

**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 Microsoft Teams link**

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**Wednesday, November 12, 2025
9:30 A.M.**

	Item	Presenter	Page
1.	Roll Call		
2.	Approval of October 08, 2025, Board Meeting Minutes		3
3.	Shelby County Second 10-Year Maintenance Plan for the 2008 8-hour Ozone NAAQS; BO#25-014 **Comments from the Public or Online Participants**	Marc Corrigan	10
4.	Charles Blalock & Sons Inc. Title V Fee Variance BO#25-015 **Comments from the Public or Online Participants**	James Johnston	74
5.	Rice Enterprises LLC. Title Five Fee Variance BO#25-016 **Comments from the Public or Online Participants**	James Johnston	79
6.	Universal Environmental Services LLC Title Five Fee Variance BO#25-017 **Comments from the Public or Online Participants**	James Johnston	83

	General Business: Non-TV Fees Rulemaking	Mark Reynolds	87
	Compliance Update	Alvin Pratt	110
	Comments from the Public or Online Participants		

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)

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Air Pollution Control Board
of the
State of Tennessee
Regular Meeting

On Wednesday October 08, 2025, at 9:33 A.M., 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
Mr. Mike Haverstick
Mayor Ken Moore
Mr. Stephen Moore
Mr. Nicholas Ramos
Ms. Caitlin Roberts
Mr. Jimmy West

The following Board member joined the meeting via Microsoft Teams:

Dr. Chunrong Jia
Dr. Joshua Fu

The following Board members were absent:

Mr. Kyle Etheridge
Dr. Shawn Hawkins
Ms. Amy Spann
Mayor Larry Waters

Since the Chairman, David Salyers, P.E., could not attend the meeting, Ms. Tara Pedraza, Director of Stake Holder Engagement for TDEC, Commissioner designee, represented the Chairman by proxy. In the absence of Ms. Michelle Owenby, Director, Division of Air Pollution Control, Mr. James Johnston, Deputy Director of Division of Air Pollution Control, served as Technical Secretary. In the absence of Vice-Chairman, Mayor Larry Waters, Ms. Tara Pedraza, Director of Stake Holder Engagement for TDEC, served as Vice Chairman for the October 08, 2025, meeting.

Mr. James Johnston, Deputy Director of Division of Air Pollution Control, Technical Secretary, welcomed Board members and those attending via Microsoft Teams.

The Vice-Chairman, Ms. Tara Pedraza, called the meeting to order and asked for a roll call and the response was as follows:

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

Eight (8) Board members were present, two (2) participated via Microsoft Teams and four (4) were absent.

The next item on the agenda was the approval of the minutes from the June 11, 2025, Board meeting. The Vice-Chairman, Ms. Tara Pedraza, requested a motion to approve the minutes. Mayor Ken Moore made a motion to approve the minutes, and Dr. Benitez, seconded the motion. The Vice-Chairman, Ms. Tara Pedraza, asked if there were any additions or corrections to the minutes. Hearing none, the Vice-Chair, Ms. Tara Pedraza, asked for a roll call and the response was as follows:

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

The motion carried with Ten (10) affirmative votes; the minutes were approved as presented.

The Vice-Chairman, Ms. Tara Pedraza, called on Mr. Mark Reynolds, Air Pollution Control, to present the Withdrawal of Incorporation by Reference for NSPS Rules.

Mr. Mark Reynolds, Division of Air Pollution Control, presented the withdrawal of the incorporation by reference for the New Source Performance Standard (NSPS) rule revision. Mr. Reynolds stated that over the past several years, the Division has incorporated by reference the federal NSPS and National Emission Standards for Hazardous Air Pollutants (NESHAP) rules into state rules. The current rulemaking, which includes both NSPS and NESHAP rules, was filed with the Secretary of State (SOS) on August 6, 2025. During the SOS review, an error in the instructions for the NSPS portion of the rule was discovered. The Division recommended that the Board vote to withdraw the NSPS portion of the rule (0400-30-39) due to the error. The NESHAP portion of the rule does not have any errors and can move forward and become state effective on November 4, 2025. The Board voted and approved the withdrawal of the NSPS portion of the rule.

The Vice-Chairman, Ms. Tara Pedraza, requested a motion to approve the Withdrawal of Incorporation by Reference for NSPS Rules. Mayor Ken Moore made a motion to approve the Withdrawal of Incorporation by Reference for NSPS Rules and Dr. Benitez, seconded the motion. The Vice-Chair, Ms. Tara Pedraza, asked for a roll call and the response was as follows:

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

The motion carried with Ten (10) affirmative votes; Withdrawal of Incorporation by Reference was approved.

The Vice-Chairman, Ms. Tara Pedraza, called on Mr. Travis Blake, Air Pollution Control, to discuss the SO₂ SIP Revision, Monitoring update for Eastman's Hazardous Waste Combustors.

Travis Blake notified the Board of the Division's intent to revise the Attainment Demonstration for the Sullivan County SO₂ nonattainment area to update the monitoring requirements for Eastman Chemical Company's hazardous waste incinerators.

The Vice-Chairman, Ms. Tara Pedraza, called on Ms. Hannah Nodell, Division of Air Pollution

Ms. Hannah Nodell, Division of Air Pollution Control, briefed the Board members on the Knoxville maintenance area PM_{2.5} Limited Maintenance Plan (LMP), the second 10-year maintenance plan for PM_{2.5} in the Knoxville maintenance area. Ms. Nodell gave a brief history of the Knoxville maintenance area's attainment status. After EPA promulgated a revised 24-hour PM_{2.5} NAAQS of 35 µg/m³ in 2006, EPA designated the Knoxville area as nonattainment in 2009. PM_{2.5} concentrations improved in the area and in 2016, TDEC requested that EPA redesignate the Knoxville area to attainment. EPA approved the redesignation request and maintenance plan with an effective date of September 27, 2017. Current ambient monitoring data in the maintenance area is below 35 µg/m³. The Division is currently working on a Limited Maintenance Plan (LMP); Ms. Nodell outlined what a LMP must contain and how the Division is meeting those requirements. Ms. Nodell pointed out that the Knoxville maintenance area has maintained the NAAQS for at least 8 years and that the likelihood of future NAAQS violations is statistically less than 10%. Ms. Nodell then discussed the attainment inventory conducted for the LMP and the emissions trends found in the attainment inventory. The LMP will include contingency measures, which are control measures that could be put in place if air quality violated the NAAQS. Ms. Nodell then discussed motor vehicle emissions budgets (MVEB), particularly the MVEB established in the first maintenance plan and the fact that once the LMP is approved, a MVEB will not be required. Ms. Nodell concluded by showing a timeline for the completion of the LMP.

The Vice-Chairman, Ms. Tara Pedraza, called on Mr. Grant Ruhl, Office of General Council, to present “Appalachian Voices” appeal for Construction Permit No. 981915 issued to TVA for its Kingston Power Plant. APC-24-0247.

Mr. Grant Ruhl along with co council Ms. Emily Vann, Office of General Council presented the Appalachian Voices v. TDEC v. TVA APC24-0247 Permit Appeal - 981915.

- Appalachian Voices, represented by the Southern Environmental Law Center, appealed the Technical Secretary’s issuance of construction permit number 981915 (“Permit”) to TVA for its Kingston power plant (“Kingston Plant”).
- The Permit authorizes TVA to retire the existing coal electric generation units (“EGUs”) at the Kingston Plant and add new natural gas-fired EGUs to replace the power generation capacity lost by retiring the coal EGUs.
- Appalachian Voices submitted its third-party appeal of the Permit on December 18, 2024.
- Notice of Hearing was filed with the Administrative Procedures Division on December 20, 2024.
- TVA intervened on January 15, 2025.
- TDEC, TVA, and Appalachian Voices filed cross-motions for summary judgment on March 14, 2025.

The Administrative Procedures Division issued an Initial Order granting TDEC’s motion and dismissing the appeal on August 20, 2025. The administrative judge’s initial order, together with any earlier orders issued by the administrative judge, shall become final unless appealed to the board by the commissioner or other party within thirty (30) days of entry of the initial order or, unless the board passes a motion to review the initial order pursuant to § 4-5-315, within the longer of thirty (30) days or seven (7) days after the first board meeting to occur after entry of the initial order. Upon appeal to the board by a party, or upon passage of a motion of the board to review the administrative judge’s initial order, the board shall afford each party an opportunity to present briefs, shall review the record and allow each party an opportunity to present oral argument. If appealed to the board, the review of the administrative judge’s initial order shall be limited to the record but shall be de novo with no presumption of correctness *Tenn. Code Ann. § 68-201-108(a)(1)*

The Board options were to pass a motion to review the initial order. Pass a motion not to review the initial order; or take no action, which results in the initial order becoming a final order in 7 days, provided that no party appeals within 30 days after entry of the initial order (this appeal window closed on September 19, 2025).

The Vice-Chairman, Ms. Tara Pedraza, requested a motion to “Take No Action”, in the “Appalachian Voices” appeal for Construction Permit No. 981915 issued to TVA for its Kingston Power Plant. APC-24-0247. Mayor Ken Moore made a motion to take no action, and Mr. Haverstick seconded the motion. The Vice-Chair, Ms. Tara Pedraza, asked for a roll call and the response was as follows:

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

The motion carried with Nine (9) affirmative votes; approve “Take no action”, “Appalachian Voices” appeal for Construction Permit No. 981915 issued to TVA for its Kingston Power Plant. APC-24-0247 approved.

The Vice-Chairman, Ms. Tara Pedraza, called on Mr. Grant Ruhl, Office of General Council, to present Air Pollution Control Virtual Board Meetings.

Mr. Grant Ruhl presented the Less is More Act – Public Chapter 524 (2025) allows meetings by "electronic means of communication" for state boards under specified conditions. Tenn. Code Ann. § 8-44-108(b). “Electronic means of communication” is real-time communication by video conference or audio conference and may include the use of an internet- based platform but does not include email. Tenn. Code Ann. § 8-44-108(a)(1). Boards must meet with quorum physically present at least once per year. Tenn. Code Ann. § 8-44-108(d) (July 1, 2025).

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 10:38am.

(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

Summary of Board Order 25-014: Non-Regulatory Amendment To The Shelby County Portion of The State Implementation Plan (SIP); Shelby County Second 10-year Maintenance Plan for the 2008 8-Hour Ozone (O₃) National Ambient Air Quality Standard (NAAQS)

In 2008, the Environmental Protection Agency (EPA) promulgated a revised ozone (O₃) standard that set the NAAQS at 0.075 ppm (75 ppb). Shelby County, Tennessee, Crittenden County, Arkansas, and the northern urbanized portion of DeSoto County in Mississippi were designated as the Memphis TN-MS-AR non-attainment area for the 2008 O₃ NAAQS effective July 20, 2012 with a classification of marginal. Air quality monitors for the area indicated 8-hour average ozone design value (DV) concentrations exceeded the standard.

Air quality data at the end of 2014 showed all area O₃ monitors were registering DVs below the 2008 8-hour ozone NAAQS, which made the area eligible to petition EPA for redesignation to attainment. On June 23, 2016, EPA approved a redesignation request and first 10-year maintenance plan with an effective date of July 25, 2016.

This second 10-year maintenance plan demonstrates Shelby County will be able to continue to maintain compliance with the 2008 8-hour ozone NAAQS through the remainder of the twenty-year maintenance period. This revision was undertaken in compliance with Section 175A(b) of the Clean Air Act. This provision requires States to submit a second 10-year maintenance plan 8-years after redesignation of any area as a maintenance area.

This second 10-year maintenance plan includes an air quality analysis, emissions inventories, contingency measures, and motor vehicle emissions budgets for NO_x and VOCs for calendar year 2036.

Please note: A number of attachments are a part of this official submittal. These are too lengthy, including many modeling files, to include in the Board's packet. These additional attachments and modeling files can be found on the Shelby County's File Server at: <https://xfer.shelbycountyn.gov> in the Pollution Control-Air Program folder.

To log into the file server, the username and password are:

Username: public

Password: public

The download is a very large zip file (approximately 1.2 gigabytes). The zip file will need to be extracted, preserving the folder structure.

ATTACHMENT 1

Shelby County, Tennessee

Second 10-Year Maintenance Plan

for the

2008 Eight-Hour Ozone

National Ambient Air Quality Standard

Prepared by:

Shelby County Health Department
Pollution Control Section
1826 Sycamore View Road
Memphis, Tennessee 38134

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Attachment II	Technical Support Material
Attachment III	Interagency Consultation
Attachment IV	Public Participation
Attachment V	Supplemental Support Documents

Note : These attachments are available in the Pollution Control-Air Program folder at:
<https://xfer.shelbycountyttn.gov>

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LIST OF ACRONYMS

Acronym	Definition
ACL	Aircraft, Commercial Marine Vessel, and Locomotives
ADEQ	Arkansas Department of Energy and Environment
AEO	Annual Energy Outlook
AIRS	Aerometric Information Retrieval System
APC	Division of Air Pollution Control, Tennessee Department & Conservation
CAA	Clean Air Act
CSAPR	Cross State Air Pollution Rule
CD	Consent Decree
CFR	Code of Federal Regulations
CMV	Commercial Marine Vessel
DV	Design Value
DVMT	Daily Vehicle Miles Traveled
EIIP	Emission Inventory Improvement Program
EIQ	Emissions Inventory Questionnaire
EPA	U.S. Environmental Protection Agency
FR	Federal Register
HPMS	Highway Performance Monitoring System
IAC	Interagency Consultation
MSA	Metropolitan Statistical Area
MDEQ	Mississippi Department of Environmental Quality
MOA	Memorandum of Agreement
MOVES	EPA's Motor Vehicle Emission Simulator Model
MPO	Memphis Metropolitan Planning Organization
MVEB	Motor Vehicle Emissions Budget
NAAQS	National Ambient Air Quality Standard
NEI	National Emission Inventory
NLEV	National Low Emission Vehicle
NOAA	National Oceanic and Atmospheric Administration
NO _x	Nitrogen Oxides
OBD	On-Board Diagnostics
O ₃	Ozone
ppb	Parts per billion
ppm	Parts per million
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
RFP	Reasonable Further Progress
RVP	Reid Vapor Pressure
SAF	Seasonal Activity Factor
SCC	Source Classification Code

SCHD-PCS	Shelby County Health Department – Pollution Control Section
SIP	State Implementation Plan
TCM	Transportation Control Measure
TDEC	Tennessee Department of Environment and Conservation
TDM	Travel Demand Model
TN-AR-MS	Tennessee -Arkansas-Mississippi
TPD	Tons Per Day or tons/day
TVA	Tennessee Valley Authority
ULSD	Ultra Low Sulfur Diesel
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds
WAF	Weekly Activity Factor

1. Request for Approval of Second 10-year Maintenance Plan

The Pollution Control Section of the Shelby County Health Department (Department), through the Tennessee Air Pollution Control Board representing the Governor of the State of Tennessee, is formally petitioning the United States Environmental Protection Agency (EPA) to approve this second ten-year ozone maintenance plan for the 2008 National Ambient Air Quality Standard (NAAQS) for ozone (O₃) pursuant to Section 107(d)(3) of the 1990 Clean Air Act Amendments (CAA).

In 2008, EPA promulgated a revised 8-hour Ozone NAAQS of 0.075 ppm (73 FR 16436, March 27, 2008). During that timeframe, the air quality monitoring network for the Memphis TN-MS-AR area, which includes Shelby County in Tennessee, Crittenden County in Arkansas, and the northern urbanized portion of Desoto County in Mississippi, indicated the 8-hour average ozone design value (DV) concentrations exceeded the revised 8-hour standard. Subsequently, EPA designated the area “marginal” non-attainment for the 2008 8-Hour Ozone NAAQS effective July 20, 2012 (77 FR 30088, May 21, 2012). With this designation, the area was originally required to attain the standard by December 31, 2015, but a court challenge to the designation rule changed the statutory attainment date to July 20, 2015.

Through the end of 2014, air quality data indicated the DV at the Memphis TN-MS-AR area ozone monitors were below the ozone NAAQS. On January 19, 2016, the Department requested that EPA redesignate the Shelby County, Tennessee portion of the Memphis TN-MS-AR non-attainment area to attainment. On June 23, 2016, the EPA approved the redesignation request and maintenance plan with an effective date of July 25, 2016 (81 FR 40816, June 23, 2016). Similar petitions were approved by EPA for the Arkansas and Mississippi portions of the Memphis TN-MS-AR area.

This maintenance plan demonstrates that Shelby County will continue to maintain the 8-hour Ozone NAAQS for the years 2026 to 2036. The Department is requesting that EPA allow Shelby County to keep the current 2027 Motor Vehicle Emissions Budgets of 61.56 tons/day of NO_x and 19.01 tons/day of VOC in place until 2036 as these are consistent with, and conform to, the maintenance of acceptable air quality in Shelby County, TN.

2. Air Quality

Crittenden County, Arkansas and Shelby County, Tennessee share a common border and are separated by the Mississippi River. DeSoto County, Mississippi and Shelby County, Tennessee share a common border but are not otherwise separated by topography. The area is located in the lower Mississippi River Valley. There is very little variation in topography ranging from flat delta to low rolling hills. Crittenden, DeSoto, and Shelby counties are a part of the Memphis, TN-AR-MS metropolitan statistical area (MSA), which includes three counties in Tennessee, five counties in Mississippi, and one county in Arkansas. According to data from the U. S. Census Bureau, the MSA has a population of 1,330,954 (US Census 2022). Shelby County is mostly urbanized and, with 910,042 residents (US Census 2023 est), accounts for roughly 68% of the MSA population. Crittenden County is mostly rural except for a small, urbanized area on the east side of the county and has a population estimate of 47,139 (US Census 2023 est). Except for a significant urbanized area just south of Shelby County in DeSoto County, Mississippi (population 193,247-US Census 2023 est), the remainder of the MSA is almost completely rural. Previous studies have shown that anthropogenic air emissions generally follow population distribution.

Since the 1970's, the area has experienced a general decline in its manufacturing base. However, during this same period, it has grown to become a major distribution center. The area lies at the intersection of four interstate highway systems and is home to the world's second busiest cargo airport and the fifth largest inland port in the U.S. (<https://portofmemphis.com>). Along with 9 intermodal rail yards in the metro area and 5 wide-span cranes, Memphis is also one of only four cities in the U.S. to be served by 5 class I railroads (<https://memphismoves.com/locate-expand/maps/>). In 2024, Memphis was ranked in the top 10 logistics cities in the U.S. (<https://avollo.com/2024/04/the-top-50-logistics-cities-in-the-united-states/>).

In years past, Shelby County has attained the NAAQS for particulate matter, carbon monoxide, lead, and for multiple ozone standards. In 2008, EPA promulgated a revised standard that set the 8-hour Ozone NAAQS at 0.075 ppm. Shelby, DeSoto, and Crittenden Counties were designated marginal non-attainment of the 8-hour Ozone NAAQS effective July 20, 2012 (77 FR 30088), as air quality monitors for the area indicated 8-hour average ozone design value (DV) concentrations exceeded the standard. An area's DV is defined as the three-year average of the annual fourth highest daily maximum ozone value.

At the end of 2023, data from ozone monitors in the Shelby/DeSoto/Crittenden maintenance area indicate attainment of the 2008 8-hour Ozone NAAQS. The monitors recording this data are subject to quality control standards set forth in 40 CFR 58. Shelby County ozone monitoring data for 2023 was submitted to EPA and certified as accurate. The 2023 ozone data from the monitors in Crittenden County, Arkansas and DeSoto County, Mississippi was also submitted to EPA and certified as accurate. The most recent three years of monitoring data (2021–2023) is presented in Table 1 showing the 3-year design value data for all the 2008 8-hr ozone monitors.

Table 1: Memphis, TN-MS-AR Maintenance Area Ozone Design Value

State	County	Site Name	Monitor ID	Design Value		
				2021 (2019-2021)	2022 (2020-2022)	2023 (2021-2023)
TN	Shelby	Frayser	47-157-0021	0.065	0.065	0.068
TN	Shelby	Edmund Orgill Park	47-157-1004	0.061	0.064	0.067
TN	Shelby	Shelby Farms	47-157-0075	0.066	0.069	0.072
MS	Desoto	Hernando	28-033-0002	0.064	0.067	0.070
AR	Crittenden	Marion	05-035-0005	0.068	0.070	0.072

Figure 1 depicts the DV of the maintenance area by showing the highest DV recorded at any area monitor for each year from 2008 to 2023. The 8-hr ozone design value for each monitor from 2008 to 2023 is shown in Table 2. The area achieved compliance with the 2008 8-hr ozone NAAQS in 2014 and has continued to remain in compliance with the 2008 NAAQS through the 2023 ozone season. Figure 2 is a map of the Memphis MSA ozone monitors.

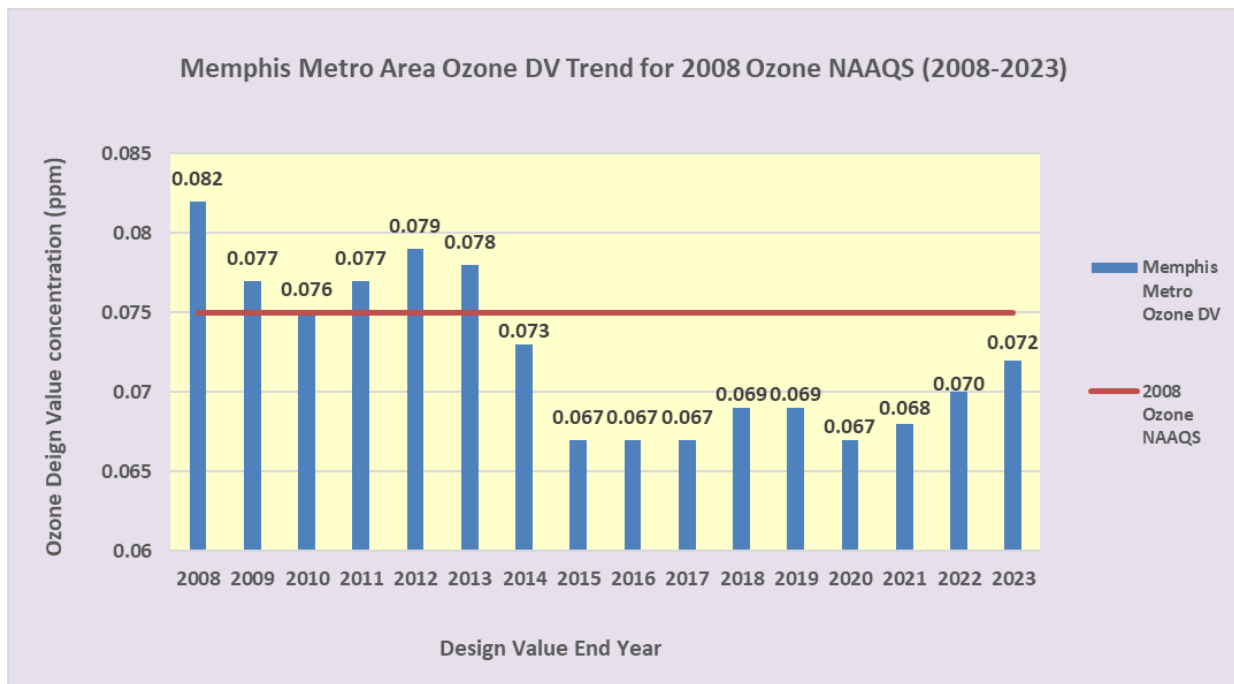


Figure 1. Memphis Metro Area 8-Hour Ozone DVs from 2008-2023 for the 2008 NAAQS

Table 2: Memphis, TN-MS-AR Maintenance Area Ozone Design Value per monitor

Year	Frayser	Edmund Orgill Park	Shelby Farms	Hernando, MS	Marion, AR	Memphis MSA NAAQS	2008 8-hr Ozone NAAQS
	47-157-0021	47-157-1004	47-157-0075	28-033-0002	05-035-0005		
2008	0.082	0.080	N/A	0.081	0.082	0.082	0.075
2009	0.077	0.075	N/A	0.076	0.076	0.077	0.075
2010	0.076	0.073	N/A	0.073	0.074	0.076	0.075
2011	0.074	0.073	N/A	0.073	0.077	0.077	0.075
2012	0.079	0.078	N/A	0.074	0.079	0.079	0.075
2013	0.077	0.074	0.078	0.070	0.076	0.078	0.075
2014	0.073	0.070	0.073	0.069	0.071	0.073	0.075
2015	0.067	0.064	0.067	0.064	0.066	0.067	0.075
2016	0.067	0.066	0.066	0.064	0.067	0.067	0.075
2017	0.066	0.065	0.067	0.062	0.066	0.067	0.075
2018	0.067	0.066	0.069	0.065	0.068	0.069	0.075
2019	0.067	0.064	0.069	0.065	0.066	0.069	0.075
2020	0.066	0.063	0.067	0.065	0.067	0.067	0.075
2021	0.065	0.061	0.066	0.064	0.068	0.068	0.075
2022	0.065	0.064	0.069	0.067	0.070	0.070	0.075
2023	0.068	0.067	0.072	0.070	0.072	0.072	0.075

*Ozone concentration units are measured in parts per million (ppm)

**Numbers in bold indicate the maximum area 8-hr ozone design value for the concurring year

***Numbers in red indicate that the particular design value was above the 2008 8-hr ozone NAAQS of 0.075 for the concurring year



Figure 2 – Map of the Memphis MSA Ozone Monitors

Weather has long been known to be a driving force, along with emissions, in the production of ground-level ozone. Over the past 15 years, there have been vast reductions in the overall ground-level ozone concentration levels and the number of days when the 8-hour daily ozone maximum has exceeded the 2008 8-hour Ozone NAAQS. The Department conducted an analysis of several weather factors, the average maximum ozone concentration, and the number of exceedances (2008 8-hour Ozone NAAQS). The analysis compared the individual 2022 and 2023 ozone seasons to the 5-year ozone season blocks (2012-2016 and 2017-2021). The same comparison was analyzed between the 2022 and 2023 and the 10-year ozone season block (2012-2021). Data concerning the air quality analysis can be found in Attachment II.

Overall, the study found that the 2022 ozone season in the Memphis MSA, which experienced more exceedances than the individual ozone seasons since 2012, had significantly more favorable weather conditions. This strongly suggests that weather conditions were a likely contributor for the development of ozone in 2022. The same weather factors associated with the 2023 ozone season were closer to the previous 5-year and 10-year ozone season block averages but still experienced more exceedance days. Although still under investigation, it may have been influenced by outside transport emissions.

3. Permanent and Enforceable Reductions in Emissions

Results from several local modeling studies indicate that local sources of emissions comprise roughly 10 to 30 percent of measured 8-hour ozone concentrations. The remainder is from emission sources outside the area and natural background concentrations. However, the standard practice is to only take credit for emission reductions within the area.

Measured reductions in ozone concentrations in the area are mainly attributable to reductions from emission sources of volatile organic compounds (VOC) and nitrogen oxides (NOx), which are precursors in ozone formation. Most of these reductions result from Federal measures related to mobile sources and electrical power generation. Additionally, continuing new emissions control programs will help to ensure a further decrease in emissions throughout the area in the future.

A.) Onroad Mobile Sources

Analysis of the emissions inventory clearly shows most NOx and VOC emissions in the area are attributable to onroad mobile sources. Significant reductions from this emissions source category have occurred and will continue to occur. These reductions are due to Federal Motor Vehicle Control Program requirements for cleaner tailpipe emissions from onroad mobile sources (new cars, trucks, buses, motorcycles, etc.) and State regulations aimed at achieving the same result. The following list highlights several initiatives launched by EPA aimed at reducing emissions from onroad mobile sources:

- Onboard Refueling Vapor Recovery (ORVR) was initially required on some light-duty gasoline vehicles beginning in 1998 and was fully implemented on all onroad gasoline vehicles by the 2007 model year.
- Tier 1 emissions standards, under the National Low Emission Vehicle Program (NLEV) program, were implemented from 1999 to 2003 for light duty cars and trucks.
- Tier 2 emissions standards added additional reductions and covered a larger class of vehicles from model years 2006 through 2009. In addition to the new technology standards, Tier 2 emissions standards required the reduction of sulfur in gasoline from up to 300 parts per million (ppm) to 30 ppm beginning in January 2006 (most gasoline sold in Tennessee prior to January 2006 had a sulfur content of up to 300 ppm). Because the sulfur content of gasoline interferes with the operation of catalytic converters, resulting in higher NO_x emissions, Tier 2 emissions standards improved the performance of catalytic converters and resulted in reduced NO_x emissions from the existing older fleet of vehicles already on the road. Additionally, beginning in model year 2007, all onroad diesel engines were required to meet new standards designed to reduce particulate matter emissions by 90% and NO_x emissions by 95%. Finally, for the model year 2006 through 2010, several federal rules have been issued aimed at reducing emissions of NO_x and VOC in highway motorcycles.
- Tier 3 emissions standards, which were introduced in 2017, required oil companies to further reduce the sulfur content of gasoline and required automobile manufacturers to make further improvements on the operation of catalytic converters and other emissions control technologies to reduce tailpipe emissions of NO_x and VOC from light-duty passenger cars and trucks, medium-duty passenger vehicles, and a select group of heavy-duty vehicles.

Effective in 2005, the Tennessee Air Pollution Control Board promulgated a statewide motor vehicle anti-tampering rule. This rule, defined in the Tennessee Department of Environment and Conservation, Chapter 1200-3-36, Motor Vehicle Tampering, was promulgated to reduce excess air pollution caused by tampering with a motor vehicle's emissions control system. The rule defines tampering as modifying, removing, or rendering inoperative any air pollution emission control device which results in an increase in emissions beyond established federal motor vehicle standards. Furthermore, the rule specifies that removing the catalytic converter is prohibited.

As the older, more polluting portion of the fleet has been replaced with cleaner vehicles, onroad emissions have decreased on a grams per mile basis and in total. Emissions from onroad sources are estimated with EPA's Motor Vehicle Emission Simulator (MOVES4) model using locally gathered information obtained from the Memphis Area Metropolitan Planning Organization (MPO). From 2017 to 2023, MOVES4 modeling analysis of Shelby County onroad sources indicate an emission reduction of 8.34 tons per day of NO_x, representing a 26.24% reduction, and 3.51 tons per day of VOC, representing a 20.83% reduction (see Table 9 and Table 10). As these result from federal measures, similar emission reductions have and will continue to occur in all surrounding areas of the Memphis MSA, further contributing to air quality improvements. Data concerning onroad mobile source emissions can be found in Attachment II.

B.) Nonroad Mobile Sources

EPA has promulgated a series of control programs in 40 CFR Part 89, Part 90, Part 91, Part 92, and Part 94 that implement limitations on compression ignition engines, spark-ignition nonroad engines, marine engines, and locomotive engines. These federal nonroad mobile source initiatives have resulted in reduced emissions from this category and will continue to produce more emission reductions in the future as these measures are phased in. From 2017 to 2023, MOVES4 modeling analysis of Shelby County nonroad sources indicate an emission reduction of 2.73 tons per day of NO_x, representing a 12.04% reduction, and 1.13 tons per day of VOC, representing a 5.94% reduction (see Table 7 and Table 8). This category covers everything from small gardening equipment through barge and locomotive engines. Data concerning nonroad mobile source emissions can be found in Attachment II.

C.) Point Sources

Shelby County continues to experience significant reductions in regulated air pollutant emissions from permitted industrial sources. From 2017 to 2023, reported industrial NO_x emissions fell by nearly 34.81%. These reductions amount to approximately 3.61 tons per day of NO_x emissions. A substantial portion of these reductions result from the implementation of federal rules. Data concerning point source emissions in Shelby County can be found in Attachment II.

D.) Nonpoint Sources

Due to the complexity and variety of nonpoint sources, no emission reductions from controls were assumed or applied in Shelby County except for VOC reductions anticipated to occur due to control techniques instituted on a federal level on architectural and industrial manufacturing activities. Data concerning nonpoint source emissions can be found in Attachment II.

The State of Tennessee promulgated rules for Stage 1 Gasoline Vapor Recovery for several counties throughout the State including Tipton and Fayette counties adjacent to Shelby. Gasoline dispensing stations in these counties that existed on December 29, 2004, were required to comply with this rule by May 1, 2006. The Department notes the State of Arkansas also adopted Stage 1 rules to take effect in Crittenden County in 2006 with a two-year phase in allowance period for small businesses.

4. Other Emissions Reduction Measures

A.) Consent Decrees

Consent Decrees have led to significant permanent reductions in point source ozone precursor emissions at three local facilities.

Cargill Milling, Inc., a multi-state agribusiness that owns and operates 27 plants across the country, entered a Consent Decree (CD) with EPA in 2006. Cargill was required to install control equipment and to conduct studies to optimize other existing controls. The controls were mainly aimed at reducing emissions of NO_x and VOC. In accordance with the CD, during calendar year 2015, the Cargill Corn Milling facility in Shelby County, TN made the following changes:

- Installed air pollution control equipment to reduce NO_x and VOC emissions
- Permanently ceased coal burning at the facility
- Converted Stoker coal-fired boiler and Pulverizing Coal boiler (units 8001 and 8301) to natural gas-fired
- Removed Foster-Wheeler coal-fired boiler (unit 8501) from the facility and the Title V Operating Permit
- Permanently shut down the corn milling operation
- Permanently shut down the pelletizing operation.

The list above includes some, but not all, of the changes that occurred at the facility, resulting in both NO_x and VOC emissions reductions. In 2014, Cargill reported 525 tons of NO_x and 743 tons of VOC emissions, whereas in 2023, Cargill reported 11.64 tons of NO_x emissions and 198.92 tons of VOC emissions. A comparison of 2014 and 2023 emissions inventory data revealed emissions reductions of approximately 513.36 tons of NO_x and 544.08 tons of VOC annually. Below, Figure 3 displays Cargill's NO_x emissions from 2014 to 2023. The requirements of the CD and the actions listed above were incorporated into Cargill's Title V major source operating permit.

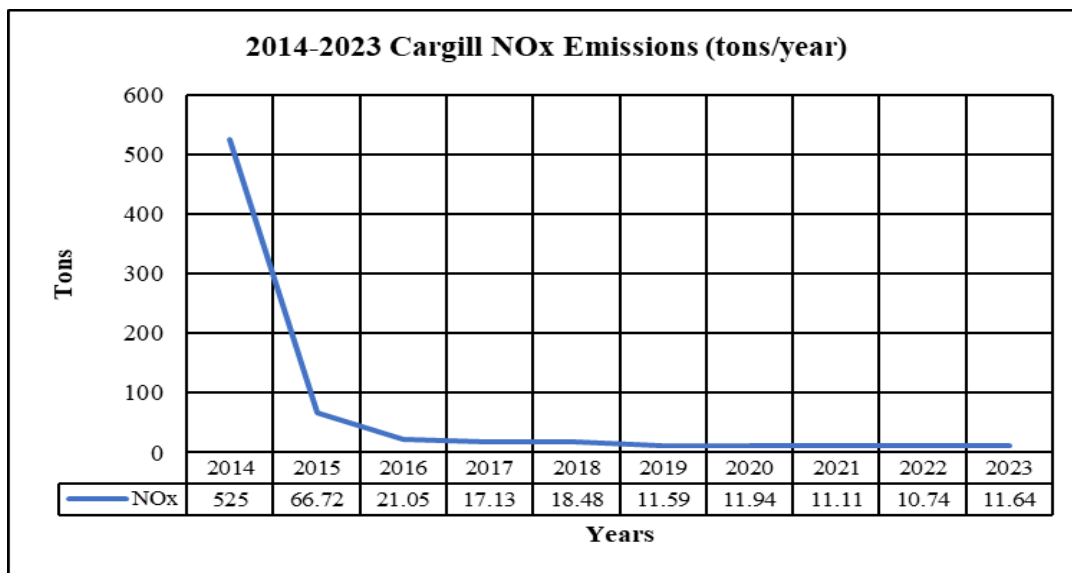


Figure 3: 2014-2023 Cargill NOx Emissions (tons/year)

On November 20, 2007, Valero Refining entered a CD with EPA which required progressive installation of an extensive amount of emission controls on various emission units within the facility until December 31, 2013. This action resulted in reductions of multiple pollutants, however, the largest reductions resulted from the installation of controls and other measures that targeted NOx sources. Valero was required to retire 4 large legacy boilers and install controls on an additional NOx emitting unit. Figure 4 below displays 2007 to 2022 Valero Refining NOx emissions. The data reveals that NOx emissions have decreased during this period. In comparison, the 2007 and 2022 data clearly show a NOx emissions reduction of approximately 437.4 tons/year.

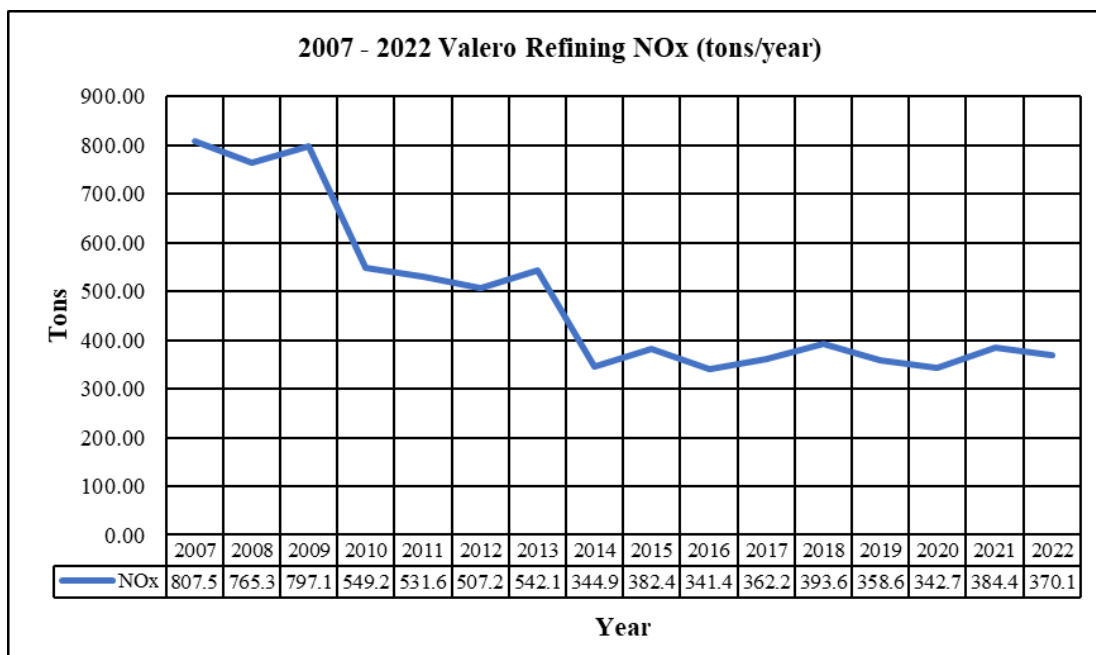


Figure 4: 2006-2022 Valero Refining NOx Emissions (tons/year)

On March 31, 2018, after many years of operation, the Tennessee Valley Authority retired the three coal-fired boilers at the Allen Fossil Plant (TVA-Allen SID#00528). Burning approximately 7200 tons of coal per day, the TVA-Allen coal-fired power plant was the largest single source of NOx emissions in Shelby County, Tennessee. Over the years, the following actions resulted in significant NOx emissions reductions at this facility:

- EPA's Clean Air Interstate Rule (CAIR) updated and expanded the NOx Budget Trading Program established because of the 1998 NOx SIP call and required additional NOx reductions from 2009 to 2014. This rule gave allocations to states and allowed trading among plants within the state, so it is not necessarily an enforceable reduction at any given plant.
- April 14, 2011, TVA entered a CD to resolve allegations of New Source Review violations. The CD required system-wide annual limitations for NOx beginning in 2011 with further reduced limits through 2017. It also required TVA to surrender NOx allowances from the TVA system for 2011 and subsequent years that TVA did not need to meet its own federal and/or state Clean Air Act regulatory requirements for that calendar year. In addition, the CD requires continuous operation of the installed selective catalytic reduction system at Allen. This greatly reduced TVA's flexibility to allow NOx emissions to rise at any given plant.

Figure 5 shows NOx emissions for the TVA-Allen power plant from 2006 to 2018. This data was taken from the EPA Clean Air Markets Division website. It clearly shows a decrease in NOx emissions from 13287 to 488 tons per year during the period from 2006 to 2018.

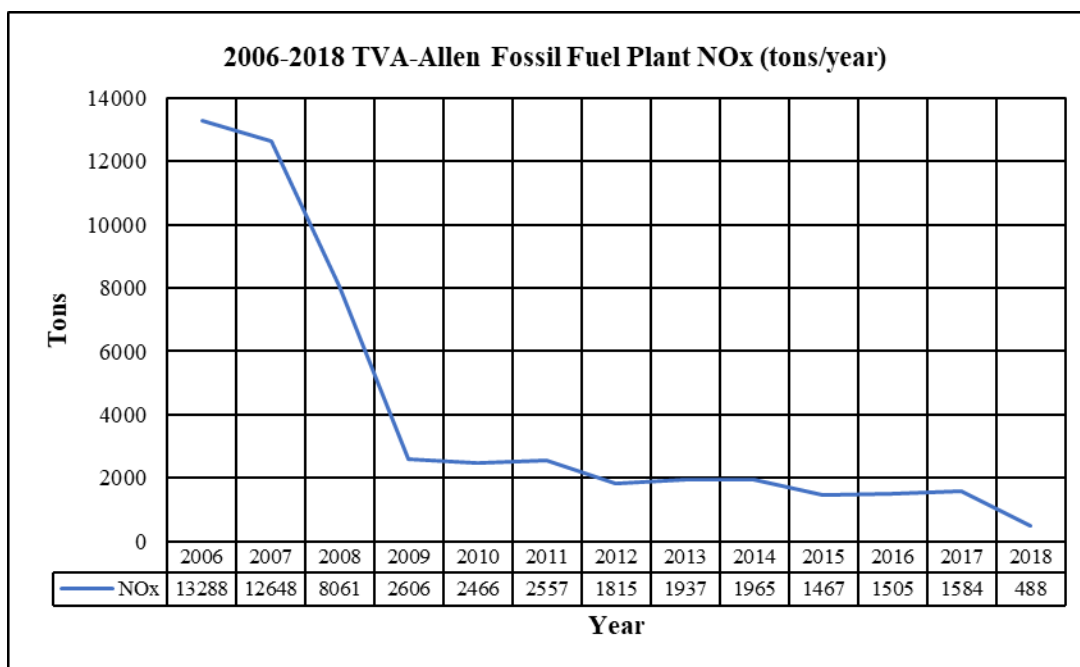


Figure 5: 2006-2018 TVA-Allen NOx Emissions (tons/year)

Finally, the TVA-Allen (TVA-Allen SID#00528) coal-fired power plant has been replaced with the Allen Combined Cycle (TVA-Allen SID#01280) natural gas power plant.

B.) Federal EGU and Industrial Trading

As mentioned earlier, local modeling studies indicate that local sources of emissions comprise roughly 10 to 30 percent of measured 8-hour ozone concentrations. The remainder originates from either background or emission sources from outside the area. The implementation of federal rules and activities has been instrumental in the reduction of precursor ozone emissions that result from interstate transport. These rules and activities include the following:

- Section 110(a)(2)(D)(i)(I) of the Clean Air Act, also referred to as the “Good Neighbor” provision, prohibits emissions activity from upwind states from interfering with the attainment or continued maintenance of a NAAQS in a downwind state.
- The Cross-State Air Pollution Rule (CSAPR) (76 FR 48208 August 8, 2011) required 28 states in the eastern United States to reduce sulfur dioxide (SO₂), annual NO_x, and ozone season NO_x emissions from fossil fuel-fired EGUs that interfere with downwind states attainment or maintenance of a NAAQS. CSAPR relied on an emissions trading program to achieve reductions.
- On March 15, 2021, EPA finalized the Revised Cross-State Air Pollution Rule (CSAPR) Update to resolve the outstanding interstate pollution transport obligations of 21 states for the 2008 8-Hour Ozone National Ambient Air Quality Standards (NAAQS). Starting with the 2021 ozone season, this final rule will reduce emissions of nitrogen oxides (NO_x) from power plants in 12 states.

C.) Onroad Mobile Sources

On January 24, 2023 (88 FR 4296), EPA finalized a program to further reduce NO_x emissions from heavy-duty vehicles by approximately 14% by 2030, 44% by 2040, and 50% by 2045. As heavy-duty vehicles are significant sources of NO_x emissions (and NO_x is an ozone precursor), if these reductions occur, they are expected to decrease ambient ozone concentrations and provide air quality improvements across the nation. These anticipated NO_x emission reductions, along with all the reductions mentioned above, will help Shelby County ensure continued maintenance of the 2008 ozone NAAQS.

D.) Voluntary Efforts

In addition to mandatory controls, Shelby County has instituted voluntary efforts to reduce ozone that include things such as:

- reduced fares by the Memphis Area Transit Authority on ozone action days
- no-burn days when ozone forecasts indicate increasing ozone levels
- retrofit of local refuse trucks with diesel oxidation catalyst.

These non-regulatory controls indicate a commitment to achieving reductions utilizing more than just required controls.

Additionally, due in large measure to local political leadership, there has been a sharp increase in interest and application of sustainable practices in recent years. Many public, private, and non-profit organizations are actively involved in projects ranging from massive infrastructure improvements to small alternative energy projects.

The Sustainable Shelby Implementation Plan laid out 151 strategies for a greener, smarter, and more sustainable future in Memphis and Shelby County. The strategies focused on areas such as neighborhood planning, energy efficiency and renewable energy, resource conservation, recycling, transportation, and community health amongst other issues. The Office of Sustainability was formed to oversee the strategies set and to report progress on these initiatives to the public. Completed and ongoing projects are too numerous to list here, and some do not directly result in improved air quality. But taken together, they represent a shift in the public's attitude to not only expect, but also to participate in projects and practices that are more environmentally acceptable than past practices. A copy of the Sustainable Shelby Implementation Plan has been provided in Attachment V.

5. Maintenance Demonstration and Emission Inventory

In accordance with Sections 107(d)(3)(E) and 175A, 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. During these years, the plan contains commitments to continue existing programs and to implement programs and measures depending on 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.

A 2017 emissions inventory was prepared to estimate base year levels of NO_x and VOC. The Future year emissions projections for 2020, 2023, 2026, 2029, 2032, and 2036 were developed by multiplying the 2017 base-year emissions inventory by growth factors. The growth factors were developed from various economic and demographic growth indicators, including, but not limited to, population data obtained from the US Census Bureau, fuel consumption data obtained from the USDOE Energy Information Administration (EIA) - Annual Energy Outlook Report, employment data obtained from the US Census Bureau - County Business Patterns, airport enplanement and operations data obtained from the FAA Terminal Area Forecast, and vehicle miles traveled obtained from TDOT and FHWA. A summary of growth factors and the methodology used to develop them can be found in the MS-Word document titled "The Shelby County, Tennessee Emissions Inventory Calculation Methodology for Nitrogen Oxides and Volatile Organic Compounds".

A.) Point Sources

The base-year point source emissions inventory is based on the 2017 Shelby County, Tennessee Emissions Inventory Questionnaire (EIQ) which is an annual emissions inventory survey of Title V sources conducted by the Department. The EIQ process is as follows, an EIQ containing data submitted the previous year is sent to the designated facility contact via e-mail. All facilities receiving the EIQ are required to update the data and return the information to the Department in an electronic format accompanied by a hardcopy printout.

While emissions are reported in the EIQ on an annual basis, facilities are required to account for summer operations by providing the annual throughput, the seasonal throughput percentage, and the weekly operations schedule. In addition, it is understood that summer season percentage constitutes 25% of the year. Taking these factors into account, typical summer/ozone season day emissions are determined in tons per day using the following equation:

$$\text{Summer Season Day Emissions (tons per day)} = (\text{Annual Emissions} \times \text{SAF}) / (\text{WAF} \times \text{Weeks per Year})$$

Where: SAF = Seasonal Throughput Percentage/ Percentage of Months Associated with Summer WAF = Weekly Activity Factor (The Number of Days of operation per Week)

Subsequently, future year point source emissions estimates were developed, as follows:

$$\text{Future Year Title V Point Source Emissions} = \text{2017 Title V Point Source Emissions} \times \text{Growth Factor}$$

The Title V point source emissions data can be found in the folder titled 2. Attachment II – Technical Support Material, subfolder titled Point. Below, Table 3 and Table 4 show typical ozone season NO_x and VOC emissions estimates for Shelby County, Tennessee point sources for the years 2017, 2020, 2023, 2026, 2029, 2032, and 2036.

Table 3: Shelby County, TN Title V Point Source NO_x Emissions Estimates

Summer Season Tons Per Day (tons/day)							
Year	2017	2020	2023	2026	2029	2032	2036
Total	10.37	6.45	6.76	6.79	6.84	6.89	6.97

Table 4: Shelby County, TN Title V Point Source VOC Emissions Estimates

Summer Season Tons Per Day (tons/day)							
Year	2017	2020	2023	2026	2029	2032	2036
Total	4.88	4.49	4.83	4.88	5.00	4.97	5.04

B.) Nonpoint Sources

The 2017 base-year nonpoint source emissions inventory was developed using the methodologies provided in the Emissions Inventory Improvement Program (EIIP), Procedures for the Preparation of Emissions Inventories for Carbon Monoxide and Precursors of Ozone (Procedures Manual), as well as the methodologies developed by E.H. Pechan & Associates, Inc. (Pechan) for the USEPA. Nonpoint sources are sources of emissions too small to be inventoried individually, and usually, are not included in the point source inventory. Nonpoint sources include things such as printing establishments, dry cleaners, and auto refinishing companies, to name a few, which are small but collectively contribute significant emissions.

Generally, nonpoint source emissions are estimated by multiplying an emission factor by an activity factor that is representative of the nonpoint source category. An activity factor is any parameter associated with the activity level of a source that can be correlated with the air pollutant emissions from that source, such as production, number of employees, or population. Double counting of emissions can occur when there is an overlap between point and nonpoint emissions categories. To avoid double counting in this emissions inventory, overlapped categories were identified and point subtraction was performed where needed.

The following equation was used to characterize ozone season nonpoint source emissions in tons per day:

$$\text{Summer Season Day Emissions (tons per day)} = (\text{Annual Emissions} \times \text{SAF}) / (\text{WAF} \times \text{Weeks per Year})$$

Where:

SAF = Seasonal Throughput Percentage/ Percentage of Months Associated with Summer

WAF = Weekly Activity Factor (The Number of Days of operation per Week)

Subsequently, future year nonpoint source emissions estimates were developed, as follows:

$$\text{2020 Nonpoint Source Emissions} = \text{2017 Nonpoint Source Emissions} \times \text{Growth Factor}$$

The nonpoint source emissions data can be found in the folder titled 2. Attachment II – Technical Support Material, subfolder titled Nonpoint. Below, Table 5 and Table 6 show typical ozone season NO_x and VOC emissions estimates for Shelby County, Tennessee nonpoint sources for the years 2017, 2020, 2023, 2026, 2029, 2032, and 2036.

Table 5: Shelby County, TN Nonpoint Source NO_x Emissions Estimates

Summer Season Tons Per Day (tons/day)							
Year	2017	2020	2023	2026	2029	2032	2036
Total	4.15	4.27	4.38	4.42	4.39	4.42	4.50

Table 6: Shelby County, TN Nonpoint Source VOC Emissions Estimates

Summer Season Tons Per Day (tons/day)							
Year	2017	2020	2023	2026	2029	2032	2036
Total	41.69	41.47	42.12	42.33	42.53	42.75	43.10

C.) Nonroad Mobile Sources

Nonroad mobile sources represent a large diverse set of off-road vehicles and non-stationary equipment that typically do not use roadways. For the purpose of developing emission estimates, nonroad vehicles and equipment are grouped into four source category types, as follows:

- 1.) nonroad equipment – agriculture, construction, recreational and, lawn and garden
- 2.) aircraft – commercial, military, and private aircraft
- 3.) commercial marine vessels – towboats, crew boats, and refueling boats (vessels other than recreational)
- 4.) locomotives – Class I-line haul, switchyard, and passenger

The nonroad mobile equipment emissions estimates were developed with EPA's Motor Vehicle Emissions Simulator model (MOVES4). While base year aircraft, commercial marine vessels, and locomotive emissions estimates were taken from EPA's 2017 National Emission Inventory and projected to future years with the application of growth factors. Subsequently, future year aircraft, commercial marine vessels (CMV), and locomotive (ACL) emissions estimates were developed, as follows:

$$2020 \text{ Nonroad}_{\text{ACL}} \text{ Source Emissions} = 2017 \text{ Nonroad}_{\text{ACL}} \text{ Source Emissions} \times \text{Growth Factor}$$

The nonroad source emissions data can be found in the folder titled 2. Attachment II – Technical Support Material, subfolder titled Nonroad. Below, Table 7 and Table 8 show typical ozone season NO_x and VOC emissions estimates for Shelby County, Tennessee nonroad sources for the years 2017, 2020, 2023, 2026, 2029, 2032, and 2036.

Table 7: Shelby County, TN Nonroad Mobile Source NO_x Emissions Estimates

Summer Season Tons Per Day (tons/day)							
Year	2017	2020	2023	2026	2029	2032	2036
Nonroad Equipment	12.02	10.05	8.68	7.78	7.32	7.12	7.20
Airport	4.68	4.91	5.19	5.43	5.69	5.91	6.28
CMV	2.92	2.93	2.97	2.90	2.82	2.74	2.73
Locomotive	3.05	3.06	3.10	3.03	2.94	2.86	2.85
Total	22.67	20.95	19.94	19.14	18.77	18.63	19.06

Table 8: Shelby County, TN Nonroad Mobile Source VOC Emissions Estimates

Summer Season Tons Per Day (tons/day)							
Year	2017	2020	2023	2026	2029	2032	2036
Nonroad Equipment	16.57	15.84	15.20	14.96	14.99	15.12	15.43
Airport	2.18	2.29	2.42	2.53	2.65	2.76	2.93
CMV	0.12	0.12	0.12	0.12	0.12	0.11	0.11
Locomotive	0.16	0.16	0.16	0.16	0.16	0.15	0.15
Total	19.03	18.41	17.90	17.77	17.92	18.14	18.62

D.) Onroad Mobile Sources

The 2017 and 2036 onroad mobile source emissions inventory was developed with EPA’s Motor Vehicle Emissions Simulator Model (MOVES4) using locally developed input data provided by the Memphis Area Metropolitan Planning Organization (MPO) and guidance obtained from the document titled, “MOVES4 Technical Guidance: Using MOVES to Prepare Emissions Inventories in State Implementation Plans and Transportation Conformity, EPA-420-B-23-011”. Whereas onroad mobile source emissions estimates for the interim years 2020, 2023, 2026, 2029, and 2032 were developed with linear interpolation. Onroad mobile source emissions data can be found in the folder titled 2. Attachment II – Technical Support Material, subfolder titled Onroad. Below, Table 9 and Table 10 show typical ozone season NOx and VOC emissions estimates for Shelby County, Tennessee onroad mobile sources for the years 2017, 2020, 2023, 2026, 2029, 2032, and 2036.

Table 9: Shelby County, TN Onroad Mobile Source NOx Emissions Estimates

Summer Season Tons Per Day (tons/day)							
Year	2017	2020	2023	2026	2029	2032	2036
Total	31.78	27.60	23.44	19.25	15.10	10.90	5.32

Table 10: Shelby County, TN Onroad Mobile Source VOC Emissions Estimates

Summer Season Tons Per Day (tons/day)							
Year	2017	2020	2023	2026	2029	2032	2036
Total	16.85	15.11	13.34	11.62	9.87	8.12	5.78

E.) Summary of Emissions

Below summer season NOx and VOC emissions estimates are summarized in Table 11 and Table 12.

Table 11: Shelby County, TN Summary of Summer Season NOx Emissions Estimates (tons/day)

Category	Sub-Category	2017	2020	2023	2026	2029	2032	2036
		NOX (tpd)	NOX (tpd)	NOX (tpd)	NOX (tpd)	NOX (tpd)	NOX (tpd)	NOX (tpd)
Point		10.37	6.45	6.76	6.79	6.84	6.89	6.97
Nonpoint		4.15	4.27	4.38	4.42	4.39	4.42	4.50
Onroad		31.78	27.60	23.44	19.25	15.10	10.90	5.32
Nonroad	Airport	4.68	4.91	5.19	5.43	5.69	5.91	6.28
	CMV	2.92	2.93	2.97	2.90	2.82	2.74	2.73
	Locomotive	3.05	3.06	3.10	3.03	2.94	2.86	2.85
	Nonroad Equipment	12.02	10.05	8.68	7.78	7.32	7.12	7.20
Total		68.97	59.27	54.52	49.60	45.10	40.84	35.85

Table 12: Shelby County, TN Summary of Summer Season VOC Emissions Estimates (tons/day)

Category	Sub-Category	2017	2020	2023	2026	2029	2032	2036
		VOC (tpd)	VOC (tpd)	VOC (tpd)	VOC (tpd)	VOC (tpd)	VOC (tpd)	VOC (tpd)
Point		4.88	4.49	4.83	4.88	5.00	4.97	5.04
Nonpoint		41.69	41.47	42.12	42.33	42.53	42.75	43.10
Onroad		16.85	15.11	13.34	11.62	9.87	8.12	5.78
Nonroad	Airport	2.18	2.29	2.42	2.53	2.65	2.76	2.93
	CMV	0.12	0.12	0.12	0.12	0.12	0.11	0.11
	Locomotive	0.16	0.16	0.16	0.16	0.16	0.15	0.15
	Nonroad Equipment	16.57	15.84	15.20	14.96	14.99	15.12	15.43
Total		82.45	79.48	78.19	76.60	75.32	73.98	72.54

As the table above indicates, the total NOx emissions in 2017 (68.97 tons/day) are greater than the total NOx emissions in 2036 (35.85 tons/day). Likewise, the total VOC emissions in 2017 (82.45 tons/day) are greater than the total VOC emissions in 2036 (72.54 tons/day). This represents an approximate reduction of 33.12 tons/day of NOx emissions and an approximate reduction of 9.91 tons/day of VOC emissions. Accordingly, these reductions in summer season NOx and VOC emissions demonstrate Shelby County's continued maintenance of the 2008 8-hour Ozone NAAQS during the timeframe from 2017 to 2036.

F.) Motor Vehicle Emissions Budgets

The transportation conformity rule found in 40 CFR Part 93 requires specific emission budgets to be defined for the onroad mobile sources portion of the Shelby County emission inventory. These budgets are used by transportation authorities to ensure that transportation plans, programs, and projects are consistent with and conform to the maintenance of acceptable air quality in Shelby County throughout the term of the maintenance plan. Section 93.118(b) states in part:

Consistency with the motor vehicle emissions budget(s) must be demonstrated for each year for which the applicable (and/or submitted) implementation plan specifically establishes motor vehicle emissions budget(s), for the attainment year (if it is within the timeframe of the transportation plan), for the last year of the transportation plan's forecast period, and for any intermediate years as necessary so that the years for which consistency is demonstrated are no more than ten years apart, ...

Under 40 CFR 93.101, the "safety margin" is the difference between the attainment level and the projected level of emissions from all source categories included in the maintenance plan. Additionally, the attainment level is the sum of emissions from all source categories during one of the years in which the area met the NAAQS for the pollutant of concern. Below, Table 13 displays the 2017-2036 Shelby County, Tennessee NOx and VOC emissions totals and safety margins.

Table 13: 2017-2036 Shelby County, TN NOx and VOC Emissions Totals and Safety Margins

Summer Season Day							
Nitrogen Oxides Emissions (tons per day)							
Year	Nonpoint	Nonroad	Onroad	Point	Combined Emissions Total	Baseline	On-Road Safety Margin
2017	4.15	22.67	31.78	10.37	68.97	68.97	N/A
2020	4.27	20.95	27.60	6.45	59.27	68.97	9.70
2023	4.38	19.94	23.44	6.76	54.52	68.97	14.45
2026	4.42	19.14	19.25	6.79	49.60	68.97	19.37
2029	4.39	18.77	15.10	6.84	45.13	68.97	23.87
2032	4.42	18.63	10.90	6.89	40.88	68.97	28.13
2036	4.50	19.06	5.32	6.97	35.85	68.97	33.12
Volatile Organic Compounds Emissions (tons per day)							
2017	41.69	19.03	16.85	4.88	82.45	82.45	N/A
2020	41.47	18.41	15.11	4.49	79.49	82.45	2.97
2023	42.12	17.90	13.34	4.83	78.19	82.45	4.26
2026	42.33	17.77	11.62	4.88	76.60	82.45	5.86
2029	42.53	17.92	9.87	5.00	75.32	82.45	7.13
2032	42.75	18.14	8.12	4.97	73.98	82.45	8.47
2036	43.10	18.62	5.78	5.04	72.54	82.45	9.91

This maintenance plan sets the Shelby County, Tennessee Motor Vehicle Emissions Budgets (MVEB) of NOx and VOC for calendar year 2036, which is also the final year of this plan. The MVEB consists of the total 2036 onroad mobile source emissions inventory of NOx and VOC plus an allocation of the NOx and VOC emissions from the on-road safety margins, which are displayed in the last column of the table above. Seventy-seven percent (77.00%) of the safety margins emissions are allocated to the MVEB. Consequently, the 2036 NOx MVEB consists of 5.32 tons/day of NOx emissions from the onroad mobile source emissions inventory plus 25.50 tons/day of NOx emissions allocated from the NOx safety margin yielding a total of **30.82 tons/day of NOx**. Likewise, the 2036 VOC MVEB consists of 5.78 tons/day of VOC emissions from the onroad mobile source emissions inventory plus 7.63 tons/day of VOC emissions allocated from the VOC safety margin yielding a total of **13.41 tons/day of VOC**. The remaining safety margin of NOx and VOC are 7.61 and 2.28 tons/day, respectively. The 2036 MVEB of NOx and VOC, including safety margins and safety margin balances for the Shelby County portion of the maintenance area are presented below in Table 14.

Table 14: 2036 Shelby County, TN NOx and VOC Motor Vehicle Emissions Budget (tons/day)

Pollutant	2017 Combined Emissions Total [All Categories] (tons/day)	2036 Combined Emissions Total [All Categories] (tons/day)	Available Safety Margin (tons/day)	Allocation Percent	Allocation from Safety Margin (tons/day)	2036 Onroad Emissions Total (tons/day)	Motor Vehicle Emissions Budgets (tons/day)	Safety Margin Balance (tons/day)
NOx	68.97	35.85	33.12	77%	25.50	5.32	30.82	7.62
VOC	82.45	72.54	9.91	77%	7.63	5.78	13.41	2.28

Finally, the safety margins established in this plan result from NOx and VOC reductions that have occurred, or are expected to occur from point, onroad, and nonroad sources. The MVEBs indicated above are consistent with the plan for maintaining the 2008 8-hour ozone NAAQS

through the year 2036 in the Shelby County portion of the maintenance area. The Department is requesting that EPA allow Shelby County to keep the current 2027 Motor Vehicle Emissions Budgets of 61.56 tons/day of NOx and 19.01 tons/day of VOC in place until 2036 as these are consistent with, and conform to, the maintenance of acceptable air quality in Shelby County, TN. For future conformity determinations, transportation authorities should rely on the above MVEBs unless this maintenance plan is revised.

G.) Air Quality Monitoring Network

The existing Shelby County ozone air quality monitoring network will continue to operate in its present configuration. Any change will be in accordance with the Memorandum of Agreement (MOA), finalized on June 20, 2008, between the Shelby County Government, Arkansas Department of Environmental Quality (ADEQ), and the Mississippi Department of Environmental Quality (MDEQ) and discussed in a letter dated May 12, 2025. The MOA is in accordance with 40 CFR 58 Appendix D, Section 2(e) and is available in Attachment II, along with a map showing area monitor locations in the Memphis MSA. In addition, any changes in the air monitoring network will be discussed with EPA prior to the change.

H.) Emission Inventory

To track the progress of the maintenance plan, emission inventories of actual emissions for Shelby County will be performed using the latest emission factors, models, and methodologies to include area, nonroad mobile, onroad mobile and point sources of VOC and NOx. The Title V point source inventory will be updated annually while the full inventory will be updated every three years in accordance with the AERR and submitted to EPA.

I.) Stationary Source Control

Sources wishing to expand or locate in Shelby County will continue to undergo new source review requirements, except under PSD requirements for permitting in attainment areas found at Tennessee Rule 1200-3-9-.01 (4) and all existing stationary source controls will remain in force. Companies will continue to be sought for the purpose of voluntarily reducing VOC and/or NOx emissions where possible.

J.) Voluntary Measures

In addition to mandatory controls, Shelby County has instituted voluntary efforts to reduce ground level ozone. Some of the agencies involved in this effort include: the Department, the Memphis Area Transit Authority (MATA), the Metropolitan Planning Organization (MPO), the Shelby Farms Park Conservancy, and the Memphis and Shelby County Division of Planning and Development which includes the Memphis and Shelby County Office of Sustainability. Many of the projects mentioned in Section 4. D.) of this document are ongoing and are expected to further help reduce emissions through energy conservation efforts and transportation-related projects

The Department maintains a meteorologist on staff to produce local air quality forecasts. These forecasts have been recognized by the states of Tennessee, Arkansas, and Mississippi as the primary forecasts for the region, and they are used to conduct outreach to the counties surrounding Shelby County. Whenever the Department forecasts ozone levels above the NAAQS, an air quality alert is issued, and the following actions take place:

- The Department has developed a good working relationship with the local media and the air quality alert is typically included as part of the area's weather reports across multiple media platforms.
- All open burning permits issued by the Department are suspended until the forecast shows improvement. During the summer season, holders of such permits are required to contact the office daily to determine if burning will be allowed.
- Air quality alerts are posted on the Intelligent Transportation System boards located on the expressway system in Shelby County, encouraging motorists to take actions to reduce emissions.
- The Department has adopted a provision included in all stationary source permits for emergency power generators that prohibits their operation for maintenance and testing on air quality alert days. There are several very large stand-by power generation installations in Shelby County.

Besides these provisions, the Department will continue to investigate effective ozone alert day measures and will continue an aggressive public education and outreach program. In 2023, the Department joined EPA's Ozone Advance Program. The Department will continue to work with State and local agencies to encourage the adoption of measures to reduce ozone formation at all times, but especially during air quality alerts.

K.) Environmental Justice

This maintenance plan does not relax control measures on existing sources, and therefore, will not cause emissions increases from those sources. Thus, no adverse human health or environmental effect on any individuals, including minority or low-income populations, are associated with this maintenance plan. The area has demonstrated that it has continued to meet the 2008 8-hour ozone standard through permanent and enforceable measures and limitations.

L.) Contingency Provisions

Section 175A of the CAA requires a maintenance plan to include contingency provisions to promptly correct any violation of the NAAQS which occurs after redesignation of an area to attainment. In addition, for an area to take early action to address potential violations of the NAAQS before they occur, it is recommended that contingency provisions be enacted when specified action levels indicate the need. Shelby County adopted a two-phase approach to

addressing ozone related air quality problems in the area. Each phase includes increasingly aggressive provisions to be implemented in the event of specified indicators.

Phase 1 of the plan addresses potential future problems as a result of unanticipated increases in local emissions. This will be implemented when the certified triennial emissions inventory of VOCs or NO_x (summer season tons per day) exceeds the 2017 base year attainment inventory by ten percent (10%) or more and any area monitor has recorded at least one exceedance of the ozone NAAQS according to certified data during the most recent monitoring season. On this occurrence, the Department will investigate the possible causes to determine if they are attributable to reporting errors or a non-recurring anomaly in the local emission profile. The investigation will last no longer than three months when the results will be reported to the EPA and the Tennessee Air Pollution Control Division.

If the investigation reveals the data is valid and not due to unusual circumstances, further action is required. Following consultation with the Tennessee Air Pollution Control Division and the EPA, the Department will seek to expand voluntary programs and develop regulations for submission to the Shelby County Commission or Tennessee State Air Board, as appropriate, to address the causes of concern. Proof of adoption of such regulations will be submitted to the EPA within nine months after the end of the investigation. All regulatory programs will be implemented within eighteen to twenty-four months after verification of a monitor exceedance by certified data. Such measures could include, but are not limited to:

- Programs or incentives to decrease motor vehicle use
- Programs to require additional emissions reductions on stationary sources
- Restrictions of certain roads or lanes for, or construction of such roads or lanes for use by, passenger buses or high-occupancy vehicles
- Employer-based transportation incentive plans
- Additional programs for new construction of paths for use by pedestrian or non-motorized vehicles when economically feasible and in the public interest.

Phase 2 will be implemented when a monitored violation of the 2008 ozone NAAQS occurs in the maintenance area, according to certified data, during the most recent monitoring season. Similar to Phase 1, on that occasion, the Department will investigate to determine if the cause of the violation can be attributed to errors or clearly identifiable exceptional events outside of local control. Prior to certification of the data, the Department will solicit the involvement of all State agencies having jurisdiction in the surrounding area. The investigation will last no longer than three months when the results will be reported to the EPA and the Tennessee Air Pollution Control Division.

If the investigation reveals the data is valid, further action is required. In addition to the provisions described in Phase 2, following consultation with the Tennessee Air Pollution Control Division and the EPA, the Department will seek to expand voluntary programs and develop additional regulations for submission to the Shelby County Commission and Tennessee State Air Board, as appropriate, to address the causes of concern. All regulatory programs will be implemented within eighteen to twenty-four months after verification of a violation by certified data. Such measures could include, but are not limited to:

- A Reasonably Available Control Technology (RACT) regulation for legacy major sources of NOx emissions in Shelby County.
- Adoption of all industrial and commercial VOC controls as provided in final EPA-approved Control Technology Guidelines (CTGs) through the date of the recorded violation.

Within six months of the conclusion of the investigation, the Department will prepare regulations for submission to the Shelby County Commission or Tennessee State Air Board, as appropriate, to adopt these controls. The effective date of these controls will be within eighteen to twenty-four months after verification of the triggering event.

Please note: A number of attachments are a part of this official submittal. These are too lengthy, including many modeling files, to include in the Board's packet. These additional attachments and modeling files can be found on the Shelby County's File Server at: <https://xfer.shelbycountyttn.gov> in the Pollution Control-Air Program folder.

To log into the file server, the username and password are:

Username: public

Password: public

The download is a very large zip file (approximately 1.2 gigabytes). The zip file will need to be extracted, preserving the folder structure.

SUBMITTAL LETTER



LEE HARRIS
MAYOR

SHELBY COUNTY HEALTH DEPARTMENT



Public Health
Prevent. Promote. Protect.
Shelby County Health Department

BRUCE RANDOLPH, MD, MPH
INTERIM HEALTH DIRECTOR & HEALTH OFFICER

October 1, 2025

Ms. Michelle Owenby, Director
Division of Air Pollution Control
Tennessee Department of Environment and Conservation
Davy Crocket Tower, 7th Floor
500 James Robertson Parkway
Nashville, TN 37243

Re: Shelby County Second 10-Year Maintenance Plan for the 2008 8-Hour Ozone NAAQS

Dear Ms. Owenby,

The Shelby County Health Department (Department) has submitted the above-referenced plan to your office for distribution to the Tennessee State Air Pollution Control Board. It is anticipated that the Board will approve the plan in the Governor's name for submission to the United States Environmental Protection Agency (EPA) at its Region IV Headquarters in Atlanta, GA. In accordance with EPA's policy, upon approval, we respectfully request that you submit one hard copy of the plan, including all attachments.

The Department certifies that, before finalizing and transmitting the plan to your office, all procedures regarding public notice and the conduct of hearings were followed in accordance with the requirements of 40 CFR §51.102. A hard copy of the plan was made available for public inspection at the Benjamin L. Hooks Central Library (3030 Poplar Avenue, Memphis, TN) Monday through Friday from 10:00 a.m. to 8:00 p.m., and Sunday from 1:00 p.m. to 5:00 p.m., as well as at the Shelby County Health Department – Pollution Control Section office (1826 Sycamore View Road, Memphis, TN) Monday through Friday from 8:00 a.m. to 4:00 p.m. Additionally, the plan was posted on the internet in the Pollution Control Air Program folder at the following website: <https://xfer.shelbycountyttn.gov>. A public hearing was held on Monday, June 30, 2025, and no comments were received. The Department further certifies that the electronic copies forwarded to your office are exact duplicates of the original hard copy.

The Department appreciates TDEC's assistance in preparing and submitting this important Plan to EPA. Should you require any additional information, please contact Chris Boyd at (901) 222- 9571.

Respectfully,

Wasim Khokhar

Wasim Khokhar
Technical Manager
Pollution Control Section

Mission

To prevent, protect and improve the health of ALL in Shelby County.

46

1826 Sycamore View Rd. ♦ Memphis, TN 38134 ♦ 901 222-9599 ♦ www.shelbytnhealth.com

PUBLIC HEARING NOTICE AND INFORMATION

Miscellaneous Notice

PUBLIC NOTICE

The Shelby County Health Department – Pollution Control Section (SCHD-PCS) is requesting public comments on an application concerning proposed amendments to the state implementation plan (SIP). The amendments are to incorporate the proposed Shelby County, Tennessee Second 10-Year Maintenance Plan for the 2008 Eight-Hour Ozone National Ambient Air Quality Standard (Plan).

Copies of the Plan are available for public inspection at the Pollution Control Section office noted below during normal business hours (8:00 am – 4:30 pm). In addition, a copy of these materials is available for public inspection at the Benjamin L. Hooks Central Library, 3030 Poplar Avenue, Memphis, TN. Information concerning the Plan can also be found in the Pollution Control Air Program folder at the following website: <https://xfer.shelbyCountytn.gov>. Interested parties are invited to review these materials and provide written comments.

A public hearing to receive oral or written comments has been scheduled at the Shelby County Health Department – Conference Room 2 at 1826 Sycamore View Road Memphis, TN 38134 on June 30, 2025 at 1:00 – 2:00 pm. The comment period will end at the close of the public hearing. The comments received during the comment period and at this hearing will be distributed to members of the Tennessee Air Pollution Control Board for their review to the proposed amendments. Anyone desiring to make oral comments at this public hearing is requested to prepare a written copy of these comments to be submitted to the hearing officer at the public hearing.

Written comments not submitted at the public hearing will be included in the hearing record only if received by the close of business on June 30, 2025 and addressed to:

Mr. Wasim Khokhar, Technical Manager Pollution Control Section

Shelby County Health Department 1826 Sycamore View Road Memphis, TN 38134

(e-mail wasim.khokhar@shelbyCountytn.gov)

Individuals with disabilities who wish to review this information should contact the SCHD-PCS, to discuss any auxiliary aids, accommodations or services needed to facilitate such review. Contact may be in person, writing, telephone or other means, and should be made no less than ten (10) days prior to the end of the public comment period to allow time to provide such aid or services.

For questions concerning these documents, please contact Chris Boyd at (901) 222-9571 or e-mail christopher.boyd@shelbyCountytn.gov.

May 30, 2025 Md108527

PUBLIC NOTICE

The Shelby County Health Department – Pollution Control Section (SCHD-PCS) is requesting public comments on an application concerning proposed amendments to the state implementation plan (SIP). The amendments are to incorporate the proposed Shelby County, Tennessee Second 10-Year Maintenance Plan for the 2008 Eight-Hour Ozone National Ambient Air Quality Standard (Plan).

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Mr. Wasim Khokhar, Technical Manager
Pollution Control Section
Shelby County Health Department
1826 Sycamore View Road
Memphis, TN 38134
(e-mail wasim.khokhar@shelbycountyttn.gov)

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For questions concerning these documents, please contact Chris Boyd at (901) 222-9571 or e-mail christopher.boyd@shelbycountyttn.gov.

Monday June 30, 2025

Public Hearing Sign In Sheet

Shelby County Health Department – Pollution Control Section

Shelby County, Tennessee Second 10-Year Maintenance Plan for 2008 Eight-Hour Ozone NAAQS

Name	Address	Phone	Email Address	Comment
CHRIS BOYD	SCHD-PCS			
WASIM KHOKHAR	11			
KEA SMOOME	11			



LEE HARRIS
MAYOR

SHELBY COUNTY HEALTH DEPARTMENT



Public Health
Prevent. Promote. Protect.
Shelby County Health Department

MICHELLE A. TAYLOR, MD DRPH, MPA
HEALTH DIRECTOR & OFFICER

Kevin J. McOmber, Regional Administrator
U.S. EPA, Region 4 Office
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303

Re: Shelby County, Tennessee Second 10-Year Maintenance Plan for the 2008 8-Hour Ozone
NAAQS – Pre-hearing Submittal

Mr. McOmber,

With this letter the Shelby County Health Department – Pollution Control Section submits a pre-hearing copy of the Shelby County, Tennessee Second 10-Year Maintenance Plan for the 2008 8-Hour Ozone National Ambient Air Quality Standard (Plan). This Plan includes a transportation conformity emissions budget for the year 2036. A pre-draft version of this Plan has been reviewed by the IAC and EPA Region IV. The preliminary comments from each agency have been addressed. Please note that a public comment period is set for May 30 through June 30, 2025, with a public hearing set for June 30, 2025.

The Plan and the associated attachments with background information will be uploaded to EPA Region V through SPeCs. In the event that SPeCs is not available, the Plan and all the attachments are available for download from this website <http://xfer.shelbycountyttn.gov/>. As the homepage indicates in bold text, public access is available by using the

Username – public

Password - public

Should you have any questions please contact Chris Boyd at (901) 222-9571.

Sincerely,

Wasim Khokhar

Wasim Khokhar, Technical Manager
Pollution Control Section

Mission

To promote, protect and improve the health and environment of all Shelby County residents.

RESPONSE TO COMMENTS

Response to Public Comments

The Shelby County Health Department-Pollution Control Section (SCHD-PCS) prepared a draft Shelby County Second 10-Year Maintenance Plan for the 2008 8-Hour Ozone NAAQS (Plan) for public review and comment prior to submission for approval to the Tennessee Air Pollution Control Board for subsequent submission to the United States Environmental Protection Agency (EPA) for their consideration. The required 30-day public comment period was formally opened on May 30, 2025 with a notice published in the Memphis Daily News.

A public hearing was scheduled and held at the Shelby County Health Department auditorium on Monday, June 30, 2025 at 1:00 PM.

During the comment period, the SCHD-PCS received comments from two sources. A description of those comments and the SCHD-PCS response in italics follows.

Commenters

1. U.S. Environmental Protection Agency, Region 4 comments dated: December 15, 2015
 2. Shelby County Health Department - Pollution Control Section (SCHD-PCS)
-

Summary of Comments Received and Department Responses

Commenter 1 - EPA

EPA Region 4 submitted comments electronically via email and the comments are as follows:

EPA Comment #1 A.:

- A. Please provide a justification on how the WAF was determined and the sources used for point and nonpoint sources. For example, for point sources, the annual values were divided by 365 days, please provide a justification for assuming that the facilities were operating year-round, including weekends and holidays.

SCHD-PCS Response:

The justification for assuming that point source facilities operate year-round, including weekends and holidays, is as follows:

The methods used are consistent with the guidance provided in the EPA guidance document EPA-450/4-91-016 titled "Procedures For The Preparation Of Emission Inventories For Carbon Monoxide and Precursors Of Ozone Emission Inventory Requirements For Photochemical Air Quality Simulation Models, Volume I: General Guidance For Stationary Sources", which can be accessed at https://archive.epa.gov/ttn/ozone/web/pdf/ei_guide1991.pdf. Paragraph 1, page 5-

19 of guidance states “Many sources, particularly industrial facilities, will show no strong seasonal change in activity. Little adjustment needs to be made in these cases to estimate the seasonal emissions component.” In addition, the last paragraph on page 5-22 states “To determine emissions per day from emissions per year for facilities with uniform production or throughput throughout the year, the following equation can be used:

$$\text{Emissions per day} = \text{Emissions per year} / ((\text{Operating days/week})(\text{Operating weeks/year}))$$

Note: a variation of this guidance is provided in the Emission Inventory Improvement Program (EIIP) document titled “Introduction to Area Source Emission Inventory Development”.

Of the 34 point sources represented in this plan, the majority report operation schedules of 7-days a week, 52-weeks per year, with little seasonal variation. More importantly, the larger emitters of NOx and VOC are a part of that majority. Consistent with the guidance, it is justifiable to divide the annual values by 365 for this group.

Although a smaller group of approximately 8-9 point source facilities reported processes with operation schedules other than 7-days a week, 52-weeks per year. For the most part, the NOx and VOC emissions processes from this group of facilities tend to be: 1.) small sources, 2.) some have operation schedules of 7-days a week, 52-weeks per year, or 3.) have operation schedules closely similar to 7-days a week, 52-weeks per year (i.e. 7-days/wk, 50-wks/yr or 5-days/wk, 48 wks/yr). Although local SAFs could have been developed for this smaller group sources, it was reasoned that the results achieved would not significantly change the ozone season NOx and VOC emissions estimates in an impactful manner.

As for nonpoint sources, the WAFs (and SAFs) were mostly acquired from the data displayed in Table 5.8-1 titled “Area Source Seasonal Adjustment Factors For the Peak Ozone and CO Seasons for nonpoint emissions estimations.” And then, consistent with the guidance provided in the last paragraph on page 5-22 that states indicates “The adjustment factors given in Table 5.8-1 are national averages...an agency may want to adjust factors to represent local conditions”, some were altered to represent local conditions.

EPA Comment #1 B.:

- B. For point sources and based on the submittal, 0.25 is the SAF for all point sources. However, in the excel files in the Point.zip, it seems that the SAF was 1 and then the total annual emissions were divided by 365 days. Please provide clarification on how the SAF was determined for point sources and if they differ by source.

SCHD-PCS Response:

Again, of the 34 point sources represented in this plan, the majority report operation schedules of 7-days a week, 52-weeks per year, and ozone season throughputs of 25% (or 0.25) of their annual

total with little seasonal variation. Additionally, as the submittal indicates the summer season percentage constitutes 25% (or 0.25 or 3 months) of the year. In accordance with the guidance provided on page 5-22 of EPA-450/4-91-016, section 5.9 titled “**Determining Emissions for a Typical Ozone or CO Season Day**” which states, “To determine emissions per day from emissions per year for facilities with uniform production or throughput throughout the year, the following equation can be used

$$\text{Emissions per day} = \frac{\text{Emissions per year}}{((\text{Operating days/week})(\text{Operating weeks/year}))}$$

Example: Annual Emissions = 1.3 tons

Summer throughput = 25%

Summer adjustment factor = $0.25/0.25 = 1$

Operating schedule = 6 days/week

$(1.3 \text{ tons/yr} \times 1 \times 2000 \text{ lb/ton}) / (6 \text{ days/wk} \times 52 \text{ wks/yr}) = 8.3 \text{ lbs/day}$

“Many sources, particularly industrial facilities, will show no strong seasonal change in activity. Little adjustment needs to be made in these cases to estimate seasonal emissions component” Again, the majority of the larger emission sources of NO_x and VOC report operation schedules of 24-hours a day, 7-days a week.

EPA Comment #1 C.:

C. For non-point sources, please provide clarification how the SAF was determined.

SCHD-PCS Response:

For all nonpoint source emissions estimates, the Department used the SAFs and WAFs displayed in Table 5.8-1 titled “Area Source Seasonal Adjustment Factors For the Peak Ozone and CO Seasons for nonpoint emissions estimations”.

Furthermore, the MS-Excel spreadsheets found in the sub-folder titled “Nonpoint”, which is located the folder titled “Technical Support Material”, shows the Department used the following equation to calculate ozone season day emissions estimates:

$$\text{Emissions/Typical Day} = \frac{\text{Yearly Emissions} \times \text{Seasonal Adjustment Factor}}{\# \text{ Activity Days per Week} \times 52 \text{ weeks}}$$

The equation above is referenced from page 5-21, section 5.8.4 titled “Development and Application of Adjustment Factors”.

EPA Comment #2 A.:

2. Please provide additional clarification for the following equation:

Summer Day Emissions (tons per day) = ((Annual Throughput x SAF)/(WAF x Weeks per Year)

- a. Please explain the justification to divide “Weeks per Year” instead of “Weeks per Season”

SCHD-PCS Response:

This approach is consistent with the guidance provided on page 5-21 of EPA-450/4-91-016, section 5.8.4 titled “Development and Application of Adjustment Factors” which states “Table 5.8-1 summarizes average seasonal adjustments for many area source categories. The table provides both adjustment factors and number of days of activity per week for the categories. Emissions for typical ozone or CO season days can be determined by using the following equation:

$$\text{Emissions/Typical Day} = \frac{\text{Yearly Emissions} \times \text{Seasonal Adjustment Factor}}{\text{\# Activity Days per Week} \times 52 \text{ weeks}}$$

Note: a variation of this guidance is also provided in the Emission Inventory Improvement Program (EIIP) document titled “INTRODUCTION TO AREA SOURCE EMISSION INVENTORY DEVELOPMENT”

EPA Comment #2 B.:

- b. Please also provide the source of the equation

SCHD-PCS Response:

Again, the source of the equation is page 5-21 of EPA-450/4-91-016, section 5.8.4 titled “Development and Application of Adjustment Factors”. Please see this document.

EPA Comment #3:

3. Please explain what growth rates were applied to create the growth factors for each point source and nonpoint source code classification. It would be beneficial for the submittal to include these explanations in the excel files and submittal narrative.

SCHD-PCS Response:

Note: A complete discussion of the methods and procedures with sample calculations to illustrate how growth factors were developed is provided on pages 6-15 in the document titled

“Shelby County TN Annual Emissions Inventory and Calculation Methodology” (Methods), in the section titled “Projections and Growth Factors Methodology”. Additionally, the narrative in this document has been modified to address this comment.

The following tables are provided to indicate which growth factors were used to calculate future year point and nonpoint emissions estimate. All of the growth factor tables are presented in the Methods document. Please see the section titled Projections and Growth Factors Development Methodology for more details.

Growth factors from Table CBP2, shown below, were used to develop point and nonpoint source emissions estimates. The growth factors were selected by matching the two-digit NAICS codes displayed in this table with the first two-digits of the expanded NAICS code used to describe the activity or industry that the point or nonpoint source was involved in.

Table CBP2: 2017-2036 Shelby County Employment Growth Factors by Industry

NAICS	NAICS Description	2017	2020	2023	2026	2029	2032	2036
11	Agriculture, forestry, fishing, and hunting	1	0.87	0.55	0.41	0.31	0.23	0.15
22	Utilities	1	0.92	0.87	0.81	0.75	0.70	0.64
23	Construction	1	1.07	1.10	1.16	1.22	1.28	1.37
31-33	Manufacturing	1	0.96	1.02	1.03	1.04	1.05	1.06
42	Wholesale Trade	1	1.01	0.93	0.90	0.87	0.84	0.81
44-45	Retail Trade	1	0.93	0.85	0.78	0.72	0.66	0.60
48-49	Transportation and Warehousing	1	1.18	1.22	1.35	1.49	1.65	1.89
51	Information	1	0.77	0.57	0.43	0.32	0.24	0.17
52	Finance and Insurance	1	0.97	0.98	0.97	0.96	0.95	0.94
53	Real Estate and Rental and Leasing	1	1.07	1.02	1.03	1.04	1.05	1.06
54	Professional, Scientific, and Technical Serv.	1	1.21	1.08	1.13	1.18	1.23	1.29
55	Management of Companies and Enterprises	1	1.14	1.32	1.51	1.73	1.98	2.38
56	Waste Management and Remediation	1	0.99	0.86	0.80	0.74	0.68	0.62
61	Educational Services	1	1.04	1.04	1.06	1.08	1.10	1.13
62	Health Care and Social Assistance	1	1.05	0.97	0.96	0.95	0.93	0.92
71	Arts, Entertainment, and Recreation	1	1.10	0.92	0.88	0.84	0.81	0.76
72	Accommodation and Food Services	1	1.00	0.91	0.87	0.83	0.79	0.75
81	Other Services (except Public Admin.)	1	0.93	0.89	0.84	0.79	0.75	0.69
99	Industries Not Classified	1	1.09	1.23	1.37	1.52	1.69	1.94

Growth factors from Table AEO2, shown below, were used to develop some nonpoint source emissions estimates. The growth factors were selected by matching the category and the fuel type.

Table AEO2 - AEO Energy Growth Factors based on Consumption Data

Category	Year						
	2017	2020	2023	2026	2029	2032	2036
Residential							
Propane	1	0.9756	0.9478	0.9268	0.9060	0.8840	0.8592
Kerosene	1	0.8650	0.7977	0.7426	0.6925	0.6422	0.5857
Distillate Fuel Oil	1	0.8915	0.8297	0.7772	0.7299	0.6835	0.6322
Petroleum and Other Liquids Subtotal	1	0.9305	0.8846	0.8468	0.8119	0.7769	0.7379
Natural Gas	1	1.0061	1.0062	1.0063	0.9997	0.9959	0.9884
Commercial							
Propane	1	0.9994	1.0206	1.0604	1.0951	1.1151	1.1523
Motor Gasoline	1	0.9887	0.9973	1.0314	1.0744	1.1051	1.1536
Kerosene	1	1.0243	1.1575	1.2739	1.4042	1.5000	1.6567
Distillate Fuel Oil	1	0.9371	0.9211	0.8993	0.8831	0.8629	0.8429
Residual Fuel Oil	1	1.3955	1.6910	1.5781	1.5843	1.4919	1.4748
Petroleum and Other Liquids Subtotal	1	0.9829	0.9964	0.9903	0.9937	0.9844	0.9854
Natural Gas	1	0.9719	0.9697	0.9755	0.9788	0.9934	1.0173
Industrial							
Liquefied Petroleum Gases and Other	1	1.1538	1.2447	1.3003	1.3111	1.3415	1.3844
Motor Gasoline	1	1.0027	1.0059	1.0068	1.0028	1.0047	1.0140
Distillate Fuel Oil	1	1.0847	1.1416	1.1651	1.1716	1.1790	1.2050
Residual Fuel Oil	1	1.1319	1.1451	1.1973	1.2279	1.1686	1.1353
Petroleum and Other Liquids Subtotal	1	1.0850	1.1355	1.1641	1.1749	1.1976	1.2287
Natural Gas	1	1.0694	1.1270	1.1460	1.1319	1.1433	1.1793
Transportation							
Propane	1	1.1603	1.1603	1.1411	1.1703	1.2214	1.3120
Motor Gasoline	1	0.9841	0.9307	0.8625	0.8155	0.7806	0.7555
of which: E85	1	0.9668	1.9397	2.9140	4.5453	5.6871	6.6221
Jet Fuel	1	1.0477	1.1071	1.1594	1.2147	1.2619	1.3397
Distillate Fuel Oil	1	1.0032	1.0167	0.9954	0.9648	0.9386	0.9358
Other Petroleum	1	1.0035	1.0022	1.0046	1.0068	1.0091	1.0149
Petroleum and Other Liquids Subtotal	1	0.9970	0.9736	0.9320	0.9016	0.8793	0.8726
Total Energy Consumption							
Biofuels Heat and Coproducts	1	0.965	0.961	0.951	0.947	0.932	0.932

Growth factors from Table MEM2, shown below, were used to develop the nonpoint source emissions estimates for Aviation Gas Stage 1 and Stage 2.

Table MEM2 - 2017-2036 Avgas Stage1 and Stage 2 Growth Factors

Growth Factors						
2017	2020	2023	2026	2029	2032	2036
1.00	0.82	0.88	0.85	0.82	0.81	0.79

Growth factors from Table POP1, shown below, were used for nonpoint source categories that make use of population to calculate emissions estimates.

Table POP1: Shelby County, Tennessee Population Data and Growth Factors

Description	2017	2020	2023	2026	2029	2032	2036
Shelby County Population	936012	937017	941637	946162	950023	953749	959466
Shelby County Population Growth Rates	1.0000	1.0011	1.0060	1.0108	1.0150	1.0189	1.0251

Growth factors from Table POP2, shown below, were used to develop the future year emissions estimates for SCC 2425000000.

Table POP2- Shelby County, Tennessee Population Data and Growth Factors (base-year 2020)

Description	2020	2023	2026	2029	2032	2036
Shelby County Population	937017	941637	946162	950023	953749	959466
Shelby County Population Growth Rates	1.00	1.00	1.01	1.01	1.02	1.02

List of Point Sources with NAICS Codes

ID#	Company Name	NAICS	Growth Factors Used
00036	ConAgra Foods, Inc.	311223	CBP Growth Factors
00038	Archer Daniels Midland Co. Memphis	311223	CBP Growth Factors
00045	Cargill Corn Milling	311211	CBP Growth Factors
00055	Buckeye Technologies Inc.	322110	CBP Growth Factors
00083	UTC - Climate, Controls, and Security	333415	CBP Growth Factors
00094	Johnson Bryce Inc.	322221	CBP Growth Factors
00097	DuPont Memphis Plant	325188	CBP Growth Factors
00101	Valero Refining Company - Tennessee, L.L.C.	32411	CBP Growth Factors
00128	Jordan Aluminum Extrusion Company, LLC	33136	CBP Growth Factors
00150	PMC Biogenix, Inc.	325998	CBP Growth Factors
00190	KTG-USA, Inc.	322291	CBP Growth Factors
00205	Fleischmann's Yeast*	311999	CBP Growth Factors
00274	Pennakem, LLC	325199	CBP Growth Factors
00279	Solae, L.L.C.	311222	CBP Growth Factors
00290	Sonoco Products Company (Harbor)*	332116	CBP Growth Factors
00300	Blues City Brewery, LLC*	312130	CBP Growth Factors
00347	Memphis Trumbull Asphalt	324121	CBP Growth Factors
00395	BFI South Landfill	325199	CBP Growth Factors
00420	The Bryce Company LLC	322221	CBP Growth Factors
00465	St. Jude Children's Research Hospital	622110	CBP Growth Factors
00475	Mitsubishi Chemical America, Inc	325199	CBP Growth Factors
00528	TVA Allen Fossil Plant (ALF)	221112	CBP Growth Factors
00605	SFI of Tennessee*	33299	CBP Growth Factors
00664	FedEx Memphis Air Operations Complex (AOC)	492110	CBP Growth Factors
00698	BFI North Landfill	325199	CBP Growth Factors
00701	City of Memphis -M. C. Stiles Wastewater Treatment Plant	221320	CBP Growth Factors
00702	City of Memphis -Maxson Wastewater Treatment Plant	221320	CBP Growth Factors
00710	Nucor Steel Memphis, Inc.	331111	CBP Growth Factors
00819	Arkema, Inc.	325188	CBP Growth Factors
00904	American Yeast Corporation, Tennessee*	311999	CBP Growth Factors
01196	Valero Rack	32411	CBP Growth Factors
01256	CCL Label, Inc -Plant #2	32311	CBP Growth Factors
01274	Plaskolite	326199	CBP Growth Factors
01280	TVA Allen Combined Cycle Plant	221112	CBP Growth Factors

Finally, the table below displays a NAICS to SCC crosswalk and also shows the names of the growth factor tables used to calculate future year emissions estimates for nonpoint sources.

Table NS3: SCC to NAICS Crosswalk (with Growth Factors)

SCC Code	NAICS Code	Growth Factors
2102004000	NAICS codes and CBP were not used for this source	AEO Growth Factors - Industrial Sector Distillate Oil
2102006000	NAICS codes and CBP were not used for this source	AEO Growth Factors - Industrial Sector Natural Gas
2102007000	NAICS codes and CBP were not used for this source	AEO Growth Factors - Industrial Sector LPG
2103004000	NAICS codes and CBP were not used for this source	AEO Growth Factors - Commercial Sector Distillate Oil
2103006000	NAICS codes and CBP were not used for this source	AEO Growth Factors - Commercial Sector Natural Gas
2103007000	NAICS codes and CBP were not used for this source	AEO Growth Factors - Commercial Sector LPG
2103011000	NAICS codes and CBP were not used for this source	AEO Growth Factors - Commercial Sector Kerosene
2104004000	NAICS codes and CBP were not used for this source	AEO Growth Factors - Residential Sector Distillate Oil
2104006000	NAICS codes and CBP were not used for this source	AEO Growth Factors - Residential Sector Natural Gas
2104007000	NAICS codes and CBP were not used for this source	AEO Growth Factors - Residential Sector LPG
2104011000	NAICS codes and CBP were not used for this source	AEO Growth Factors - Residential Sector Kerosene
2104008100	NAICS codes and CBP were not used for this source	AEO Growth Factors - Delivered Energy Consumption Sector - Biofuel
2104008210	NAICS codes and CBP were not used for this source	AEO Growth Factors - Delivered Energy Consumption Sector - Biofuel
2104008220	NAICS codes and CBP were not used for this source	AEO Growth Factors - Delivered Energy Consumption Sector - Biofuel
2104008230	NAICS codes and CBP were not used for this source	AEO Growth Factors - Delivered Energy Consumption Sector - Biofuel
2104008310	NAICS codes and CBP were not used for this source	AEO Growth Factors - Delivered Energy Consumption Sector - Biofuel
2104008320	NAICS codes and CBP were not used for this source	AEO Growth Factors - Delivered Energy Consumption Sector - Biofuel
2104008330	NAICS codes and CBP were not used for this source	AEO Growth Factors - Delivered Energy Consumption Sector - Biofuel
2104008400	NAICS codes and CBP were not used for this source	AEO Growth Factors - Delivered Energy Consumption Sector - Biofuel
2104008510	NAICS codes and CBP were not used for this source	AEO Growth Factors - Delivered Energy Consumption Sector - Biofuel
2104008530	NAICS codes and CBP were not used for this source	AEO Growth Factors - Delivered Energy Consumption Sector - Biofuel
2104008610	NAICS codes and CBP were not used for this source	AEO Growth Factors - Delivered Energy Consumption Sector - Biofuel
2104008620	NAICS codes and CBP were not used for this source	AEO Growth Factors - Delivered Energy Consumption Sector - Biofuel
2104008630	NAICS codes and CBP were not used for this source	AEO Growth Factors - Delivered Energy Consumption Sector - Biofuel
2104008700	NAICS codes and CBP were not used for this source	AEO Growth Factors - Delivered Energy Consumption Sector - Biofuel
2104009000	NAICS codes and CBP were not used for this source	AEO Growth Factors - Delivered Energy Consumption Sector - Biofuel
2302002100	311991	CBP Growth Factors
2302002200	311992	CBP Growth Factors
2302003000	311993	CBP Growth Factors
2302003100	311994	CBP Growth Factors
2302003200	311995	CBP Growth Factors
2302050000	311811 and 311812	CBP Growth Factors
2302070005	312120	CBP Growth Factors
2302070001	312121	CBP Growth Factors
2302070001	312122	CBP Growth Factors
2401001000	NAICS codes and CBP were not used for this source	Population Growth Factors
2401005000	4411, 4412, 81112	CBP Growth Factors
2401008000	NAICS codes and CBP were not used for this source	Population Growth Factors
2401015000	321 or 32192, 33711, 321211, 321212, 321213, 321911, 321918, 321992, and 321999	CBP Growth Factors
2401020000	337110, 337121, 337122, 337127, 337129, 337211, 337212, 337215, 33911/	CBP Growth Factors
2401025000	337124, 337127, 337214, 337215, 3391// OR 337121, 337124, 337214, and 337215	CBP Growth Factors
2401030000	NAICS codes and CBP were not used for this source	Population Growth Factors
2401040000	332431 and 332439	CBP Growth Factors
2401045000	332812, 339911, 339912, 339914	CBP Growth Factors
2401055000	3331//, 3332//, 3333//, 3334// OR 333 (except 33314 and 33315), 33271, 332991, 332997, 3341, and 336391	CBP Growth Factors
2401060000	333414, 335211, 335212, 335221, and 335228	CBP Growth Factors
2401065000	331319, 331422, 331491, 335921, 335929, 33531//	CBP Growth Factors
2401070000	3361//, 3362//, 3363//	CBP Growth Factors
2401075000	3364//	CBP Growth Factors
2401080000	3366//	CBP Growth Factors
2401085000	3365//	CBP Growth Factors
2401090000	339, 325, 332812	CBP Growth Factors
2401100000	NAICS codes and CBP were not used for this source	Population Growth Factors
2401200000	NAICS codes and CBP were not used for this source	Population Growth Factors
2415000000	331//, 332//, 333//, 334//, 335//, 336//, 337//, 339//, 441//, 483//, 484//, 485//, 488//, 8111//, 8112//	CBP Growth Factors

Table NS3: SCC to NAICS Crosswalk (with Growth Factors) (cont.)

SCC Code	NAICS Code	Growth Factors
2420000000	812320	CBP Growth Factors
2425000000	NAICS codes and CBP were not used for this source	Population Growth Factors
2460030999	NAICS codes and CBP were not used for this source	Population Growth Factors
2460100000	NAICS codes and CBP were not used for this source	Population Growth Factors
2460200000	NAICS codes and CBP were not used for this source	Population Growth Factors
2460400000	NAICS codes and CBP were not used for this source	Population Growth Factors
2460500000	NAICS codes and CBP were not used for this source	Population Growth Factors
2460600000	NAICS codes and CBP were not used for this source	Population Growth Factors
2460800000	NAICS codes and CBP were not used for this source	Population Growth Factors
2460900000	NAICS codes and CBP were not used for this source	Population Growth Factors
2461021000	324121	CBP Growth Factors
2461022000	324122	CBP Growth Factors
2461800000	NAICS codes and CBP were not used for this source	Population Growth Factors
2501011011	NAICS codes and CBP were not used for this source	AEO Growth Factors - Transportation Sector Motor Gasoline
2501011012	NAICS codes and CBP were not used for this source	AEO Growth Factors - Transportation Sector Motor Gasoline
2501011013	NAICS codes and CBP were not used for this source	AEO Growth Factors - Transportation Sector Motor Gasoline
2501011014	NAICS codes and CBP were not used for this source	AEO Growth Factors - Transportation Sector Motor Gasoline
2501011015	NAICS codes and CBP were not used for this source	AEO Growth Factors - Transportation Sector Motor Gasoline
2501012011	NAICS codes and CBP were not used for this source	AEO Growth Factors - Transportation Sector Motor Gasoline
2501012012	NAICS codes and CBP were not used for this source	AEO Growth Factors - Transportation Sector Motor Gasoline
2501012013	NAICS codes and CBP were not used for this source	AEO Growth Factors - Transportation Sector Motor Gasoline
2501012014	NAICS codes and CBP were not used for this source	AEO Growth Factors - Transportation Sector Motor Gasoline
2501012015	NAICS codes and CBP were not used for this source	AEO Growth Factors - Transportation Sector Motor Gasoline
2501050120	424710	CBP Growth Factors
2501055120	424710	CBP Growth Factors
2501060051	447190	CBP Growth Factors
2501060052	447191	CBP Growth Factors
2501060053	447192	CBP Growth Factors
2501060201	447193	CBP Growth Factors
2501080050	NAICS codes and CBP were not used for this source	MEM Airport Activity Reports - AvGas Data
2501080100	NAICS codes and CBP were not used for this source	MEM Airport Activity Reports - AvGas Data
2505030120	4842	CBP Growth Factors
2505040120	486910	CBP Growth Factors
2610000100	56299	CBP Growth Factors
2610000400	56300	CBP Growth Factors
2610000500	56300	CBP Growth Factors
2610030000	56301	CBP Growth Factors
2601020000	NAICS codes and CBP were not used for this source	AEO Growth Factors - Delivered Energy Consumption Sector - Biofuel
2620030000	56221	CBP Growth Factors
2630020000	56222	CBP Growth Factors
2680003000	56299	CBP Growth Factors
2802004001	111998	CBP Growth Factors
2802004002	111999	CBP Growth Factors
2802004003	112000	CBP Growth Factors
2805002000	11	CBP Growth Factors
2805007100	11	CBP Growth Factors
2805009100	11	CBP Growth Factors
2805010100	11	CBP Growth Factors
2805018000	11	CBP Growth Factors
2805025000	11	CBP Growth Factors
2805035000	11	CBP Growth Factors
2805040000	11	CBP Growth Factors
2805045000	11	CBP Growth Factors
2810025000	NAICS codes and CBP were not used for this source	Population Growth Factors
2810030000	NAICS codes and CBP were not used for this source	Population Growth Factors
2810050000	NAICS codes and CBP were not used for this source	AEO Growth Factors - Transportation Sector Motor Gasoline
2810060100	NAICS codes and CBP were not used for this source	Population Growth Factors
2810060200	NAICS codes and CBP were not used for this source	Population Growth Factors

EPA Comment #4:

4. On the nonpoint spreadsheet for SCC code 2425000000 – Solv. Utiliz.; Graphic Arts; All Processes; Total: All Solvent Types, the EPA was unable to recreate your future year values for VOC emissions. From 2020 to 2036, the EPA calculated 7.73 tons per day (tpd), 7.76 tpd, 7.80 tpd, 7.83 tpd, 7.86 tpd, and 7.91 tpd, respectively. Please check the information and justify the discrepancies.

SCHD-PCS Response:

An explanation was provided in the document titled “Shelby County TN Annual Emissions Inventory and Calculation Methodology”, section titled “Graphic Arts (SCC 2425000000)” which is part of this submission. It explains that the discrepancy results from the point source emissions subtraction of a title V source involved in this activity. Although, a 2017 VOC emissions estimate is displayed in the table for this category, future year emissions estimates are calculated using the 2020 VOC emissions estimate and population growth factors based on 2020.

Commenter 2 - SCHD-PCS**SCHD-PCS**

During the comment period, SCHD-PCS staff continued to review the data used to develop the maintenance plan. This internal review identified the following:

- Some of the nonpoint source emissions estimates displayed an older set of growth factors which had to be replaced.
- Several of the SAFs and WAFs used for nonpoint source emissions estimates were changed to align with *Table 5.8-1 titled “Area Source Seasonal Adjustment Factors For the Peak Ozone and CO Seasons for nonpoint emissions estimations”*

While these things were relatively inconsequential, they were corrected, and the documents were updated to reflect the corrections.



Department of
**Environment &
Conservation**

Title V Base Fee and Board Variance Requests for Air Curtain Incinerators (ACIs)

November 12, 2025

What is an Air Curtain Incinerator

- Refractory-lined combustion chamber equipped with a blower that creates a curtain of air over the firebox.
- Particles of smoke rising from the hot gasses of the fire are trapped under the air curtain thus increasing combustion efficiency and lowering emissions.
- Also known as Air Curtain Destructor



Federal Rules that Apply to Air Curtain Incinerators

- Standards of Performance for Small Municipal Waste Combustion Units
 - 40 CFR 60 Subpart AAAA
- Standards of Performance for Commercial and Industrial Solid Waste Incineration Units
 - 40 CFR 60 Subpart CCCC
 - aka CISWI
- Standards of Performance for Other Solid Waste Incineration Units
 - 40 CFR 60 Subpart EEEE
 - aka OSWI

Federal Requirements for Air Curtain Incinerators

- Limits on Type of Waste Burned
- Opacity Limits
 - 35% Opacity During Startup
 - 10% Opacity at All Other Times
- Opacity Tests
 - Initial
 - Every 12-Months
- Title V Permits
 - Subparts AAAA and EEEE Do Not Require a Title V Permit
 - Subpart CCCC Required a Title V Permit

Annual Title V Fee for ACIs

- Title V Fee (effective 2025) = \$/ton Fee + Base Fee + Modification Fee
- Permitted Tons – 17.77 to 53.66 tons/year
 - 17.77 tons/year x \$48.50/ton = \$1097/year
 - 53.66 tons/year x \$48.50/ton = \$2603/year
- Base Fee
 - One Applicable Federal Standard – 40 C.F.R. Subpart CCCC
 - \$15,000/year
- Title V Modification Fee
 - Usually Zero for ACIs
- Annual Title V Fee
 - Low of \$550 + \$15,000 = \$15,550/year
 - High of \$1345 + \$15,000 = \$16,345/year

Air Curtain Incinerators vs. Traditional Title V Facilities

- Air Curtain Incinerators
 - Single, Simple Source compared to Many, Complex Sources
 - Not Major Source of Emissions
 - Title V Permit Required because of Provision in 40 CFR 60 Subpart CCCC
 - Many are Owned and Operated by Small Businesses
- Traditional Title V Facility
 - Multiple Complex Sources
 - Major Source of Emissions
 - Title V Permit Required because Facility is a Major Source
 - Most are Large Businesses/Corporations

Rationale for Lower Base Fee

- Division Received Feedback from Air Curtain Incinerator Operators that Title V Fee Will Cause Financial Hardship
- Division of Air Pollution Control has Estimated Cost of Implementing and Enforcing a Title V Permit for an ACI
 - Includes:
 - Observing Visible Emission Tests and Reviewing Test Reports
 - Inspections
 - Title V Report Reviews
 - Complaint Investigations
 - About \$3600 per Year
 - Does not include any indirect costs of the Division

Board Variances

- Provided by T.C.A. 68-201-118
 - Highlights/Summary:
 - Must be Filed with Technical Secretary of Air Pollution Control Board
 - Technical Secretary will Provide Recommendation to Air Pollution Control Board
 - Good for One Year
 - May be Extended One Year at a Time
- Division of Air Pollution Control worked with OGC to Develop Template for Board Variances
 - Reduce Base Fee from \$15000 to \$3000
 - All other Title V Fees (\$/ton fee and modification fee) remain unchanged

Variance Submitted

- Charles Blalock & Sons, Inc., Sevierville



Variances Submitted

- Rice Enterprises, LLC, Tullahoma



Variances Submitted

- Universal Environmental Services, LLC, Morristown





P.O. BOX 4750 • SEVIERVILLE, TENNESSEE 37864-4750

October 10, 2025

Michelle Walker Owenby, Technical Secretary
Air Pollution Control Board
Davy Crockett Tower
500 James Robertson Parkway, 7th Floor
Nashville, Tennessee 37243

**Re: Charles Blalock & Sons, Inc.
Howard Drive
78-0413-01 and -02
Petition for Variance from Title V Permit Base Fees**

To the Technical Secretary:

Pursuant to Tennessee Code Annotated section 68-201-118, Charles Blalock & Sons, Inc. ("Petitioner") respectfully petitions the Tennessee Air Pollution Control Board (the "Board") for a variance in connection with Tennessee Air Pollution Control Regulation (TAPCR) 1200-03-26-.02(9)(d)1(iii). For the reasons set forth below, Petitioner requests a reduction of **\$12,000.00** from the Base Fee portion of its Title V Annual Emission Fee, as required by TAPCR 1200-03-26-.02(9)(d)1(iii), resulting in a reduced base emission fee of **\$3,000.00** per source. This petition does not request any changes to the emission fee portion of the Title V Annual Fee as required by TAPCR 1200-03-26-.02(9)(d)2(iii) or the Title V modification fee portion of the Title V Annual Fee, if applicable, as required by TAPCR 1200-03-26-.02(9)(d)4.

Petitioner operates two air curtain incinerators ("ACI") located in Sevierville, Tennessee, which are subject to standards of performance set forth in Subpart CCCC of 40 C.F.R. part 60. While EPA recently removed the requirement for certain ACIs to obtain Title V permits, this rule change did not cover the type of ACIs operated by the Petitioner. Therefore, EPA's Commercial and Industrial Solid Waste Incinerator ("CISWI") rules promulgated under Clean Air Act section 129 require Tennessee to permit Petitioner's ACIs as major sources required to obtain a Title V permit, subject to applicable Title V annual emission fees.

Petitioner understands that under Tennessee Code Annotated section 68-201-106, there are certain matters to be considered by the Board when exercising its powers to grant a variance. Petitioner provides the following information in consideration of those matters.

- 1. Character and Degree of Injury to, or Interference with, the Protection of the Health, General Welfare, and Physical Property of the People**



AN EQUAL EMPLOYMENT OPPORTUNITY EMPLOYER



Granting Petitioner's fee variance request will not result in any injury to public health, general welfare, or physical property because there is no request to waive an emissions limitation or standard. Petitioner only requests a reduced Title V Annual Emission Fee, because the recently increased Title V Annual Emission base fee of \$15,000 (for sources subject to one federal air quality standard) makes operation of its ACI economically infeasible.

Requiring Petitioner to pay the full Title V Annual Emission base fee makes use of its ACI commercially unviable compared to less environmentally sound methods, such as open burning or landfilling. Granting Petitioner's request would allow it to continue operating its ACI in compliance with its permit to dispose of allowed materials in an environmentally sound manner that promotes public health and general welfare.

2. Social and Economic Value of the Air Contaminant Source

Petitioner employs 700 people in the Sevier County, Tennessee area. Its annual contribution to the local economy is approximately \$200,000,000 per year. In addition, Petitioner contributes approximately \$300,000, annually, to multiple agencies or organizations, including:

All local schools

All local Fire Departments

American Cancer Society

Area 33 Special Olympics

Cure Finders

Friends of the Smokies

Fellowship of Christian Athletes

Junior Diabetes Research Foundation

Keep Sevier Beautiful

Robert F Thomas Foundation

Sevier County Partners in Progress

Smoky Mountain Area Rescue Ministries

and many more causes and organizations within the community.

3. Suitability or Unsuitability of the Air Pollution Source to the Area in which It is Located

Petitioner's ACI is located off Howard Drive, in Sevierville, which is suitable for operation of an ACI because it allows for clean material to be burned in a less densely populated area, in close proximity to equipment and materials to ensure safe fire practices, maintaining good air quality and preventing fire emergencies and/or loss of property.

4. Technical Practicability and Economic Reasonableness of Reducing or Eliminating Emissions

Petitioner's variance request will not result in increased air contaminant emissions. Denying the variance request could lead to increased emissions if the Petitioner ceases operation of the ACI.

5. Economic Benefit Gained through Failure to Comply With Applicable Law or Regulations

Petitioner's sole request is for a fee waiver variance. Petitioner does not seek to avoid compliance with any applicable law or regulation. Instead, Petitioner requests a reduced Title V Annual Emission Fee to make operation of its ACI economically feasible.

The Board recently increased its lowest Title V Annual Emission Fee to \$15,000 for sources required to obtain Title V permits that are subject to one federal air standard. If the Board does not grant Petitioner's variance request, the Petitioner would have to consider ceasing operation of its ACI and disposing of its waste in another manner.

6. The Amount or Degree of Effort Put Forth by the Air Contaminant Source to Attain Compliance

Petitioner is not requesting a variance to refrain from complying with any applicable state or federal law or regulation. Instead, Petitioner is only seeking a reduced annual emission fee to make operation of its ACI economically feasible.

Lacey Har

For the reasons stated above, we respectfully request that the Board approve this variance request. Please contact Jeremy May, at either jmay@blalockconstruction.com or 865-640-4376, with any questions regarding this matter.

Sincerely,



STATE OF TENNESSEE
AIR POLLUTION CONTROL BOARD

IN THE MATTER OF:

CHARLES BLALOCK & SONS, INC.

VARIANCE REQUEST

)
)
)
)
)

ORDER NO: 25-015

BOARD ORDER

On October 10, 2025, Charles Blalock & Sons, Inc. (Petitioner) petitioned this Board for a variance from the requirements of Tennessee Air Pollution Control Regulation (TAPCR) 1200-03-26-.02(9)(d)1(iii). Specifically, Petitioner requests a reduction of \$12,000 from the base fee portion (\$15,000) of its Title V annual emission fee, resulting in a reduced annual base fee of \$3,000.

TAPCR subpart 1200-03-26-.02(9)(d)1(iii) reads, in pertinent part:

The base fee is determined in accordance with the following table:

Number of federal air quality standards	Base Fee
0	\$10,000
1	\$15,000
2 to 3	\$20,000
4 to 5	\$30,000
6 to 10	\$40,000
11 to 20	\$50,000
21 and up	\$75,000

The Petitioner requested this variance because 40 C.F.R. 60 Subpart CCCC, Commercial and Industrial Solid Waste Incinerators, requires it to obtain a Title V permit to operate their two air curtain incinerators (ACI). The allowable emissions from this facility are significantly below the standard Title V major source thresholds of 100 tons per year (TPY) of criteria pollutants, 10 TPY of a single hazardous air pollutant, and 25 TPY of a combination of hazardous air pollutants. Additionally, Petitioner's ACIs are subject only to minor requirements under the federal rule. EPA recently removed the requirement for certain ACIs to obtain Title V permits, but these rule changes did not cover the type of ACI operated by the Petitioner.

The Technical Secretary recommends granting this request for the following reasons:

The higher Title V annual emission fee potentially makes operation of the ACIs economically infeasible. Without this variance, Petitioner has stated that the use of the ACIs will be commercially unviable compared to less environmentally sound methods such as open burning or disposal of material in a landfill.

Granting this request will not result in any injury to public health, general welfare, or physical property.

Petitioner employs approximately 700 people in the Sevier County, TN area. Its annual contribution to the local economy is approximately \$200,000,000 per year, and the Petitioner makes annual contributions of approximately \$300,000 to many local charitable and educational agencies and organizations.

The ACI is located in a moderately populated area suitable for operation of ACIs.

Granting this request will not result in increased air contaminant emissions. Denying the request could lead to increased emissions if Petitioner ceases operation of the ACI in favor of other disposal methods such as open burning.

Petitioner requests a reduced Title V annual emission fee so that operating the ACIs is economically feasible.

Petitioner does not seek to avoid compliance with any applicable law or regulation, seeking only a reduced Title V annual emission fee. Petitioner will continue to comply with the requirements of the applicable regulations.

Therefore, upon recommendation of the Technical Secretary, this Board grants Charles Blalock & Sons, Inc. a partial variance from the requirements found in subpart 1200-03-26-.02(9)(d)1(iii) of the Tennessee Air Pollution Control Regulations with regard to payment of Title V annual emission fees. Specifically, Petitioner will be assessed a Title V base fee of \$3,000 rather than the \$15,000 base fee which would otherwise apply. Issuance of this variance does not negate the requirement to pay Title V annual emission fees.

This variance is effective from November 12, 2025, through November 11, 2026.

Approved on November 12, 2025, by the board members as follows:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Attachment: October 10, 2025, Variance Request

10/30/2025

Michelle Walker Owenby, Technical Secretary
Air Pollution Control Board
Davy Crockett Tower
500 James Robertson Parkway, 7th Floor
Nashville, Tennessee 37243

Re: Rice Enterprises, LLC
2848 Old Manchester Highway, Tullahoma, TN 37388
Facility ID 16-0280
Petition for Variance from Title V Permit Base Fees

To the Technical Secretary:

Pursuant to Tennessee Code Annotated section 68-201-118, *Rice Enterprises, LLC* ("Petitioner") respectfully petitions the Tennessee Air Pollution Control Board (the "Board") for a variance in connection with Tennessee Air Pollution Control Regulation (TAPCR) 1200-03-26-.02(9)(d)1(iii). For the reasons set forth below, Petitioner requests a reduction of **\$12,000.00** from the Base Fee portion its Title V Annual Emission Fee, as required by TAPCR 1200-03-26-.02(9)(d)1(iii), resulting in a reduced base emission fee of **\$3,000.00**. This petition does not request any changes to the emission fee portion of the Title V Annual Fee as required by TAPCR 1200-03-26-.02(9)(d)2(iii) or the Title V modification fee portion of the Title V Annual Fee, if applicable, as required by TAPCR 1200-03-26-.02(9)(d)4.

Petitioner operates an air curtain incinerator ("ACI") located in Tullahoma, Tennessee, which is subject to standards of performance set forth in Subpart CCCC of 40 C.F.R. part 60. While EPA recently removed the requirement for certain ACIs to obtain Title V permits, this rule change did not cover the type of ACI operated by the Petitioner. Therefore, EPA's Commercial and Industrial Solid Waste Incinerator ("CISWI") rules promulgated under Clean Air Act section 129 require Tennessee to permit Petitioner's ACI as a major source required to obtain a Title V permit, subject to applicable Title V annual emission fees.

Petitioner understands that under Tennessee Code Annotated section 68-201-106, there are certain matters to be considered by the Board when exercising its powers to grant a variance. Petitioner provides the following information in consideration of those matters.

1. Character and Degree of Injury to, or Interference with, the Protection of the Health, General Welfare, and Physical Property of the People

Granting Petitioner's fee variance request will not result in any injury to public health, general welfare, or physical property because there is no request to waive an emissions limitation or standard. Petitioner only requests a reduced Title V Annual Emission Fee, because the recently increased Title V Annual Emission base fee of \$15,000 (for sources subject to one federal air quality standard) makes operation of its ACI economically infeasible.

Requiring Petitioner to pay the full Title V Annual Emission base fee makes use of its ACI commercially unviable compared to less environmentally sound methods, such as open burning or

landfilling. Granting Petitioner's request would allow it to continue operating its ACI in compliance with its permit to dispose of allowed materials in an environmentally sound manner that promotes public health and general welfare.

2. Social and Economic Value of the Air Contaminant Source

The Petitioner owns the Air Contaminant Source (ACI) but does not operate it directly. The ACI is operated by CFC Recycling, which employs 85 individuals in the Tullahoma, Tennessee area and contributes approximately \$5,674,000 annually to the local economy, serving as a key driver of economic activity in the region. In addition, CFC Recycling is a significant supporter of community initiatives, including Partners for Healing, the Hands-On Science Center, and various outreach programs that benefit local schools and the broader community, its contributions add up to over \$35,000 annually.

3. Suitability or Unsuitability of the Air Pollution Source to the Area in which it is Located

Petitioner's ACI is located in an M3 zoning area, which is suitable for operation of an ACI because it is located in a large field with a large pond, in the county away from residential areas.

4. Technical Practicability and Economic Reasonableness of Reducing or Eliminating Emissions

Petitioner's variance request will not result in increased air contaminant emissions. Denying the variance request could lead to increased emissions if the Petitioner ceases operation of the ACI.

5. Economic Benefit Gained through Failure to Comply With Applicable Law or Regulations

Petitioner's sole request is for a fee waiver variance. Petitioner does not seek to avoid compliance with any applicable law or regulation. Instead, Petitioner requests a reduced Title V Annual Emission Fee to make operation of its ACI economically feasible.

The Board recently increased its lowest Title V Annual Emission Fee to \$15,000 for sources required to obtain Title V permits that are subject to one federal air standard. If the Board does not grant Petitioner's variance request, the Petitioner would have to consider ceasing operation of its ACI and disposing of its waste in another manner.

6. The Amount or Degree of Effort Put Forth by the Air Contaminant Source to Attain Compliance

Petitioner is not requesting a variance to refrain from complying with any applicable state or federal law or regulation. Instead, Petitioner is only seeking a reduced annual emission fee to make operation of its ACI economically feasible.

For the reasons stated above, we respectfully request that the Board approve this variance request. Please contact Austin Sisco at adsisco@cfcrecycling.net with any questions regarding this matter.

Sincerely,

Austin Sisco


10/30/25

STATE OF TENNESSEE
AIR POLLUTION CONTROL BOARD

IN THE MATTER OF:

RICE ENTERPRISES, LLC

VARIANCE REQUEST

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ORDER NO: 25-016

BOARD ORDER

On October 30, 2025, Rice Enterprises, LLC (Petitioner) petitioned this Board for a variance from the requirements of Tennessee Air Pollution Control Regulation (TAPCR) 1200-03-26-.02(9)(d)1(iii). Specifically, Petitioner requests a reduction of \$12,000 from the base fee portion (\$15,000) of its Title V annual emission fee, resulting in a reduced annual base fee of \$3,000.

TAPCR subpart 1200-03-26-.02(9)(d)1(iii) reads, in pertinent part:

The base fee is determined in accordance with the following table:

Number of federal air quality standards	Base Fee
0	\$10,000
1	\$15,000
2 to 3	\$20,000
4 to 5	\$30,000
6 to 10	\$40,000
11 to 20	\$50,000
21 and up	\$75,000

The Petitioner requested this variance because 40 C.F.R. 60 Subpart CCCC, Commercial and Industrial Solid Waste Incinerators, requires it to obtain a Title V permit to operate an air curtain incinerator (ACI). The allowable emissions from this facility are below the standard Title V major source thresholds of 100 tons per year (TPY) of criteria pollutants, 10 TPY of a single hazardous air pollutant, and 25 TPY of a combination of hazardous air pollutants. Additionally, Petitioner's ACI is subject only to minor requirements under the federal rule. EPA recently removed the requirement for certain ACIs to obtain Title V permits, but these rule changes did not cover the type of ACI operated by the Petitioner.

The Technical Secretary recommends granting this request for the following reasons:

The higher Title V annual emission fee potentially makes operation of the ACI economically infeasible. Without this variance, Petitioner has stated that the use of the ACI will be commercially unviable compared to less environmentally sound methods such as open burning or disposal of material in a landfill.

Granting this request will not result in any injury to public health, general welfare, or physical property.

Petitioner owns the air contaminant source, but it is operated by CFC Recycling. CFC Recycling employs 85 people in the Tullahoma, TN area. Its annual contribution to the local economy is approximately \$5,647,000 per year, and the Petitioner makes annual contributions of approximately \$35,000 many local charitable and educational agencies and organizations.

The ACI is located in a sparsely populated area suitable for operation of an ACI.

Granting this request will not result in increased air contaminant emissions. Denying the request could lead to increased emissions if Petitioner ceases operation of the ACI in favor of other disposal methods such as open burning.

Petitioner requests a reduced Title V annual emission fee so that operating the ACI is economically feasible.

Petitioner does not seek to avoid compliance with any applicable law or regulation, seeking only a reduced Title V annual emission fee. Petitioner will continue to comply with the requirements of the applicable regulations.

Therefore, upon recommendation of the Technical Secretary, this Board grants Rice Enterprises, LLC a partial variance from the requirements found in subpart 1200-03-26-.02(9)(d)1(iii) of the Tennessee Air Pollution Control Regulations with regard to payment of Title V annual emission fees. Specifically, Petitioner will be assessed a Title V base fee of \$3,000 rather than the \$15,000 base fee which would otherwise apply. Issuance of this variance does not negate the requirement to pay Title V annual emission fees.

This variance is effective from November 12, 2025, through November 11, 2026.

Approved on November 12, 2025, by the board members as follows:

_____	_____
_____	_____
_____	_____
_____	_____
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_____	_____

Attachment: October 30, 2025, Variance Request



Universal Environmental Services

10/30/2025

Michelle Walker Owenby, Technical Secretary
Air Pollution Control Board
Davy Crockett Tower
500 James Robertson Parkway, 7th Floor
Nashville, Tennessee 37243

**Re: Universal Environmental Services
325 Industrial Ave, Morristown, TN 37931
Facility ID 32-0378
Petition for Variance from Title V Permit Base Fees**

To the Technical Secretary:

Pursuant to Tennessee Code Annotated section 68-201-118, Universal Environmental Services, LLC ("Petitioner") respectfully petitions the Tennessee Air Pollution Control Board (the "Board") for a variance in connection with Tennessee Air Pollution Control Regulation (TAPCR) 1200-03-26-.02(9)(d)1(iii). For the reasons set forth below, Petitioner requests a reduction of \$12,000.00 from the Base Fee portion its Title V Annual Emission Fee, as required by TAPCR 1200-03-26-.02(9)(d)1(iii), resulting in a reduced base emission fee of \$3,000.00. This petition does not request any changes to the emission fee portion of the Title V Annual Fee as required by TAPCR 1200-03-26-.02(9)(d)2(iii) or the Title V modification fee portion of the Title V Annual Fee, if applicable, as required by TAPCR 1200-03-26-.02(9)(d)4.

Petitioner operates an air curtain incinerator ("ACI") located in Morristown, Tennessee, which is subject to standards of performance set forth in Subpart CCCC of 40 C.F.R. part 60. While EPA recently removed the requirement for certain ACIs to obtain Title V permits, this rule change did not cover the type of ACI operated by the Petitioner. Therefore, EPA's Commercial and Industrial Solid Waste Incinerator ("CISWI") rules promulgated under Clean Air Act section 129 require Tennessee to permit Petitioner's ACI as a major source required to obtain a Title V permit, subject to applicable Title V annual emission fees.

Petitioner understands that under Tennessee Code Annotated section 68-201-106, there are certain matters to be considered by the Board when exercising its powers to grant a variance. Petitioner provides the following information in consideration of those matters.

1. Character and Degree of Injury to, or Interference with, the Protection of the Health, General Welfare, and Physical Property of the People

Granting Petitioner's fee variance request will not result in any injury to public health, general welfare, or physical property because there is no request to waive an emissions limitation or standard. Petitioner only requests a reduced Title V Annual Emission Fee, because the recently increased Title V Annual Emission base fee of \$15,000 (for sources subject to one federal air quality standard) makes operation of its ACI economically infeasible.

Requiring Petitioner to pay the full Title V Annual Emission base fee makes use of its ACI commercially



Phone: 800 988 7977
Fax: 770 357 0202



universalenvironmentalservices.com



411 Dividend Drive
Peachtree City, GA 30269

unviable compared to less environmentally sound methods, such as open burning or landfilling. Granting Petitioner's request would allow it to continue operating its ACI in compliance with its permit to dispose of allowed materials in an environmentally sound manner that promotes public health and general welfare.

2. Social and Economic Value of the Air Contaminant Source

Petitioner employs 17 people in the Morristown, Tennessee area. Its annual contribution to the local economy is approximately \$3-5M per year. In addition, Petitioner conducts community events to prevent materials from entering landfills and allows the local fire department to conduct training on the property.

3. Suitability or Unsuitability of the Air Pollution Source to the Area in which It Is Located

Petitioner's ACI is located in Morristown, TN which is suitable for operation of an ACI because it is located in an industrial facility in an industrial park.

4. Technical Practicability and Economic Reasonableness of Reducing or Eliminating Emissions

Petitioner's variance request will not result in increased air contaminant emissions. Denying the variance request could lead to increased emissions if the Petitioner ceases operation of the ACI.

5. Economic Benefit Gained through Failure to Comply With Applicable Law or Regulations

Petitioner's sole request is for a fee waiver variance. Petitioner does not seek to avoid compliance with any applicable law or regulation. Instead, Petitioner requests a reduced Title V Annual Emission Fee to make operation of its ACI economically feasible.

The Board recently increased its lowest Title V Annual Emission Fee to \$15,000 for sources required to obtain Title V permits that are subject to one federal air standard. If the Board does not grant Petitioner's variance request, the Petitioner would have to consider ceasing operation of its ACI and disposing of its waste in another manner.

6. The Amount or Degree of Effort Put Forth by the Air Contaminant Source to Attain Compliance

Petitioner is not requesting a variance to refrain from complying with any applicable state or federal law or regulation. Instead, Petitioner is only seeking a reduced annual emission fee to make operation of its ACI economically feasible.

For the reasons stated above, we respectfully request that the Board approve this variance request. Please contact Aaron Engi at 470-464-5517 with any questions regarding this matter.

Sincerely,



Aaron Engi
Director, Environmental Health & Safety
Universal Environmental Services, LLC



Phone: 800 988 7977
Fax: 770 357 0202



universaleenvironmentalservices.com



411 Dividend Drive
Peachtree City, GA 30269

STATE OF TENNESSEE
AIR POLLUTION CONTROL BOARD

IN THE MATTER OF:

UNIVERSAL ENVIRONMENTAL SERVICES LLC

VARIANCE REQUEST

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)
)

ORDER NO: 25-017

BOARD ORDER

On October 30, 2025, Universal Environmental Services LLC (Petitioner) petitioned this Board for a variance from the requirements of Tennessee Air Pollution Control Regulation (TAPCR) 1200-03-26-.02(9)(d)1(iii). Specifically, Petitioner requests a reduction of \$12,000 from the base fee portion (\$15,000) of its Title V annual emission fee, resulting in a reduced annual base fee of \$3,000.

TAPCR subpart 1200-03-26-.02(9)(d)1(iii) reads, in pertinent part:

The base fee is determined in accordance with the following table:

Number of federal air quality standards	Base Fee
0	\$10,000
1	\$15,000
2 to 3	\$20,000
4 to 5	\$30,000
6 to 10	\$40,000
11 to 20	\$50,000
21 and up	\$75,000

The Petitioner requested this variance because 40 C.F.R. 60 Subpart CCCC, Commercial and Industrial Solid Waste Incinerators, requires it to obtain a Title V permit to operate an air curtain incinerator (ACI). The allowable emissions from this facility are significantly below the standard Title V major source thresholds of 100 tons per year (TPY) of criteria pollutants, 10 TPY of a single hazardous air pollutant, and 25 TPY of a combination of hazardous air pollutants. Additionally, Petitioner's ACI is subject only to minor requirements under the federal rule. EPA recently removed the requirement for certain ACIs to obtain Title V permits, but these rule changes did not cover the type of ACI operated by the Petitioner.

The Technical Secretary recommends granting this request for the following reasons:

The higher Title V annual emission fee potentially makes operation of the ACI economically infeasible. Without this variance, Petitioner has stated that the use of the ACI will be commercially unviable compared to less environmentally sound methods such as open burning or disposal of material in a landfill.

Granting this request will not result in any injury to public health, general welfare, or physical property.

Petitioner employs 17 people in the Morristown, TN area. Its annual contribution to the local economy is approximately \$3,000,000 to \$5,000,000 per year, and the Petitioner conducts community educational events to prevent materials from entering landfills.

The ACI is located in an industrial park in an area suitable for operation of an ACI.

Granting this request will not result in increased air contaminant emissions. Denying the request could lead to increased emissions if Petitioner ceases operation of the ACI in favor of other disposal methods such as open burning.

Petitioner requests a reduced Title V annual emission fee so that operating the ACI is economically feasible.

Petitioner does not seek to avoid compliance with any applicable law or regulation, seeking only a reduced Title V annual emission fee. Petitioner will continue to comply with the requirements of the applicable regulations.

Therefore, upon recommendation of the Technical Secretary, this Board grants Rice Enterprises, LLC a partial variance from the requirements found in subpart 1200-03-26-.02(9)(d)1(iii) of the Tennessee Air Pollution Control Regulations with regard to payment of Title V annual emission fees. Specifically, Petitioner will be assessed a Title V base fee of \$3,000 rather than the \$15,000 base fee which would otherwise apply. Issuance of this variance does not negate the requirement to pay Title V annual emission fees.

This variance is effective from November 12, 2025, through November 11, 2026.

Approved on November 12, 2025, by the board members as follows:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Attachment: October 30, 2025, Variance Request



Department of
**Environment &
Conservation**

Non-Title V Fee Rule Revisions Board Briefing

November 12, 2025

Overview of Fee Rule Revision

- The Division is exploring a rule revision to increase Non-Title V fees
- Non-Title V facilities
 - Conditional Major and True Minor facilities
- Current expenses exceed revenue for the Non-Title V program

Overview of Fee Rule Revision

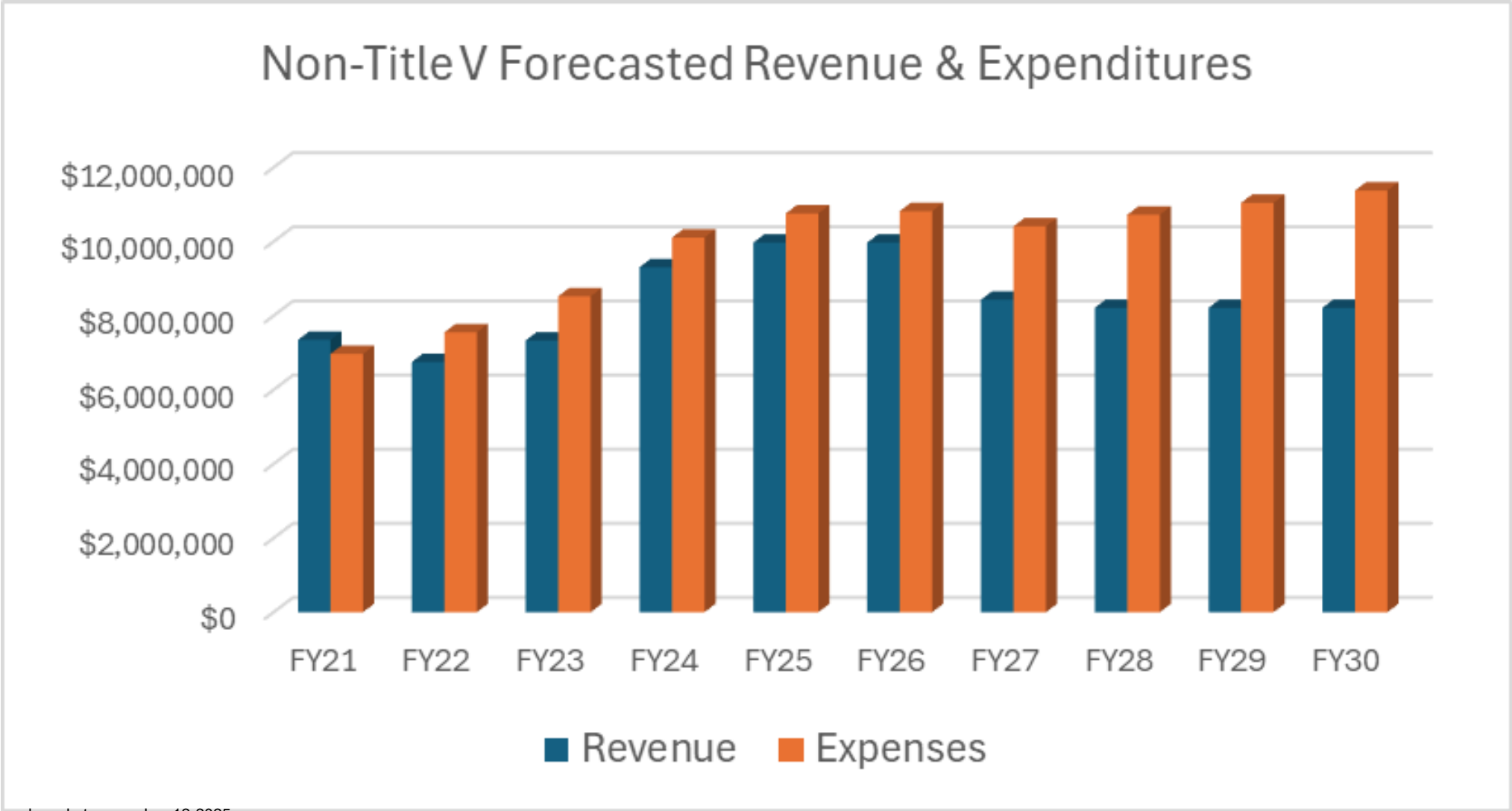
- The Division has exhausted all options for decreasing expenses and increasing revenue before exploring a fee increase
- The Division is currently seeking stakeholder input
- Fee increase is still to be determined
- Other non-fee revisions are also being made to Chapter 26

Title V source vs. Non-Title V source

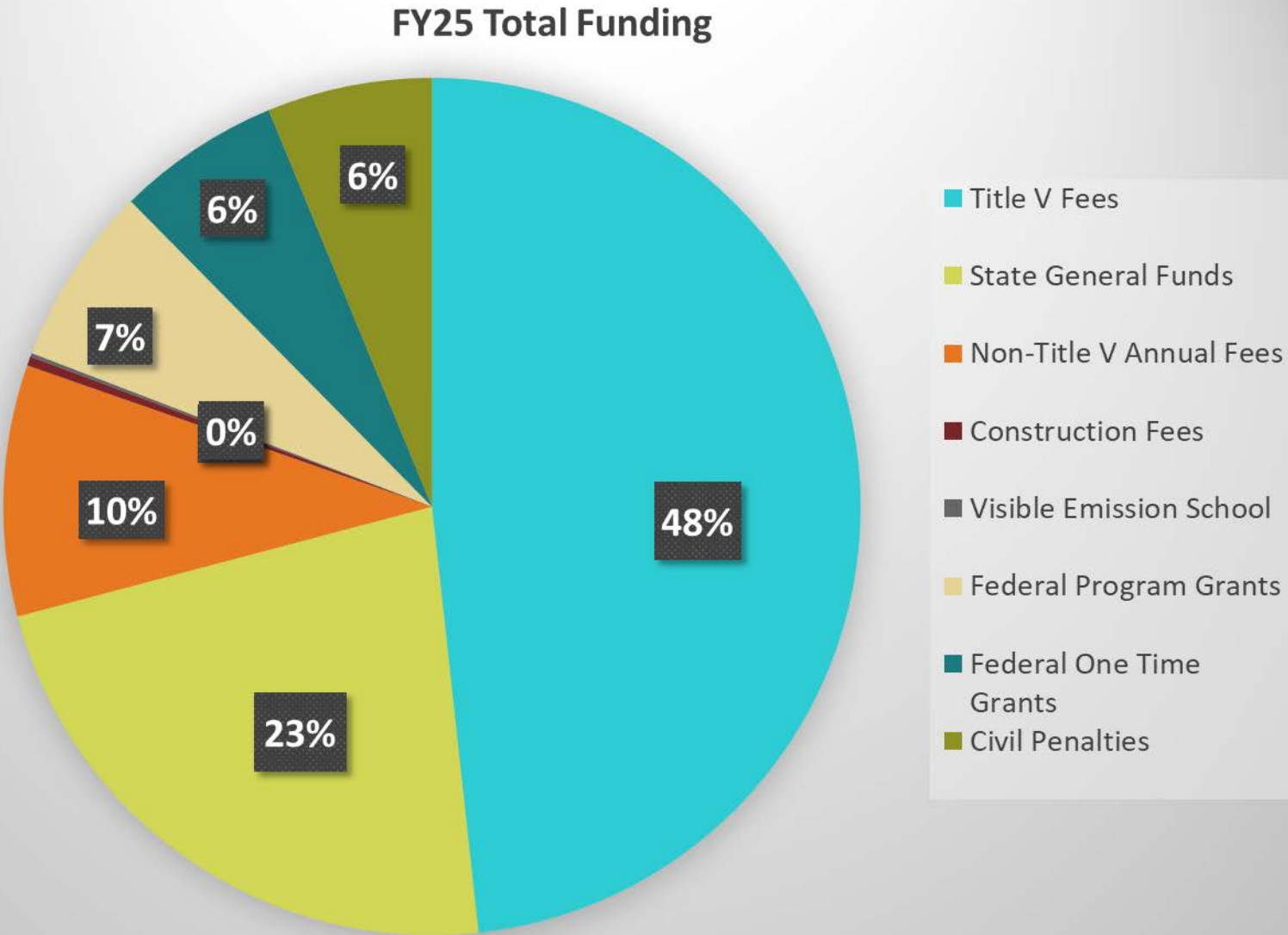
- Title V (major) source
 - 220 facilities (approximately)

- Non-Title V source
 - Conditional Major
 - 360 facilities (approximately)
 - True Minor
 - Approximately 7,000 facilities (including over 3,000 gas stations)
 - Only 800 facilities (approx.) pay annual fees

Non-Title V Expenses and Revenue



How the Air Division is Funded



Division is considering increasing:

- Non-Title V Annual Fees
- Construction Fees

Efforts to Increase Non-Title V Revenue



State Funds – Significantly Increased Since 2022



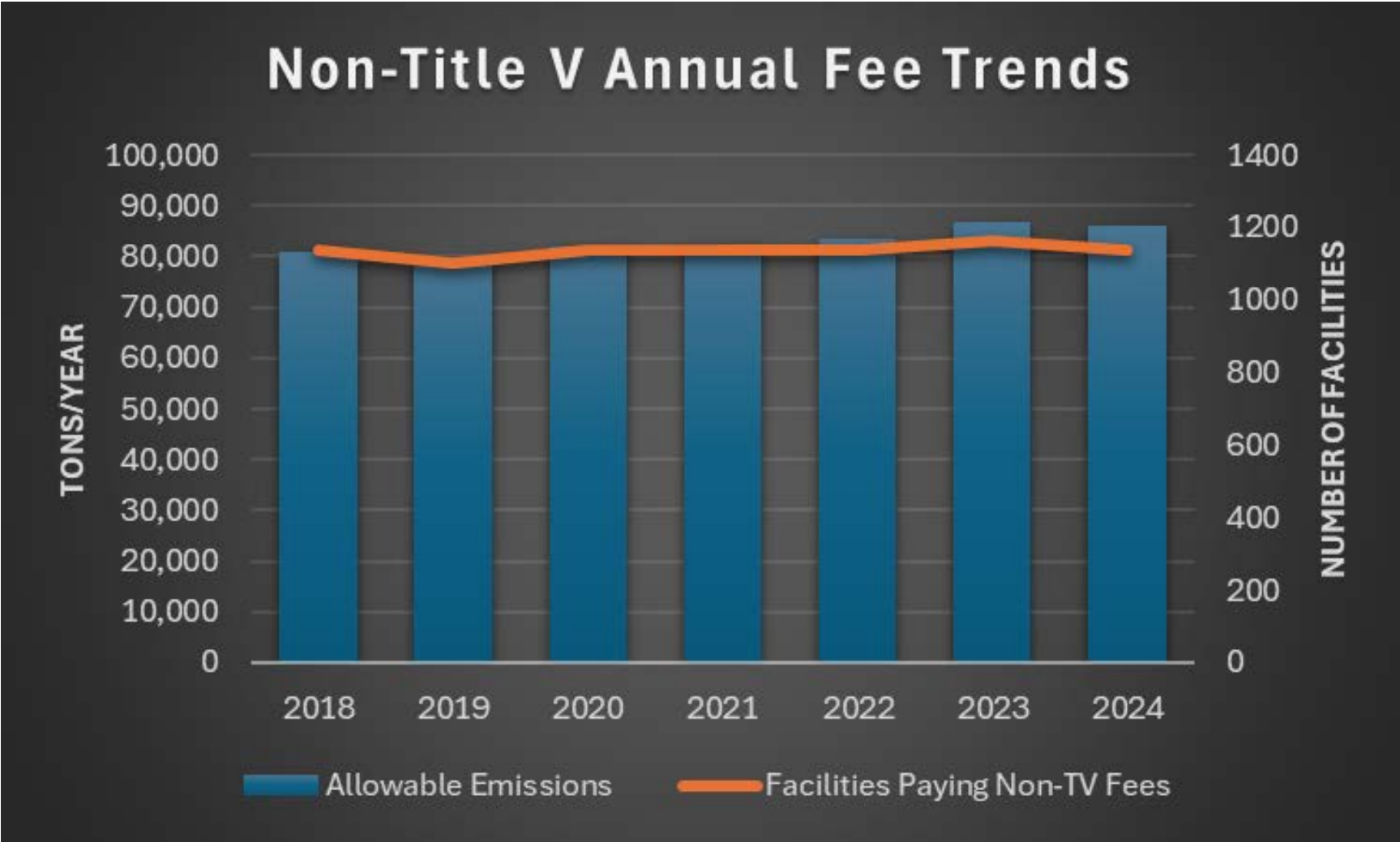
Federal Funds – Have received One-Time Funding for various needs (e.g., ambient monitoring equipment purchases)



Fees for Non-Title V facilities – Have not Changed since 2011

Despite the increases in state and federal funding, a fee increase is being explored to keep up with expenses

Non-Title V Sources and Emissions Have Been Steady



Statutory Authority for Air Quality Fees

- Tennessee Environmental Protection Fund Act (TN Code § 68-203-103) directs TDEC to charge fees for services & functions it performs, including the following fees:
 - Permit processing fees
 - Permit maintenance fees
 - Emission fees
 - Other fees

Tennessee Environmental Protection Fund Act

- Prior to promulgating any fee increase, TDEC must review the basis for the fee increase and determine that the fee increase is warranted. The factors in this determination include:
 - Staffing needs
 - Ability to attract and retain quality staff
 - Feasible cost containment measures
 - Levels of federal grants and state appropriations
 - Ability of the program to maintain or improve its performance in carrying out its duties
- TDEC has reviewed these factors before determining that a fee increase is warranted

Stakeholder Engagement

- The Division intends to execute a robust stakeholder engagement process to gather input on best approaches to increase fees using the following model:



- Stakeholder engagement plan is on TDEC [website](#)

Stakeholder Engagement

- Initial meeting with TN Chamber of Commerce and Industry (TCCI)
 - October 10, 2025
 - Overview of the need for a fee increase
 - Outlined stakeholder engagement plan and asked TCCI for assistance

Stakeholder Engagement

- Public meetings
 - Webinar
 - October 21, 2025
 - 37 attendees
 - Hybrid public meeting
 - Early December 2025 in Nashville
 - In-person with remote access option
 - Division will present different fee choices based on feedback received

Stakeholder Engagement

- Stakeholder feedback from webinar
 - The Division asked several poll questions
 - Some stakeholders prefer increasing annual fees while others prefer fees for services not currently subject to fees
 - Several stakeholders said they would pay a higher fee for expedited construction permits
 - Stakeholders did not express resistance to fee increases

Stakeholder Engagement

- Website (tn.gov/environment/air/fees.html)
 - General fee information
 - Webinar recordings
 - Presentations

Stakeholder Engagement

- Stakeholders can send comments
 - Email address (APC.Fee.Rule@tn.gov)
 - Comment card (on website)
 - Feedback surveys after webinars

- Stakeholders can join Listserv
 - News updates on fees

Stakeholder Engagement

- Hybrid Public Meeting (Early Dec. 2025)
- Draft the first version of the rule (Jan/Feb 2026)
 - Based on the comments received
- Public notice of draft rule with fee increases (June 2026)
 - 45-day comment period
 - Public hearing (August 2026)
- Air Pollution Control Board
 - Briefings (November 2025 & May 2026)
 - Vote on final fee rule (November 2026)

Current Non-Title V fees that could increase

- Currently charge Non-Title V fees for:
 - Annual emission fees, except General Permit facilities
 - \$18.75 per ton allowable emissions
 - New law allows a maximum emission fee rate of \$38.00 per ton
 - Annual fees for facilities covered by General Permit
 - \$0-\$1,000 depending on source type
 - Conditional Major permit review fee
 - \$250-\$2,000 depending on allowable emissions

Current Non-Title V fees that could increase

- Currently charge Non-Title V fees for:
 - Application fees
 - Construction and Combined Construction and Operating Permits
 - \$100-\$5,000 depending on anticipated maximum emission rate
 - Most fees are \$100, \$500, or \$1,000
 - General Permit construction fees
 - \$100-\$500 depending on source type

Non-Title V Fee Increases Up for Consideration

- Currently do **NOT** charge Non-Title V fees for:
 - Permit-by-rule (PBR)
 - Gas Stations, Auto Body Shops, and Emergency Generators
 - Operating permits
 - Insignificant activity determinations
 - Fees for services provided by the Division
 - Model review
 - Stack test observation and review

Non-Title V Fee Increases Up for Consideration

- Currently do **NOT** charge Non-Title V fees for:
 - Off-permit changes
 - Physical/operational change where emissions do not exceed allowable emission permit limit
 - Requires notification to TDEC, but not a new permit
 - Permit Amendments
 - Extending permit expiration date
 - Incorporating requirements of a construction permit into an operating permit
 - Ownership change
 - Base fee to Annual Fee

Schedule

Event	Date
1 st Stakeholder Meeting	October 21, 2025
1 st Board Briefing	November 12, 2025
2 nd Stakeholder Meeting	Early December 2025
Rule Development & Internal Review	January-May 2026
2 nd Board Briefing	May 2026
Public Notice	June 2026
Public Hearing	August 2026
Board Vote	November 2026
Rule becomes state effective	June 2027
New fees become effective	July 1, 2027

Questions

Mark A. Reynolds

Environmental Consultant

Tennessee Department of Environment and Conservation

Division of Air Pollution Control

mark.a.reynolds@tn.gov

(615) 708-0760



Department of
**Environment &
Conservation**

Enforcement Penalty Workgroup

Alvin Pratt

November 12, 2025

Tennessee's Growth and Compliance Challenges

- The Division has experienced increasing compliance concerns over the last several years that are distinct from what has been experienced historically. Examples include:
 - Increasing number of facilities constructing and operating without a permit;
 - Challenges with compliance demonstration in stack testing following start up; and
 - Building an entire, large facility without proper air pollution capture and control equipment.
- To ensure the Division's compliance and enforcement activities were not contributing to concerning trends in compliance, the Division analyzed our work to calculate and apply civil penalties in enforcement matters.
- The Division sought to evaluate whether civil penalties were being assessed
 - In compliance with the TDEC penalty matrix;
 - In similar fashion to other Divisions at TDEC; and
 - Aligned with other state air agencies in the region

Enforcement Penalty Group Purpose

Compare

- Penalty Assessments

Reduce

- Number of Violations
- Need for larger enforcement staff

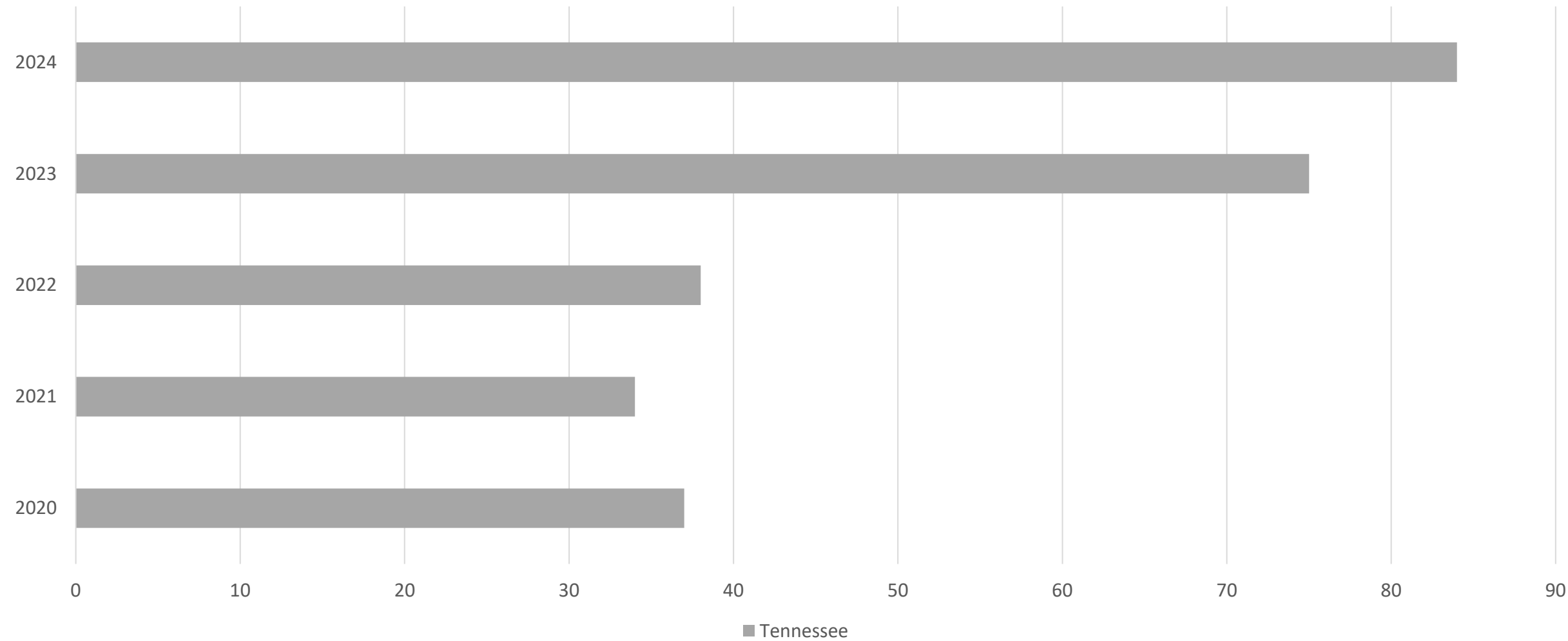
Ensure

- No EPA overstep
- Return to compliance in a timely manner

Protect

- Provide Cleaner Air for all Tennesseans

Tennessee Enforcement Workload



Average Penalty Amount



Kentucky
\$27.43

Mississippi
\$126.69

South
Carolina
\$25.37

Alabama
\$63.27

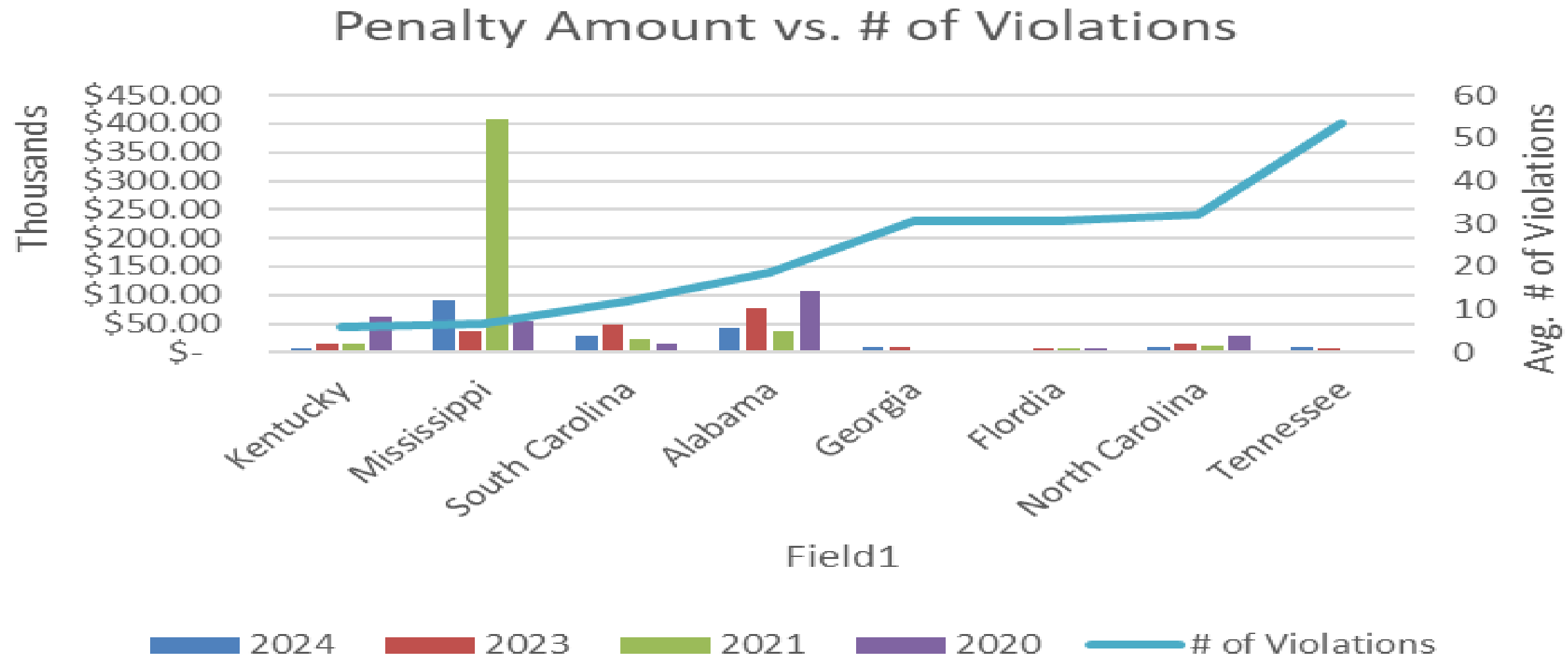
Georgia
\$8.06

Florida
\$7.83

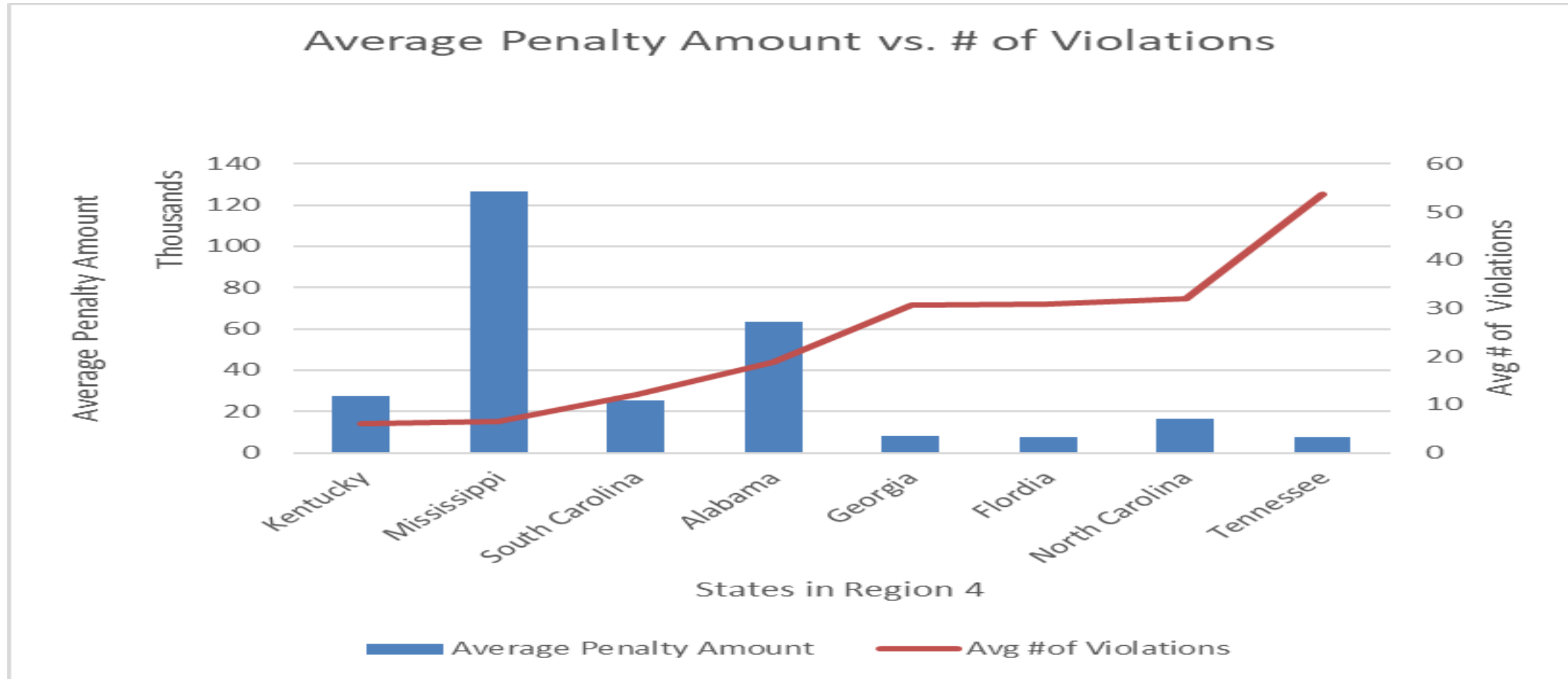
North
Carolina
\$16.68

Tennessee
\$7.43

Penalty Amount vs. Number of Penalties



Average Penalty Amount vs. Number of Penalties



Guidelines

True Minor Facilities

- [1-14-2025 APC Penalty Worksheet for True Minor Facilities.docx](#)

Conditional Major Facilities

- [1-14-2025 APC Penalty Worksheet for True Minor Facilities.docx](#)

Title V Facilities

- [1-14-2025 APC Penalty Worksheet for Title V Facilities.docx](#)

Overview



Summary

Enforcement
Penalty
Guidelines

Summary

Upfront Penalties (UP)

TM/CM, TV	True Minor	Conditional Major	Title V
Low/Minor	\$1,500 (6% of max)	\$2,250 (9% of max)	\$3,000 (12% of max)
Mid/Moderate	\$2,250 (9% of max)	\$8,000 (32% of max)	\$9,500 (38% of max)
High/Major	\$3,000 (12% of max)	\$20,000 (80% of max)	\$22,500 (90% of max)

Multi-Day Component (MDC) Daily/Monthly

Low/Minor	\$100 (0.4% of max)	\$350 (1.4% of max)	\$600 (2.4 % of max)
Mid/Moderate	\$350 (1.4% of max)	\$400 (1.6% of max)	\$1,200 (4.8% of max)
High/Major	\$600 (2.4 % of max)	\$1,000 (4% of max)	\$3,000 (12% of max)
Monthly	After 30 days	After 60 days	After 90 days

First Occurrence (FO)

NFA	NFA	NFA
-----	-----	-----

Designations

Moderate Designation

- HAPS Are Emitted
- NSPS

Major Designation

- MACT/GACT/NESHAP
- Potential Contributor of Violations of NAAQS
- Located in a non-attainment area or in a maintenance area
- Operating without required air pollution control equipment

**For each designation, the source is involved with any of the listed conditions

Summary – Continued

Violation	FO/UP/MDC
Constructing Without a Permit	n/y/y
Operating Without a Permit	n/y/y
Operating Without Required APC Equipment/Monitoring Devices	n/y/y
Failure To Maintain Records and Logs	n/y/y
Emissions Related Violations	n/y ¹ /n ²

Summary – Continued

<u>Minor Only Violations</u>	FO/UP/MDC
Failure to notify the division of Change in Officials (permit condition)	y/y/n
Late submittal of start-up certification	n/y/y
Late submittal of operating permit application	n ³ /y/y
Failure to submit information requested by the Division	n/y/n
Failure to maintain records or logs	n/y/4
Late Reports	
Exceedances other than from emissions	

Late Reports	
1	Penalties escalate if Title V thresholds are exceeded
2	The Division will evaluate on a case-by-case basis
3	Yes, for True Minor sources, if application has been received
4	Refer to Late Report Chart
1st offence	none, warning
2 nd offence	Higher of Monthly or repeat adjustment
3 rd offence	Monthly + repeat adjustment
4 th offence	Daily + repeat adjustment

Next Steps



APC Board Briefing
November 12, 2025



Chamber of Commerce Presentation
February or March 2026



Show of the South Presentation
May 14 or 15, 2026



Publish to APC website for 30 - day comment period
Before June 1, 2026



Initiate New Policy Guidelines
July 1, 2026



THANK YOU