfur dioxide removal efficiency shall be assumed to be zero ~~in Step #2 above.~~. Therefore, ~~and~~any pH monitoring system downtime incidents do not ~~need to be reported~~count as ~~required by 40 CFR §64.9(a)(2)(ii). Any~~SO_2 monitoring system downtime ~~incidents shall be reported~~and are not required to be included in the semiannual reports~~, unless, in the case of a feed rate flow sensor, the feed line block valve is closed during the incident.~~.
Minimum Data Availability	The SO_2 monitoring system shall be fully operational for at least 95% of the operational time of the incinerator during each ~~semiannual reporting period.~~ calendar quarter.

QA/QC Practices	~~The pH sensors shall be calibrated once per month.~~ The pH probes shall be calibrated at least once per calendar month, unless a unit begins operation with less than seven calendar days remaining in the calendar month. Recirculation liquid flow meters and stack gas flow monitors liquid flow meters and stack gas flow monitors will be calibrated at least once per calendar year. The multi-rod scrubber associated with each incinerator will be inspected at least biennially to ensure proper operation of the control device.
Reference	Operating Plan in the Title V application dated May ~~24, 2019~~1, 2025, PES B-248-1, pages ~~25~~22 and ~~26.~~ ~~Operating Plan in the Title V application dated September 28, 2017, PES B-248-2, pages 12 and 13~~23.

Attachment C2: Public Participation E-mails

From: mosaics4s-no-reply@epa.gov on behalf of SPeCS for SIPs
To: Travis Blake
Subject: [EXTERNAL] SPeCS Submission Sent to EPA
Date: Monday, October 27, 2025 10:11:59 AM

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

This e-mail is to inform you that Travis J Blake has submitted the following submission within the SPeCS application to EPA:

Submission Name:	Updated Redesignation Request for Sullivan County SO2 Nonattainment Area
Submittal Category:	Draft
Date Submitted:	October 27, 2025, 11:11 AM (EST)

To view the submission, click on the Submission Name above, or log into the CDX Homepage and select your role with the SPeCS program service. You may select from the list of submissions located on your state landing page.

This message is being sent to you as a confirmation notification for your state submission to USEPA. If you believe that this submission is not applicable to your state, or that this email is not intended for you, please contact the CDX Help Desk by email at helpdesk@epacdx.net or by calling the CDX Technical Support Staff through our toll free telephone support at 888-890-1995 Monday through Friday from 8:00 AM to 6:00 PM ET. For International callers, the CDX Help Desk can also be reached at (970) 494-5500.

From: Travis Blake
To: lesliem.poff@ky.gov; Strait, Randy P; Laura Justin
Subject: Public Hearing Notice - Revisions to SO2 Attainment Demonstration
Date: Monday, October 27, 2025 8:15:17 AM
Attachments: 2025-1027 Public Hearing Notice.pdf
image001.png

There will be a public hearing before the Technical Secretary of the Tennessee Air Pollution Control Board to consider a proposed State Implementation Plan (SIP) revision under the authority of Tennessee Code Annotated, Section 68-201-105. Tennessee is proposing to revise the SIP submitted to the U. S. EPA on June 17, 2025, which requested the redesignation of the portion of Sullivan County encompassing a circle having its center at coordinates 36.5186 N; 82.5350 W (B-253 powerhouse, Eastman Chemical Company), and having a three-kilometer radius from nonattainment to attainment for the one-hour sulfur dioxide (SO_2) National Ambient Air Quality Standard (NAAQS).

A copy of the public hearing notice is attached for your review. Please contact me if you have questions or need additional information about this submittal.

Travis J. Blake | Environmental Fellow
Division of Air Pollution Control
Davy Crockett Tower, 7th Floor
500 James Robertson Parkway, Nashville, TN 37243
I have a new number: (615) 306-1990
travis.blake@tn.gov
tn.gov/environment
We value your opinion. Please take a few minutes to complete our customer satisfaction survey.

From: Travis Blake
To: Stephen D Moore
Subject: Public Hearing Notice - Revisions to SO2 Attainment Demonstration
Date: Monday, October 27, 2025 6:53:31 AM
Attachments: image001.png
2025-1027 Public Hearing Notice.pdf

There will be a public hearing before the Technical Secretary of the Tennessee Air Pollution Control Board to consider a proposed State Implementation Plan (SIP) revision under the authority of Tennessee Code Annotated, Section 68-201-105. Tennessee is proposing to revise the SIP submitted to the U. S. EPA on June 17, 2025, which requested the redesignation of the portion of Sullivan County encompassing a circle having its center at coordinates 36.5186 N; 82.5350 W (B-253 powerhouse, Eastman Chemical Company), and having a three-kilometer radius from nonattainment to attainment for the one-hour sulfur dioxide (SO_2) National Ambient Air Quality Standard (NAAQS).

A copy of the public hearing notice is attached for your review. Please contact me if you have questions or need additional information about this submittal.

Travis J. Blake | Environmental Fellow
Division of Air Pollution Control
Davy Crockett Tower, 7th Floor
500 James Robertson Parkway, Nashville, TN 37243
I have a new number: (615) 306-1990
travis.blake@tn.gov
tn.gov/environment
We value your opinion. Please take a few minutes to complete our customer satisfaction survey.

From:	Travis Blake
To:	APC Admin
Cc:	Michelle Oakes
Subject:	Public Hearing Notice for SO2 Redesignation
Date:	Monday, October 27, 2025 6:49:30 AM
Attachments:	2025-1027 Public Hearing Notice.pdf image001.png

Please post the attached notice to the public hearings section of the APC-PPO web page. Thanks.

Text to post for link: There will be a public hearing before the Technical Secretary of the Tennessee Air Pollution Control Board to consider a proposed State Implementation Plan (SIP) revision under the authority of Tennessee Code Annotated, Section 68-201-105. Tennessee is proposing to revise the SIP submitted to the U. S. EPA on June 17, 2025, which requested the redesignation of the portion of Sullivan County encompassing a circle having its center at coordinates 36.5186 N; 82.5350 W (B-253 powerhouse, Eastman Chemical Company), and having a three-kilometer radius from nonattainment to attainment for the one-hour sulfur dioxide (SO_2) National Ambient Air Quality Standard (NAAQS).

Travis J. Blake | Environmental Fellow
Division of Air Pollution Control
Davy Crockett Tower, 7th Floor
500 James Robertson Parkway, Nashville, TN 37243
I have a new number: (615) 306-1990
travis.blake@tn.gov
tn.gov/environment
We value your opinion. Please take a few minutes to complete our customer satisfaction survey.

Attachment C3: Public Hearing Information

TN Division of Air Pollution Control (TDAPC) will hold a public hearing before the Technical Secretary of the Tennessee Air Pollution Control Board to consider a proposed State Implementation Plan (SIP) revision under the authority of Tennessee Code Annotated, Section 68-201-105. Tennessee is proposing to revise the SIP submitted to the U. S. EPA on June 17, 2025, which requested the redesignation of the portion of Sullivan County encompassing a circle having its center at coordinates 36.5186 N; 82.5350 W (B-253 powerhouse, Eastman Chemical Company), and having a three-kilometer radius from nonattainment to attainment for the one-hour sulfur dioxide (SO2) National Ambient Air Quality Standard (NAAQS).

Print your name and e-mail address on the Registration Sheet as you enter. If you wish to make comments, please place a checkmark (✓) in the "I Wish to Comment" column.

I. Welcome and Introductions
Jan Compton, Division of Stakeholder Engagement, Office of External Affairs

II. Informational Session, Travis Blake, Division of Air Pollution Control

III. Public Hearing Comments Received (On Site & Virtual)

III. Closing

Note: If you signed up to comment, you will be called to the microphone and asked to state your name and present your comments related to this specific SIP revision. A written copy of your comments would be appreciated if available. Questions will not be answered during the formal hearing but a Response to Comments will be issued with the final permit decision.

The meeting moderator may limit the length of oral comments to allow all parties an opportunity to speak.

Submitting a Comment: Written statements not presented at the hearing will only be considered part of the record if received by Close of Business December 4, 2025, via e-mail at air.pollution.control@tn.gov.

TDEC thanks you for your participation and attendance at today's hearing

APC SO2 Attainment Demonstration Public Hearing

Hybrid- In Person & Teams Option (See Login Info Below)
December 4, 2025
Public Hearing begins at 10:30 AM EDT

Checklist of items to bring:

1. **TDEC Attendees:** Jan Compton, Christian Jancovich (remote), Amanda Davis (JC&APC) **APC:** Travis Blake (remote) Michelle Oakes (remote)
2. Public Hearing portion will be recorded on Teams
3. Back-up recording (Admin)
4. Owl for hybrid meeting quality (jan)
5. Sign in-sheets (Admin)
6. Cards for public comment
7. Agenda
8. Public Meeting Notice online

Copies of supporting materials are available for review at the following link:

View the Eastman Chemical Company State Implementation Plan (SIP) Revision Hearing Document

Microsoft Teams Need help?

Join the meeting now

Meeting ID: 235 957 852 031 2

Passcode: 2VY744Ce

Dial in by phone

+1 629-209-4396,,884139634# United States, Triune

Find a local number

Phone conference ID: 884 139 634#

APC SO2 Attainment Demonstration Public Hearing

Hybrid- In Person & Teams Option (See Login Info Below)
December 4, 2025
Public Hearing begins at 10:30 AM EDT

9:30 AM Prepare for Hybrid meeting: Ensure all sound is good for presenters & others. Everyone is muted on entry. The notification for attendees joining or leaving Teams is turned off. Chat is to group only- not individual option. Share host rights to Christian (tech host remote)

10:15 AM Announce meeting in 15 min, sound check as well with attendees

10:25 AM Jan will announce 5 minutes until we start the meeting.

- Chat: Welcome to the Tennessee Department of Environment and Conservation's public meeting and hearing for the Division of Air Pollution Control's proposed State Implementation Plan (SIP) revision under the authority of Tennessee Code Annotated, Section 68-201-105.

- The introduction for the Teams remote participation, and the Division of APC's information session will begin in 5 minutes. Please let me remind you this evening is dedicated to exchanging information and collecting public comments for the Division of Air Pollution Control's proposed State Implementation Plan (SIP) revision under the authority of Tennessee Code Annotated, Section 68-201-105.

10:30 am Opening (Jan Compton)

- I would like to welcome everyone to the Tennessee Department of Environment and Conservation's public hearing for the Division of Air Pollution Control's proposed State Implementation Plan (SIP) revision under the authority of Tennessee Code Annotated, Section 68-201-105.
  I am Jan Compton with the Division of Stakeholder Engagement's - External Affairs office and I am serving as today's meeting facilitator. It is important to note that I'm not with the division of air pollution control, but I am here to ensure that the entire event runs smoothly. I will take a few minutes to highlight the agenda, meeting format, and make a few introductions.

Slide 2:

- Introductions- **Acknowledgements**

First, I would like to acknowledge some of the people in attendance tonight:

> Are there any Elected officials, legislators, mayors, etc. here this evening?

I would like to introduce our TN Dept. of Air Pollution Control Technical Staff at this time- Deputy Director Jimmy Johnston (virtual), Travis Blake and Michelle Oakes virtual.

Admin staff technical host Christian Jancovich (remote)

Slide 3:

APC SO2 Attainment Demonstration Public Hearing

Hybrid- In Person & Teams Option (See Login Info Below)
December 4, 2025
Public Hearing begins at 10:30 AM EDT

Please note that this public hearing is being conducted in a hybrid format with options to attend in person or remotely by Teams.

- Information on how to join the online public hearing is available at the Tennessee Department of Environment and Conservation website at www.tn.gov/environment/ppo-public-participation
- Participants may call 423-732-9384 anytime during the hearing if having technical difficulties. (Enter the help number in Teams Chat). In addition, at any time just call the dial in number for the meeting at 1 629-209-4396 / Conference ID: 884 139 634#

Please mute yourself when not speakers by using the icon with the slash through the speaker.

- Here are options available to use during the Teams meeting. These will be displayed either in the top right corner or the lower center of the screen.

Slide 4:

- Let's look at the **agenda** for the meeting. You can see that we have two sessions- the informational meeting in which participants can interact with technical staff and ask questions. That will be followed by the Public Hearing in which official comments will be recorded, but technical staff will not

answer questions. Everyone will have a chance to participate in both sessions whether attending in person or remotely.

There will be a public hearing before the Technical Secretary of the Tennessee Air Pollution Control Board to consider a proposed State Implementation Plan (SIP) revision under the authority of Tennessee Code Annotated, Section 68-201-105. Tennessee is proposing to revise the SIP submitted to the U. S. EPA on June 17, 2025, which requested the redesignation of the portion of Sullivan County encompassing a circle having its center at coordinates 36.5186 N; 82.5350 W (B-253 powerhouse, Eastman Chemical Company), and having a three-kilometer radius from nonattainment to attainment for the one-hour sulfur dioxide (SO2) National Ambient Air Quality Standard (NAAQS)

Tennessee proposes to revise Condition S5-1 of existing SIP permit 082237 (SO2 emission limits and associated monitoring for three hazardous waste incinerators at Eastman Chemical Company) to update the parametric relationship between the scrubber pH and SO2 removal efficiency for each control device. There would be no change to the existing SO2 emission limits for the hazardous waste incinerators. An updated SIP permit (permit number 083740) would be issued to incorporate the revised parametric relationship.

Slide 5

APC SO2 Attainment Demonstration Public Hearing

Hybrid- In Person & Teams Option (See Login Info Below)
December 4, 2025
Public Hearing begins at 10:30 AM EDT

If you would like to ask a question or make a comment during the session, please complete the form at the registration desk if you are attending in person. If you are participating by Teams, feel free to raise your hand by hovering the cursor over your name in Teams. You can also ask questions in the chat part Teams. **We will need your name and location prior to your comments please. We will start with one question each and if we have time, we will circle around to let participants ask additional questions.** Please note that participants joining us by phone will also be taken off mute and allowed to ask a question. We will need everyone to be respectful during that time and not talk over each other.

Written statements not presented at the hearing will only be considered part of the record if received by close of business (4:30 PM Central time) on December 4, 2025, at the office of the Technical Secretary, Tennessee Division of Air Pollution Control, Davy Crockett Tower, 500 James Robertson Parkway, 7 th Floor, Nashville, TN 37243. To assure that written comments are received and addressed in a timely manner, written comments must be submitted by E-mail: Submit electronic comments to air.pollution.control@tn.gov. A final determination will be made after weighing all relevant comments.Chat : Written statements not presented at the hearing will only be considered part of the record if received by close of business (4:30 PM Central time) on December 4, 2025 at the office of the Technical Secretary, Tennessee Division of Air Pollution Control, via e-mail at air.pollution.control@tn.go

Slide 6-12

10:40 Presentation At this time, Travis Blake with TDAPC will give a short presentation about the proposed revision. Please hold your questions until the end of the presentation or enter them in the chat to be answered when presentation is complete.

Slide 16

10:50 EST Thank you Travis! We are able to answer questions during the informational session. Participants can ask questions from technical staff in person and remotely through Teams or phone. Are there questions or comments at this time? Continue until questions end or time expires.

11:00 or following completion of information session Jan announced public hearing to start in 5 minutes.

11:00 EST ***RECORD*** Christian Record

- Chat: Welcome to the Tennessee Department of Environment and Conservation's public hearing for the Division of Air Pollution Control's proposed State Implementation Plan (SIP) revision under the authority of Tennessee Code Annotated, Section 68-201-105.

Slide 13

Welcome everyone! We will now begin the public hearing portion of tonight's agenda. This afternoon's hearing will be recorded via

Microsoft Teams. The technical staff will not be answering questions during this portion of the meeting. Public comments and questions will be addressed through the Department's Response to Comments. All public comments will be considered.

There will be a public hearing before the Technical Secretary of the Tennessee Air Pollution Control Board to consider a proposed State Implementation Plan (SIP) revision under the authority of Tennessee Code Annotated, Section 68-201-105. Tennessee is proposing to revise the SIP submitted to the U. S. EPA on June 17, 2025, which requested the redesignation of the portion of Sullivan County encompassing a circle having its center at coordinates 36.5186 N; 82.5350 W (B-253 powerhouse, Eastman Chemical Company), and having a three-kilometer radius from nonattainment to attainment for the one-hour sulfur dioxide (SO2) National Ambient Air Quality Standard (NAAQS)

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Slide 14

APC SO2 Attainment Demonstration Public Hearing

Hybrid- In Person & Teams Option (See Login Info Below)
December 4, 2025
Public Hearing begins at 10:30 AM EDT

I would like to introduce our TN Dept. of Air Pollution Control Technical Staff at this time- Deputy Director Jimmy Johnston (virtual), Travis Blake (Virtual), Michelle Oakes (virtual)

Admin staff Christian Jancovich (remote)

Slide 15

This slide highlights the Microsoft teams application and how to navigate it to mute yourself, unmute and chat to ask questions.

Slide 16

A presentation was given during the informational session by Travis Blake with TDAPC which also details the reasoning behind the proposed revision.

At this time, we will begin to take and record any comments……

Chat: Everyone will be able to give comments whether attending in person or virtually. Please raise your hand or enter your name if you want to give a verbal comment. We will recognize you to speak following comments, if any, from those attending in person.

Slide 17

Everyone will be able to give comments whether attending in person or virtually. We will start taking recorded comments at this time beginning with those joining us in person. If you have filled out a card to make a public comment, I will read your name and you can come up to the microphone to record your comment. Each

comment will be limited to 5 minutes to allow everyone to participate.

Let's begin comments now:

(Jan reads any names or allows attendees to decide to present at that time)

We have concluded the in person comments, at this time, Christian, do we have anyone on our Teams meeting who wishes to make a formal comment?

We have concluded the Teams participants who want to comment. At this time, is there anyone on the phone who would like to comment? If so, please unmute yourself by pressing *6 and speak. If there is more than one, let's be sure to not talk over each other as everyone will have a chance to make their comment.

Slide 18

Christian post in chat as Jan reads this:

The decision process is as follows:

- TDAPC to review comments and modify SIP Revision as necessary
- Present final SIP Revision and responses to comments received to Air Pollution Control Board for approval

- Submit SIP Revision to U.S. EPA for approval

Christian post in chat as Jan reads this:

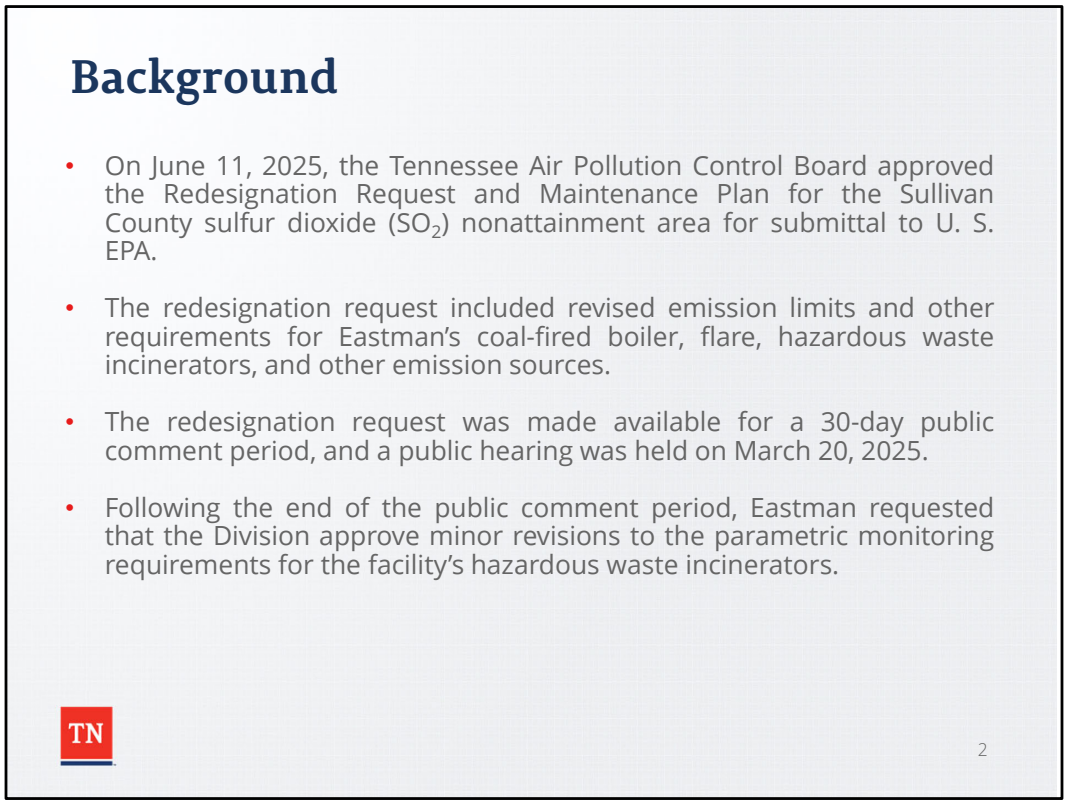
If you have written comments which you wish to have entered into the hearing record by COB **December 4, 2025** submit them by email to air.pollution.control@tn.gov

- These instructions are also available in the public notice

Slide 19

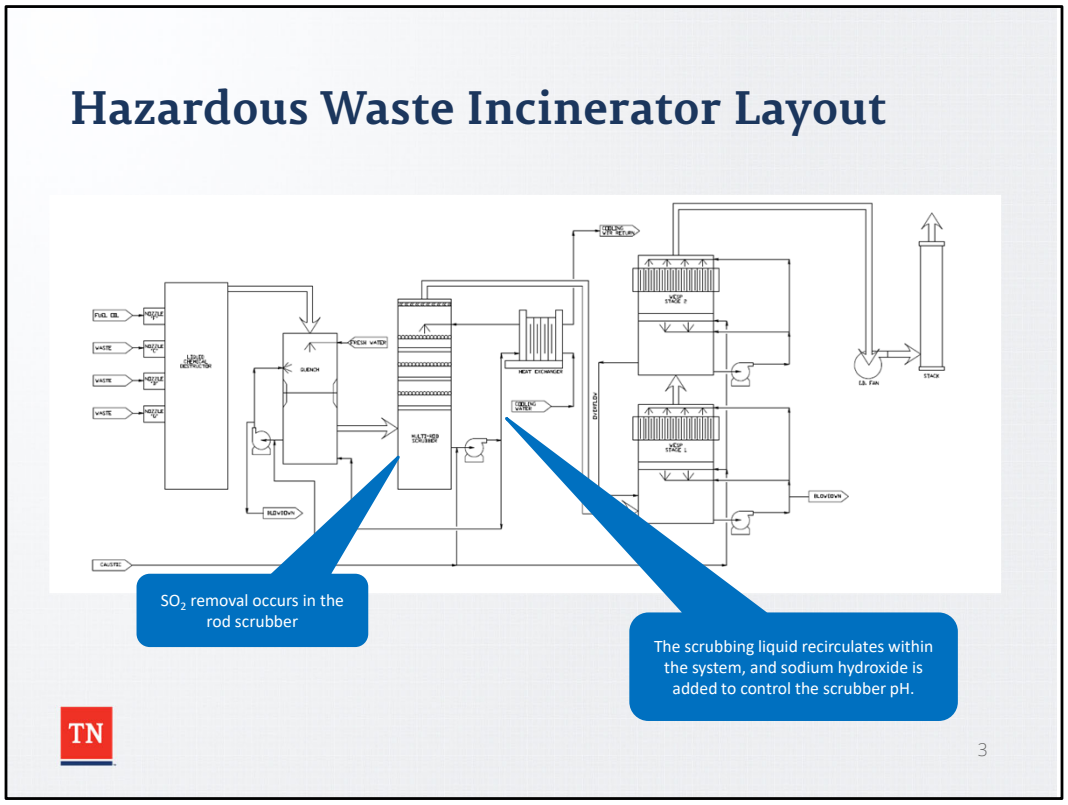
END **APPRECIATIVE REMARKS** – At this time, we will adjourn the public hearing. I appreciate everyone's participation and cooperation. Have a great day!

Good morning. My name is Travis Blake, and I am the Environmental Fellow for the Division of Air Pollution Control. I am here this morning to give a brief overview of a proposed revision to the Redesignation Request and Maintenance Plan for the Sullivan County sulfur dioxide nonattainment area.



The Tennessee Air Pollution Control Board approved a redesignation request for this area in June 2025, which requested that EPA redesignate the Sullivan County area from nonattainment to attainment and adopted emission limits, monitoring requirements, and other provisions to ensure that the area continues to attain the national ambient air quality standard for SO_2.

The redesignation request was made available for public comments, and a public hearing was held prior to submittal of the redesignation request. Following the end of the original public comment period, Eastman requested that we make minor changes to the monitoring requirements for the facility's hazardous waste incinerators. The proposed revision has been drafted, and this hearing fulfills part of the public participation requirements for submittal of the plan to U. S. EPA for approval.



This slide shows the process flow for one of Eastman's three incinerators. This one is a liquid chemical incinerator, but the other two incinerators look very similar to this one.

The incinerator is on the left side of the slide, and combustion gases from the unit flow through a series of air pollution control devices – a quench chamber, rod scrubber, and two wet electrostatic precipitators – before exiting the stack on the right. Most of the SO_2 removal occurs in the rod scrubber, where hot gases are brought into contact with a recirculated stream of scrubbing liquid (water in this case). The pH of the scrubbing liquid (i. e., whether the solution is acid or basic) is controlled by adding sodium hydroxide to the recirculation loop (adding sodium hydroxide raises the pH of the liquid). The scrubber also serves to remove acid gases such as hydrogen chloride.

Determination of SO_2 Removal Efficiency

- SO_2 removal increases at higher pH values (i. e., more sodium hydroxide is added to the system), but some removal occurs at low pH (acidic conditions), because SO_2 can react directly with the scrubbing liquid.
- The existing parameters were developed by modeling of the process with commercially available software (Aspen Plus®). The model simulates the physical and chemical processes that occur within the incinerator and control device. The previous modeling (submitted 2014) assumed no SO_2 removal below a pH of 4.20.

Rod Scrubber Underflow pH	Sulfur Dioxide Removal Efficiency
0.00	0%
4.13	0%
4.20	67.2%
4.42	82.8%
4.74	90.6%
5.64	98.1%
14.00	98.1%

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Sulfur dioxide is best removed at higher pH values, but a high pH is not required for the scrubber to operate properly, and sodium hydroxide is absorbed in water and converted to sulfurous acid under any conditions, including low pH. However, SO_2 absorption does become less efficient as the pH decreases.

There are different methods to determine the scrubber removal efficiency, including stack testing (directly measuring how much SO_2 is emitted from the stack) and process modeling. Eastman used process modeling to determine the SO_2 removal efficiency because SO_2 is not emitted from the incinerators under most conditions (the waste that they feed has very little sulfur), so stack testing is difficult. The process model uses a commercially available software package that simulates the scrubber layout and operating conditions and the chemical reactions that occur in the scrubber. They used the same approach when they submitted monitoring for the scrubber in 2014, but the old model did not represent the full range of scrubber operating conditions.

Updated Process Modeling

- Eastman requested that the permit allow a broader pH range based on updated process modeling.
- The revised modeling assesses SO_2 removal at pH values of 3.44 and higher. The model shows that SO_2 removal is unchanged at pH values of 4.20 and higher.
- A revised permit, which includes the broader pH range, has been drafted as part of the plan revision.

Scrubbing Media pH	SO_2 Removal Efficiency
<3.44	0%
3.44	12.1%
3.61	18.0%
3.81	30.0%
4.01	47.9%
4.20	67.2%
4.42	82.8%
4.74	90.6%
≥5.64	98.1%

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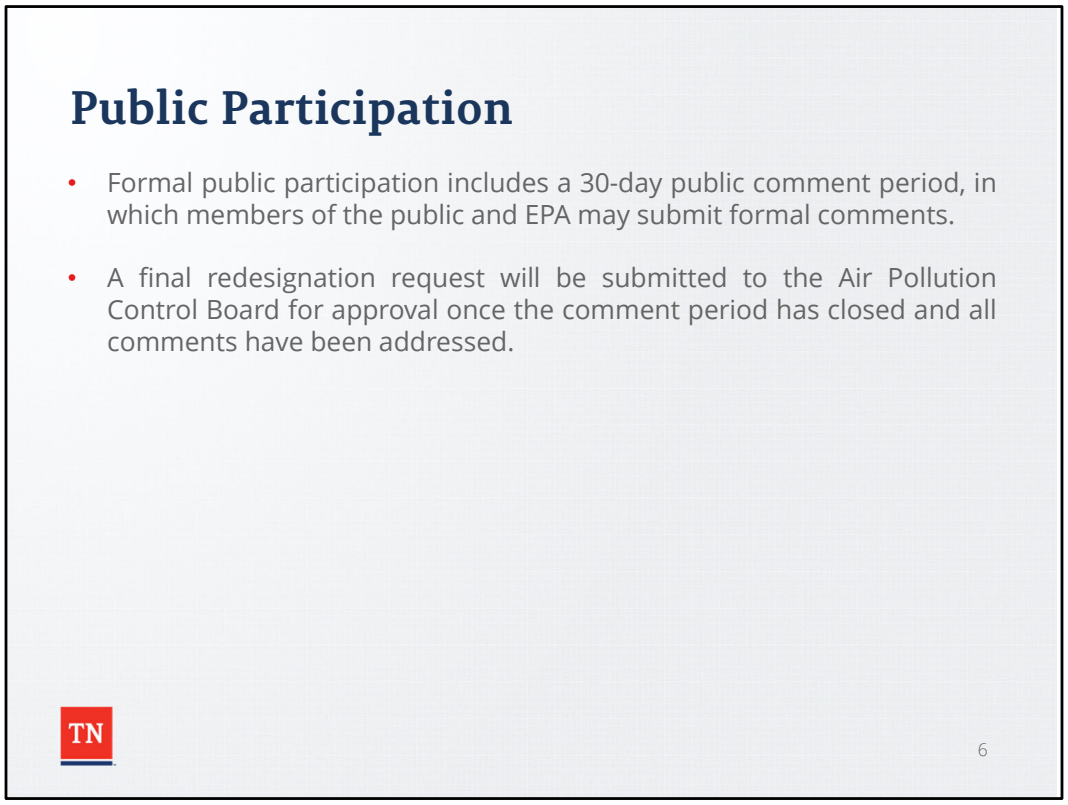
The updated modeling is identical to the old modeling at higher pH values, but the new model simulates the scrubber at pH values as low as 3.44 (the old model only went to a pH of 4.20, and lower pH values were assumed to get 0% SO_2 removal). The new model shows how much SO_2 is removed at these values (see the red font in the table), and removal is still assumed to be zero for pH values that were not modeled (anything less than 3.44). We have drafted a revised permit and supporting documentation to request approval of the broader pH range.



Today's hearing provides an opportunity for members of the public to provide comments on the proposed revision.

After the conclusion of today's hearing, we will respond to any comments received during the comment period, and a final revision will be submitted to the Tennessee Air Pollution Control Board and to U. S. EPA.

TN
Department of
Environment &
Conservation
THANK YOU

PLEASE PRINT

APC SIP REVISION PUBLIC HEARING
Johnson City Field Office
2305 Silverdale Dr.
Johnson City, TN 37601

Date: December 4, 2025

NAME	Representing (Indicate organization name or private citizen)	Email Address	I Wish to Comment (✓)	Send Me the Response to Comments (✓)
NO ATTENDEES IN PERSON, NO NON-TDEC Affiliated guests virtual - Jan Compton				

Attachment D: Response to Comments

The U.S. Environmental Protection Agency (EPA)
Draft Prehearing Comments
Tenneessee Proposed Parametric Monitoring Permit-to-SIP Revision
for Eastman Chemical
Hazardous Waste Incinerators (HWI)

General Comments

1. EPA recommends Tennessee update the monitoring protocol language in Appendix 1 of draft Permit #083740 that will allow updates to the parametric values in item #2 and 5 of the monitoring protocol based on source performance testing or applicable methodology without requiring future SIP revisions.

    i. For the liquid-to-gas ratio (L:G), include language that Eastman will establish future minimum L:G based on the results of future performance tests. Please see example language below.

    "*The minimum liquid to gas flow rate ratio for each rotary kiln and the rod scrubber shall be based on the minimum values (hourly rolling average, based on the average of three test runs) established during the most recent comprehensive performance test for each respective emission unit."*

    ii. For the pH and SO_2 removal efficiency correlation, EPA recommends Tennessee update the red-line language at item 5 of the monitoring protocol (Appendix 1) that says Eastman will establish future pH and SO_2 removal efficiency correlation using the Aspen Plus process modeling or an applicable methodology. Please see example language below.

    "The parametric relationship between the scrubber pH and SO_2 removal efficiency provided in item 2 of Appendix 1 is based on updated modeled simulations using the ASPEN Plus® Software as of May 1, 2025, to determine the correlation between the scrubber pH and SO_2 removal efficiency for the multi-rod scrubbers at B-248-1 and B-248-2. Eastman will use the parametric relationship based on the most recent modeled simulations used to [determine] [confirm or reestablish] the correlation between the scrubber pH and SO_2 removal efficiency for the multi-rod scrubbers.

    If a comprehensive performance test is conducted in accordance with 40 CFR 63 Subpart EEE after May 1, 2025, the results of that test will be used to determine the SO_2 removal rate until a change in the sulfur feed rate makes the test result unrepresentative of current conditions or until a subsequent modeled simulation is performed.

2. EPA recommends, Tennessee cite the specific permit condition or applicable requirement (e.g., SIP approved or federal regulation) that requires Eastman to notify TDEC of future performance tests or process modeling and provide TDEC with the testing or modeling

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results and final updates to the parametric monitoring values for the B-248 hazardous waste incinerator multi-rod scrubbers. Please see example language below.

> *Pursuant to [insert permit condition including the applicable requirement citation] Eastman is required to inform APC of updates to parametric monitoring values including notification of any comprehensive performance testing or other source specific methodology."*

3. EPA recommends, Tennessee include a statement that describes the state's process to review and approve or certify the parametric value changes in compliance assurance monitoring plan. Additionally, EPA recommends Tennessee include a statement that any approval/certification will be publicly available to comply with the monitoring, recordkeeping, and recording SIP requirements. Please see example language below.

> *TDEC is authorized to certify the parametric value changes through a final issued operating permit pursuant to [relevant applicable requirement (such as operating permit 576926 condition E13, CAM plan 40 CFR part 64 or Title V renewal)]*

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Response to Comments

The following comments were received from U. S. EPA on November 20, 2025.

General Comments

1. *EPA recommends Tennessee update the monitoring protocol language in Appendix 1 of draft Permit #083740 that will allow updates to the parametric values in item #2 and 5 of the monitoring protocol based on source performance testing or applicable methodology without requiring future SIP revisions.*

    i. *For the liquid-to-gas ratio (L:G), include language that Eastman will establish future minimum L:G based on the results of future performance tests. Please see example language below.*

    "The minimum liquid to gas flow rate ratio for each rotary kiln and the rod scrubber shall be based on the minimum values (hourly rolling average, based on the average of three test runs) established during the most recent comprehensive performance test for each respective emission unit."

    ii. *For the pH and SO_2 removal efficiency correlation, EPA recommends Tennessee update the red-line language at item 5 of the monitoring protocol (Appendix 1) that says Eastman will establish future pH and SO_2 removal efficiency correlation using the Aspen Plus process modeling or an applicable methodology. Please see example language below.*

    "The parametric relationship between the scrubber pH and SO_2 removal efficiency provided in item 2 of Appendix 1 is based on updated modeled simulations using the ASPEN Plus® Software as of May 1, 2025, to determine the correlation between the scrubber pH and SO_2 removal efficiency for the multi-rod scrubbers at B-248-1 and B-248-2. Eastman will use the parametric relationship based on the most recent modeled simulations used to [determine] [confirm or reestablish] the correlation between the scrubber pH and SO_2 removal efficiency for the multi-rod scrubbers.

    If a comprehensive performance test is conducted in accordance with 40 CFR 63 Subpart EEE after May 1, 2025, the results of that test will be used to determine the SO_2 removal rate until a change in the sulfur feed rate makes the test result unrepresentative of current conditions or until a subsequent modeled simulation is performed.

Response: Tennessee updated the Description of Monitoring Protocol section of SIP permit 083740, Appendix 1 (item 5, "Future Updates to Correlation") as follows:

- EPA's recommended language from Comment 1.i was added with no changes:

    The minimum liquid-to-gas flow rate ratio for each rotary kiln and the rod scrubber shall be based on the minimum values (hourly rolling average, based on the average of three test runs) established during the most recent comprehensive performance test for each respective emission unit.

- EPA's recommended language from the first paragraph of Comment 1.ii was added with minor revisions:

> The parametric relationship between the scrubber pH and SO2 removal efficiency provided in Item 2 is based on updated modeled simulations using the ASPEN Plus® Software as of May 1, 2025, to determine the correlation between the scrubber pH and SO_2 removal efficiency for the multi-rod scrubbers at B-248-1 and B-248-2. Any subsequent updates to the parametric relationship would be used to either confirm that the correlation in the Table is still valid or to re-establish a new correlation using the Aspen Plus® Software simulations, as described above.

- EPA's recommended language from the second paragraph of Comment 1.ii was added, but the language was revised to clarify that performance testing is not mandatory:

> If a comprehensive performance test is conducted in accordance with 40 CFR 63 Subpart EEE after May 1, 2025, the results of that test may be used to determine the SO_2 removal rate until a change in the sulfur feed rate makes the test result unrepresentative of current conditions or until a subsequent modeled simulation is performed. The minimum liquid-to-gas flow rate ratio for each rotary kiln and the rod scrubber shall be based on the minimum values (hourly rolling average, based on the average of three test runs) established during the most recent comprehensive performance test for each respective emission unit.

While performance testing is the preferred method for establishing the correlation between an emission rate and control device parameters, we have ongoing concerns that Eastman no longer processes sulfur-bearing waste in sufficient amounts to produce a representative test result. The revised language does provide the option to use performance testing in lieu of process modeling to establish a new parametric relationship in the future, or to confirm the existing relationship.

2. *EPA recommends, Tennessee cite the specific permit condition or applicable requirement (e.g., SIP approved or federal regulation) that requires Eastman to notify TDEC of future performance tests or process modeling and provide TDEC with the testing or modeling results and final updates to the parametric monitoring values for the B-248 hazardous waste incinerator multi-rod scrubbers. Please see example language below.*

> ***Pursuant to [insert permit condition including the applicable requirement citation] Eastman is required to inform APC of updates to parametric monitoring values including notification of any comprehensive performance testing or other source specific methodology."***

Response: Tennessee added the requested language to the SIP narrative (see new section, "Updates to Parametric Monitoring") and added language to describe the requirement to update monitoring pursuant to 40 CFR Part 64 (Compliance Assurance Monitoring).

3. *EPA recommends, Tennessee include a statement that describes the state's process to review and approve or certify the parametric value changes in compliance assurance monitoring plan. Additionally, EPA recommends Tennessee include a statement that any approval/certification will be*

publicly available to comply with the monitoring, recordkeeping, and recording SIP requirements. Please see example language below.

> ***TDEC is authorized to certify the parametric value changes through a final issued operating permit pursuant to [relevant applicable requirement (such as operating permit 576926 condition E13, CAM plan 40 CFR part 64 or Title V renewal)]***

Response: The requested language, along with a longer explanation of permit modification procedures, was added to the SIP narrative (see new section, "Updates to Parametric Monitoring").

Attachment E: Board Order 26-002

STATE OF TENNESSEE
AIR POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
PROPOSED STATE IMPLEMENTATION PLAN	)	ORDER NO. 26-002
AMENDMENT TO REQUEST REDESIGNATION	)	
OF THE SULLIVAN COUNTY 2010 ONE-HOUR	)	
SULFUR DIOXIDE NATIONAL AMBIENT	)	
AIR QUALITY STANDARD	)	
NONATTAINMENT AREA TO ATTAINMENT,	)	
REVISION TO MONITORING REQUIREMENTS	)	
FOR HAZARDOUS WASTE COMBUSTORS	)	

BOARD ORDER

The Sullivan County, Tennessee sulfur dioxide (SO_2) nonattainment area includes a portion of Sullivan County encompassing a circle centered at coordinates 36.5186 N; 82.5350 W (B-253 powerhouse, Eastman Chemical Company), with a three-kilometer radius. Between 2008 and 2010, air quality monitoring within this region indicated that the annual average SO_2 concentrations exceeded the 75 ppb National Ambient Air Quality Standard (NAAQS), and EPA designated the area as nonattainment for the one-hour SO_2 NAAQS, effective October 4, 2013. On June 11, 2025, the Tennessee Air Pollution Control Board approved a State Implementation Plan (SIP) revision requesting to redesignate the area back to attainment due to attaining monitoring data and permanent and enforceable control measures. Subsequently, Eastman Chemical Company proposed an amendment to the original monitoring requirements for three Hazardous Waste Combustors in the Redesignation Request. The proposed amendment completed a 30-day public notice period, ending with a public hearing on December 4, 2025.

The Tennessee Air Pollution Control Board finds that the monitoring changes requested by Eastman Chemical Company for the three hazardous waste incinerators provide for continued attainment and maintenance of the 2010 SO_2 NAAQS. The Board approves the revised monitoring requirements, as codified in permit 083740, for adoption into Tennessee's State Implementation Plan and approves the submittal of a revised plan to U. S. EPA.

Approved on January 14, 2026, by the members of the Tennessee Air Pollution Control Board as follows: