TENTATIVE AGENDA
STATE OF TENNESSEE
REGULAR MEETING
AIR POLLUTION CONTROL BOARD
Nashville Room, 3rd Floor Tennessee Tower
312 Rosa L. Parks Avenue
In Person and
Remote Access Via WebEx link

Wednesday, October 11, 2023
9:30 A.M.

	Item	Presenter	Page
1.	Roll Call		
2.	Approval of the August 09, 2023, Board Meeting Minutes		2
3.	Title V Workload Analysis BO-23-005	James Johnston	7
4.	Title V Fee Diversification	James Johnston	52
5.	NSPS Rulemaking	Mark Reynolds	144
6.	General Business: Board Attorney Introduction and Public Chapter 300	Grant Ruhl	489
	Questions from the Public or Online Participants		

Air Pollution Control Board
of the
State of Tennessee
Regular Meeting

On Wednesday August 09, 2023, 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 3rd Floor of the Tennessee Tower in the Nashville Room. The following Board members were physically present.

Dr. Ronne' Adkins
Dr. Joshua Fu
Mr. Mike Haverstick
Dr. Shawn Hawkins
Mr. Richard Holland
Ms. Caitlyn Jennings
Mayor Ken Moore
Mr. Stephen Moore
Ms. Amy Spann
Mayor Larry Waters
Mr. Jimmy West

The following Board member joined the meeting via WebEx

Dr. Chunrong Jia

The following Board members were absent:

Dr. John Benitez
Mr. Nicholas Ramos

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

Ms. Caitlyn Jennings joined the meeting at 9:38. Ms. Jennings was not present for the Roll Call nor Approval of the Minutes.

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

Dr. Adkins	Present	Dr. Benitez	Absent
Dr. Fu	Present	Mr. Haverstick	Present
Dr. Hawkins	Present	Mr. Holland	Present
Ms. Jennings	Absent	Dr. Jia	Webex
Mayor Moore	Present	Mr. Moore	Present
Mr. Ramos	Absent	Ms. Spann	Present
Mayor Waters	Present	Mr. West	Present

Ten (10) Board members were present, One (1) participated via WebEx and Three (3) were absent.

The next item on the agenda was the approval of the minutes from the June 14, 2023, Board meeting. The Vice-Chairman requested a motion to approve the minutes. Mayor Moore made a motion to approve the minutes and Mr. Joshua Fu seconded the motion. The Vice-Chairman asked if there were any additions or corrections to the minutes. Hearing none, the Vice-Chair asked for a roll call and the response was as follows:

Dr. Adkins	Yes	Dr. Benitez	Absent
Dr. Fu	Yes	Mr. Haverstick	Yes
Dr. Hawkins	Yes	Mr. Holland	Yes
Ms. Jennings	Absent	Dr. Jia	Yes
Mayor Moore	Yes	Mr. Moore	Yes
Mr. Ramos	Absent	Ms. Spann	Yes
Mayor Waters	Yes	Mr. West	Yes

The motion carried with Eleven (11) affirmative votes; the minutes were approved as presented.

Mr. Travis Blake presented a draft Board Order approving the extension of PSD construction permit 974192 for Holston Army Ammunition Plant.

Ms. Amy Crawford of BAE Systems (the Operating Contractor for Holston Army Ammunition Plant) answered questions from Board members, and the Board approved the extension.

The Vice-Chairman requested a motion to approve the PSD Permit Extension Holston Army Ammunition Plant Board Order 23-004. Mr. Richard Holland made a motion to approve, and Mayor Ken Moore seconded the motion.

The Vice-Chair asked for a Roll Call and the response was as follows:

Dr. Adkins	Yes	Dr. Benitez	Absent
Dr. Fu	Yes	Mr. Haverstick	Yes
Dr. Hawkins	Yes	Mr. Holland	Yes
Ms. Jennings	Yes	Dr. Jia	Yes
Mayor Moore	Yes	Mr. Moore	Yes
Mr. Ramos	Absent	Ms. Spann	Yes
Mayor Waters	Yes	Mr. West	Yes

The motion carried with Twelve (12) affirmative votes; PSD Permit Extension Holston Army Ammunition Plant Board Order 23-004 was approved.

Mr. Jimmy Johnston presented the Regional SIP Revision. On June 20, 2023, permit 980891 was issued to TVA-Cumberland. Mr. Johnston proposed the Regional Haze SIP revision would incorporate a portion of permit 980891 into the plan.

Mr. Marc Corrigan addressed the Board regarding the Shelby County Health Department's fourth quarter report.

Last year on June 8th, this Board approved the renewal of the Certificate of Exemptions for Tennessee's four local air pollution control agencies. In Board Order 22-008 the Board included conditional language with respect to the renewal of the Certificate of Exemption for Shelby County. The ultimate goal established in the Board Order is for Shelby County Health Department to receive a "close-out" letter from EPA indicating the outstanding issues in the 2019 Technical Systems Audit have been addressed.

This final progress report demonstrates the Shelby County Health Department has addressed EPA's concerns in the 2019 TSA. Shelby County Health Department has submitted all the outdated standard operating procedures to EPA, as well as a revised Quality Assurance Project Plan on or before March 23rd.

Also, the progress report demonstrates the Shelby County Health Department has addressed concerns regarding title five permitting activities. All backlogged title five permits have been issued and no permits are beyond their regulatory issue deadline.

A close-out letter from EPA, dated May 25th, indicating that the findings and concerns identified in the 2019 Technical Systems Audit report have been successfully resolved.

Then, Mr. Corrigan welcomed to the podium Dr. Michelle Taylor Director of the Shelby County Health Department. Dr Taylor thanked the board for their patience and consideration throughout the 2019 EPA Audit process.

Kasia Smith Alexander Administrator Shelby County Health Department and Environmental Health Services then presented the Final 4th Quarter Report.

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 10:13 am.

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

Approved at Nashville, Tennessee on October 11, 2023

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(Signed) Mayor Larry Waters, Vice-Chairman

Tennessee Air Pollution Control Board

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

Department of Environment & Conservation

FY2025 Title V Workload Analysis

October 11, 2023

Overview

- 1200-03-09-.02(9)(d)(iv): "The emission fee rates enumerated in subpart (iii) [dollar per ton rates] of this part must be supported by the Division's annual workload analysis that is approved by the Board."
- Not subject to rulemaking requirements of Uniform Administrative Procedures Act
- Fiscal Year FY2025 (July 1, 2024, to June 30, 2025)

Workload Estimates (FTEs)

- Overall Workload Based on Actual Activity from FY2023 and Planned Activity for FY2025
- Title V Portion of Work Based on:
  - Actual Title V/Non-Title V Ratio from Smog Log or Edison
  - Title V Specific Activity Information (e.g., number of Title V inspections, number of Title V permits and modifications)
- One FTE = 1601.5 hours per year
  - Considers Holidays, Sick Leave, and Annual Leave
  - Number of holidays reflects addition of Juneteenth as a state holiday by the Tennessee General Assembly during the 2023 legislative session

FY2025 Workload Estimates (FTEs)

Functional Unit	FY2024Title V FTEs
Administrative Services	4.0
Director’s Office	3.0
Small Business Environmental Assistance Program	2.0
Compliance Validation Program	4.8
Enforcement Program	2.5
Field Services Program	12.6
Permitting Program	15.1
Regulatory Development Program	4.4
Emissions Inventory and Special Projects Program	3.1
Ambient Monitoring Quality Control Program	2.5
Ambient Monitoring Quality Assurance Program	2.1
Total	**56.4**

Projected Title V Expenses

Category	Projected FY2025 Expenses
Regular Salaries, Longevity, & Bonuses	$4,200,000
Benefits	$1,800,000
Air Pollution Control General & Administrative Expenses	$1,070,000
TDEC General & Administrative Expenses	$1,100,000
Total	**$8,170,000**

Title V

Workload Analysis

Fiscal Year 2024-2025

Division of Air Pollution Control
October 11, 2023

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Executive Summary

Title V Workload Analysis
By the
State of Tennessee
Department of Environment and Conservation
Division of Air Pollution Control

Title V of the Clean Air Act (CAA) and its implementing regulations in 40 CFR Part 70 require the Division of Air Pollution Control to operate a Title V Operating Permit Program. Paragraph 502(b)(3) of the CAA and 40 CFR 70.9 require the collection of fees sufficient to fully fund the program. The proposed methods for implementation and the evidence of financial adequacy to implement and operate a federally approved CAA Title V Operating Permit Program (Title V Program) are described herein.

The CAA Amendments of 1990 included many changes and substantive differences in the body of regulations that comprise the CAA. None are as far reaching in effect as the regulations that detail the procedures for an operating permit program for air contaminant sources and for assessment and collection of fees to allow the regulated sources to pay for the permitting related activities. Each permitting authority identifies, inventories, assesses, and issues permits to all affected sources. Title V fee collection must provide the means for each state air pollution program or permitting authority to fully fund Title V work efforts.

The Division of Air Pollution Control (the Division or APC) within the Tennessee Department of Environment and Conservation (TDEC or the Department) is responsible for permitting air contaminant sources in Tennessee. Upon review and acceptance of the Title V permitting program by the United States Environmental Protection Agency (EPA) on August 28, 1996, the Division became the State's major source Title V permitting authority in 91 of 95 counties in Tennessee. Davidson, Hamilton, Knox and Shelby counties have local air pollution control programs that operate under Certificates of Exemption from the Tennessee Air Pollution Control Board (APC Board). These agencies regulate the Title V sources within their jurisdictions that are not owned by the State of Tennessee. Local air program activities are not addressed in this plan. TDEC retains the permitting authority for state-owned sources in these counties.

Title V related activities are projected to require 56.4 full-time equivalent (FTE) positions in fiscal year 2024-2025 (FY2025).

This Implementation Plan consists of eleven (11) separate functional units within the Division, plus the Small Business Environmental Assistance Program[1], which has various responsibilities and functions related to Title V. Briefly, these units are:

Administrative Services
Director's Office
Small Business Environmental Assistance
Compliance Validation
Enforcement
Field Services
Permitting
Regulatory Development
Emissions Inventory and Special Projects
Ambient Monitoring Quality Control
Ambient Monitoring Quality Assurance

The activities of each of these units are described in this Workload Analysis. Each functional unit has identified the portion of total workload that can be attributed to Title V activities. In addition to the activities described in this plan, support services are provided to the Division by other bureaus, divisions, and offices within TDEC and the Bureau of Environment (BOE). Each of the divisions and offices within TDEC are charged for these services in accordance with formulae established by TDEC and BOE. A portion of these TDEC General and Administrative (G&A) expenses are charged to Title V. Further descriptions of these support services are described in the section of this plan entitled "TDEC General and Administrative Expenses".

The part 70 presumptive fee rate ($/ton) effective for the 12-month period of September 1, 2023, through August 31, 2024, is $61.73. This fee rate represents an increase of 5.43149% (or $3.18) from the fee rate in effect for the prior 12-month period ($58.55). This increase is based on a calculation of the average monthly change in the Consumer Price Index (All Urban Consumers) for the 12-month period of September 2022 through August 2023 as reported by the U.S. Bureau of Labor Statistics. This information is included for reference purposes only, since Tennessee's Title V fees are not based on the federal presumptive minimum fee rate.

[1] Subparagraph 502(b)(3)(A) of the CAA requires that the costs of programs established to fulfill the requirements of section 507 of the CAA (i.e., small business stationary source technical and environmental compliance assistance programs) be funded by Title V fees.

INTRODUCTION

Title V of the CAA mandates that states develop a major source operating permit program, commonly called the Title V Operating Permit Program. The CAA further mandates that the program be funded solely through fees collected from affected sources. Additionally, the CAA requires that the activities of a Small Business Assistance Program must be paid through these fee collections. Subparagraph 502(b)(3)(A) of the CAA requires that a state must establish a fee schedule that results in the collection and retention of revenues sufficient to cover the permit program costs. Subparagraph 502(b)(3)(B) of the CAA states that a fee program shall be deemed adequate if the amount of fees collected is no less than $25 per ton of actual emission, as adjusted by the percentage, if any, by which the Consumer Price Index for the most recent calendar year ending before the beginning of such year exceeds the Consumer Price Index for the calendar year 1989 (i.e., the "presumptive minimum" fee). Should a state elect to establish a fee schedule that would result in the collection and retention of an amount less than the amount that would be presumed to be adequate using the presumptive minimum fee approach, the state must provide a detailed accounting that its fee schedule meets the requirements of 502(b)(3)(A). The Tennessee Air Pollution Control Board has historically elected to prepare an annual workload analysis and set the fees for the upcoming year(s) instead of using the presumptive minimum approach.

EPA regulations promulgated to implement and more thoroughly describe Title V may be found at 40 CFR Part 70, section 70.9 of the federal regulations.

The workload analysis is prepared in accordance with Tennessee Air Pollution Control Regulation (TAPCR) 1200-03-26-.02(9)(d) to provide justification of fees to the public, the regulated community, and the EPA. Additionally, disclosure of this information leads to the development of informed consent and, therefore, acceptance of the program by stakeholders.

On June 14, 2023, the APC Board approved a Title V workload analysis that covered fiscal year 2023-2024 (FY2024). This workload analysis reflects projected workload for fiscal year 2024-2025 (FY2025).

Many complex requirements are mandated in the CAA and the Part 70 regulations that serve to demonstrate that the state permitting agency will be able to carry out its responsibilities. Section 70.4(b)(8) calls for a description of the program, a demonstration of fiscal soundness of the planned program based on fee projections, and planning for adequate personnel to administer the program.

Tennessee has seen a significant growth in new and expanding industry. This affects both Title V and non-Title V activity of the Division. The increased Title V activity related to this growth is reflected in this workload analysis.

Several things could happen to require the workload analysis be revised and subsequently modified. These possibilities include but are not limited to:

- Changes in the air contaminant source population will alter the workload. Many sources have obtained "conditional major" status wherein they opt out of Title V by limiting their potential to emit via a federally enforceable limitation. The Division views the work effort to make a Title V source a conditional major source as Title V work. These sources require more frequent inspections and record reviews to verify that they are operating below the Title V thresholds; and

- Changes in applicable requirements mandated by EPA will also alter the workload.

- Increased workload due to increased business activities at existing facilities and new facilities locating in the state.

The workload analysis is provided for each functional unit of the Division. The work of each unit plus the Title V work from the Small Business Environmental Assistance Program is described as it relates to the

requirements of Title V. Estimated hours necessary to accomplish the task and, for some functional units, the numbers of tasks to be completed per year are projected.

Combining the hours projected to complete the Title V work and dividing it by 1,601.5 hours per employee available work time yields the total number of full-time equivalents (FTEs) needed to conduct Title V work.

The 1,601.5 hours of work time per employee w.as derived as follows:

Scheduled Payroll Hours per Year	=	1950
Less: Holiday, Vacation & Sick Leave Hours (13.5 Days + 21 Days + 12 Days) X 7.5 hrs./day	=	- 348.5
Total Work Hours per Employee	=	1601.5

Note that the number of holidays per year has increased by one with the addition of Juneteenth as a state holiday by the Tennessee General Assembly during the 2023 legislative session.

For many of the work units described in the following sections, the Title V eligible work associated with members of each work unit are estimated as a percentage of total time. All employees are required to enter work time into the Department's personnel management system known as Edison for payroll purposes. Starting with FY2018, the Division made changes to the Edison system that tied all time and other expenses, such as travel expenses, directly to the appropriate funding source. For the Division of Air Pollution Control, available funding types are Title V or non-Title V[2]. This system also allows the Division to track time and expenses on a program and location level. These changes to Edison have resulted in a significant improvement in assessing the percentage of each work unit's time. For all work activities that could not be directly related to a funding type, such as training, administrative functions, and leave, time is charged to a pre-set Title V/non-Title V "split" ratio. The split ratio is set based on a historical ratio of 52% Title V/48% non-Title V. For most of the work units described in this workload analysis, Title V and non-Title V workload estimates for FY2025 are based on actual data from FY2023 or as otherwise specified in following sections of this analysis.

In addition to Edison, most of these work units track Title V and non-Title V time on a daily basis using the Division's database known as Smog Log. Smog Log allows some work units to track time spent on specific projects, such as a permit or inspection.

[2] Non-Title V funding includes annual emissions fees paid by non-Title V facilities, construction permit application fees, modification permit application fees, visible emissions certification fees, section 105 air quality grant funds received from EPA, state appropriations, and civil penalties.

ADMINISTRATIVE SERVICES

Administration involves activities both directly and indirectly associated with support of the Title V Program. These activities include permit and report tracking, issuance of Notices of Authorization to construct and operate under permits-by-rule, training coordination, processing travel claims, website management, APC board support, fee support, procurement, database management and support, and customer inquiries. The Administrative Services section also provides general administrative support for the entire Division including personnel activities, grants support, management of supplies, reception desk, etc.

Workload supports 4.0 FTEs of Title V work for Administrative Services.

CALCULATION BASIS	Except for work that is directly related to the Permit-by-Rule program (which encompasses only non-Title V sources), Title V administrative activities are based on billing data compiled from FY2022 through FY2023 for the Administrative Services program and the procurement staff member. The workload for this work unit includes the Administrative Services team lead and staff including a procurement staff member who reports to a different member of the Division's leadership team.
ASSUMPTIONS	The percentage of work that is Title V is assumed to be the same as historical workload (51%).

Table 1 – Administrative Services Title V Workload

ACTIVITIES	ESTIMATED TITLE V HOURS/YR	ESTIMATED TITLE V FTE/YR
APC Data Management – Smog Log	2805	1.75
Administrative Support & Management	2430	1.52
Product Procurement	530	0.33
Office Supply Management	164	0.10
Record Maintenance	255	0.16
Training	153	0.10
TOTAL	**6337**	**3.96**

DIRECTOR'S OFFICE

The office of the Director is responsible for overseeing the operation of the functions necessary for the development and performance of the Division, including the Title V Program. The Director serves as the Technical Secretary of the Air Pollution Control Board. The Director's Office is also responsible for coordinating and providing technical support to the Air Pollution Control Board, as well as providing support to the Tennessee Emergency Management Agency during emergency events, both natural and manmade, that impact ambient air quality. The Director's office provides program direction and oversight, coordinating Departmental goals with Division programs and providing reporting, support documents and informational documents for the Department and legislature concerning the operation of the Division. The Director's Office is also responsible for the financial performance of the Division and all associated grant management and support. Included in the Director's Office are individuals who provide management and technical support for multiple programs within the Division. For the purpose of this workload analysis, the Director's Office includes the Director, the Deputy Director of Permitting and Regulatory Development, the Deputy Director of Environmental Measurement and Compliance Assurance, the technical lead for Environmental Measurement and Compliance Assurance, the Environmental Fellow, and the Business Administrator. Activities of the Deputy Director for Field Services and the Field Services technical lead are included in the Field Services portion of this analysis. Activities of the technical lead for Permitting and Regulatory Development are included in the Permitting portion of this analysis.

Workload supports 3.0 FTEs of Title V work for the Director's Office.

CALCULATION BASIS	Title V workload was calculated by the number of existing staff assigned to the Director's Office in this Workload Analysis times the percentage of their workload that is estimated to be Title V related. Percent Title V workload for the Deputy Director for Permitting and Regulatory Development is the average of three programs (Permitting, Regulatory Development, and Emissions Inventory; average = 54%) and the Deputy Director and the technical lead (EC4) for Environmental Measurement and Compliance Assurance is the average of four programs, excluding PM2.5 funded time (Technical Services, Quality Assurance, Compliance Validation, and Enforcement; average = 51%). The Title V percentage for each of these programs is based on billing data gathered during FY2019 through FY2023. Title V time for all other positions is based on billing data compiled from FY2019 through FY2023 for the Administrative Services and Directors Office staff (48%).
ASSUMPTIONS	It is assumed that the Title V activities of the Deputy Director of Permitting and Regulatory Development, Deputy Director and the technical lead of the Environmental Measurement and Compliance Assurance programs are the same percentage as the average of the programs in which they lead. For all other positions, the percentage of work that is Title V is assumed to be the same as historical workload.

Table 2 – Director's Office Title V Workload

ACTIVITIES	ESTIMATED TITLE V HOURS/YR	ESTIMATED TITLE V FTE/YR
Deputy Director of Permitting and Regulatory Development	865	0.54
Deputy Director and Technical Lead of Environmental Measurement and Compliance Assurance	1634	1.02
Three Other Director's Office Positions	2306	1.44
TOTAL	**4805**	**3.00**

SMALL BUSINESS ENVIRONMENTAL ASSISTANCE PROGRAM

Program Overview

Section 507 of the CAA requires an environmental compliance assistance program in each state to support small businesses in understanding and complying with air quality regulations. The CAA also requires this program to be funded entirely with Title V fees. Tennessee's program provides confidential assistance free of charge to small businesses. Services include permitting assistance, onsite visits, training, a toll-free hotline, regulatory notifications, outreach, and guidance in preventing and eliminating non-compliance situations. A small business is defined as one that has 100 or fewer employees, is not a major stationary source, and meets the federal Small Business Act's definition of a small business.

Required Program Components

(1) State Ombudsman
The Small Business Ombudsman represents small business in regulatory matters, identifies and proposes solutions to small business technical and compliance problems.
(2) Environmental Technical Assistance
Staff members provide technical, administrative, and permitting assistance. Staff members inform businesses of regulatory requirements in easy-to-understand language. When needed, staff members conduct on-site visits and provide training opportunities.
(3) Compliance Advisory Panel (CAP)
An advisory panel comprised of individuals appointed by the Governor and the legislature, plus one Department representative, is required. The Panel advises and provides technical, administrative and evaluation assistance to the program. The CAP is a seven-member panel.

Program Activities

New Regulations/Sources

- Staff members review regulations, determine potentially impacted sources, develop a strategy for notification and assistance, develop compliance assistance tools, conduct training programs, and work with regulatory programs on outreach activities.
- Staff members assist the Division of Air Pollution Control in developing regulations and programs that impact small businesses.
- Staff members assist potential new companies in understanding regulatory requirements.
- Staff members participate in monthly conference calls on regulations with other SBEAPs and EPA.

Existing Sources

- Staff members respond to small business compliance and permitting questions.
- Staff members monitor enforcement reports to determine sectors with compliance problems and develop compliance assistance strategies.
- Staff members assist companies in meeting permit conditions, including developing tools to meet recordkeeping requirements.
- Staff members assist companies in resolving non-compliance issues, as well as assisting companies in utilizing the Department's self-disclosure audit policy.

Workload supports 2.0 FTEs of Title V work for the Small Business Environmental Assistance Program.

CALCULATION BASIS

Title V of the Clean Air Act requires activities of the small business assistance programs and the small business ombudsman be funded by Title V fees. Thus, the number of FTEs is based on the current staffing levels of the SBEAP program.

ASSUMPTIONS It is assumed that the SBEAP is fully staffed, and that workload reflects historical levels.

Table 3 – Small Business Environmental Assistance Program Workload

ACTIVITIES	ESTIMATED TITLE V HOURS/YR	ESTIMATED TITLE V FTE/YR
Compliance assistance	1609	1.00
Workshops/training events	805	0.50
Material development	402	0.25
Regulatory Development/Notification	201	0.13
Administration/Other	201	0.13
TOTAL	**3218**	**2.01**

COMPLIANCE VALIDATION

The Compliance Validation Program is an enforcement tool for the Division. Compliance Validation provides a key component in the Division of Air Pollution Control's quality assurance program that ensures the accuracy of the data being submitted by Title V facilities certifying compliance.

The Compliance Validation Program maintains the capability to conduct stack testing. The program also retains the capability to: (1) address special situations as directed by higher management, and (2) ensure that all staff conducting stack test observations are adequately trained to competently observe stack testing conducted by contractors or facility personnel. Observation of stack testing ensures that all proper testing procedures are followed, and that facility operation is representative of typical operation. This constitutes the primary job function of the program. Observation of stack testing, followed by a technical review of the reports of this testing, constitutes a major Division effort to validate that the emissions values reported from Title V facilities are as accurate as possible. Continuous Emission Monitoring Systems (CEMS) are utilized by some Title V facilities to determine compliance on an on-going basis. Compliance Validation conducts audits of CEMS data to ensure the data submitted is accurate and reviews emissions reports of CEM data to verify compliance with emission standards. Compliance Validation conducts Visible Emission Evaluator Certification (VEE) schools to train state and industry personnel to certify compliance with visible emission standards. The majority of the work done by this group involves facilities related to Title V.

Responsibility for asbestos renovation and demolition activities are housed within the Compliance Validation Program, but this activity is not considered Title V. The "Other Compliance Validation Activity" category includes activities such as administrative report preparation, file clean-up work, regulatory and SIP work, and assigned special projects.

Workload supports 4.8 FTEs of Title V work for this program.

CALCULATION BASIS

Projected workload was estimated based on actual time and activity data for FY2023. Asbestos demolition and renovation work is funded entirely by non-Title V funds. Data from the Division's Smog Log database from FY2021 through FY2023 was used to determine Title V percentages for most activities. Program management, training, and other activity is based on the average Title V percentage for FY2023 for the entire program (56%).

ASSUMPTIONS

It is assumed that FY2025 workload will be similar to historical workload.

Table 4 – Compliance Validation Program Title V Workload

ACTIVITIES	ESTIMATED TITLE V HOURS/YR	ESTIMATED TITLE V FTE/YR
Stack Testing	231	0.14
Source Test Validation	4194	2.62
In-Stack Monitor Data Validation	349	0.22
In-Stack Monitor Report Review	187	0.12
Visible Emissions Evaluation School	692	0.43
Visible Emissions Data Validation	5	0.00
Program Management	868	0.54
Training	339	0.21
Other Compliance Validation Activity	883	0.55
TOTAL	**7748**	**4.83**

ENFORCEMENT

The Enforcement program is responsible for processing violations discovered in Tennessee by individuals, Division staff, other government agencies, and facilities. Processing of violations includes responding to the regulated community when a violation occurs, issuing Technical Secretary's Orders, issuing letters resolving noncompliance, and tracking penalties and compliance schedules in orders. Additionally, Enforcement staff track and quality assure (QA) compliance-related data using Smog Log. Much of this data is available to the public via the departmental data-viewer website. Enforcement also serves as a point of contact in enforcement matters between the Division and EPA Region 4.

The Enforcement program is also responsible for management and further development of the Division's Oracle database known as Smog Log. This includes writing and modifying code in development and then implementing revisions with the assistance of the State of Tennessee's Strategic Technology Solutions. Enforcement staff members review requests from Division staff for additional features to help determine which requests should be implemented as time and resources allow.

Enforcement staff members update EPA's Compliance and Enforcement database (Integrated Compliance Information System [ICIS-Air]) on a weekly basis, ensuring the data in the Smog Log database is properly reflected in ICIS-Air. Enforcement is also responsible for entering and quality assuring all data entered in ICIS-Air. The data reported to ICIS-Air includes inspections, report reviews, stack tests, continuous emission monitoring audits, formal and informal enforcement actions, penalties assessed and collected, Federally Reportable Violations, High Priority Violations, facility status (Title V, non-Title V, CM), applicable air programs, facility operational status, etc. The data reported to ICIS-Air is available to the public via EPA's ECHO website.

Workload supports 2.5 FTEs of Title V work for this program.

CALCULATION BASIS

The total amount of workload for the program is estimated based on historical time and activity from FY2023. To determine what portion of that workload was Title V related, billing data compiled from FY2018 through FY2023 was evaluated and indicated that 50% of the Enforcement program work is Title V related.

ASSUMPTIONS

Much of the Enforcement Program workload is based on violations reported or discovered by the Division. The Division does not project future violations. Therefore, enforcement activity and other activity of the program (database and computer-related) is assumed to be the same as historical workload.

Table 5 – Enforcement Program Title V Workload

ACTIVITIES	ESTIMATED TITLE V HOURS/YR	ESTIMATED TITLE V FTE/YR
Enforcement Related Activities	1358	0.85
ICIS-Air Data Management	500	0.31
Smog Log Development	430	0.27
APC Data Management	240	0.10
Computer Hardware/Software Support	155	0.09
Training	150	0.15
Special Projects	335	0.21
Program Management	800	0.50
TOTAL	**3968**	**2.48**

FIELD SERVICES

Field Services program staff are located throughout the state in seven Environmental Field Offices: Johnson City, Knoxville, Chattanooga, Cookeville, Nashville, Columbia, and Jackson. A Deputy Director oversees the entire program with the technical assistance of a TDEC-Environmental Consultant 4 (EC4).

Responsibilities:

The Field Services program has the following responsibilities:

- Conduct Comprehensive Evaluations on Title V facilities
- Review the majority of the Title V semi-annual reports (SARs) and annual compliance certifications (ACCs), and review some MACT and NSPS reports
- Operation and maintenance of the state's ambient air monitors
- Review and provide feedback regarding Title V draft permits
- Investigation and resolution of complaints associated with Title V facilities
- Issuance of Notices of Violation; assistance to the Enforcement Program, TDEC's Office of General Counsel, and EPA's Office of Enforcement and Compliance Assurance pertaining to enforcement of violations discovered by the Field Services Program
- Special projects as assigned (only those projects related to Title V issues are included here)
- Responding to inquiries from citizens, EPA, local and state officials, and the regulated community regarding Title V sources
- Responding to emergency response incidents at Title V facilities
- Participation in public meetings and hearings
- Maintenance of reports, records, and other correspondence
- Attendance at training sessions to stay knowledgeable about federal and state requirements, and remain familiar with source types and new emission control devices
- Management of the field offices to ensure that the field services program operates efficiently

Workload supports 12.6 FTEs of Title V work for this program.

CALCULATION BASIS

The number of Title V inspections is based on the current Compliance Monitoring Strategy Plan. Title V facilities will generally be inspected on a biennial basis unless the division receives a complaint on the facility, the facility is categorized as a "mega-site," or the facility had compliance issues during the previous on-site inspection. Total inspection workload is based on the number of planned inspections and average inspection time. Average inspection time is based on the actual time from federal fiscal year 2024 (October 1, 2023, through September 30, 2024). Report reviews is the estimated time for Title V Semi-Annual Report and Annual Compliance Certification reviews, Title V NESHAP report reviews and 84% of the NSPS report reviews. Title V complaint workload is estimated to be 5% of the total complaint workload. Workload associated with the ambient monitoring network is based on planned workload for FY2024 and a 2020 study of the ambient monitoring cost allocation (see Ambient Monitoring Quality Assurance section of this workload analysis). The remaining work, including program management, is based on the default funding split for all Division general activities (52% Title V/48% non-Title V).

ASSUMPTIONS

It is assumed that on-site inspections of Title V sources will generally be conducted on a biennial basis unless the division receives a complaint on the facility, the facility is categorized as a "mega-site", or the facility had compliance issues during the previous on-site inspection. It is assumed that the average time for each inspection, report review time, and the percentage of complaints related to Title V sources will be similar to historical levels.

Table 6 – Field Services Title V Workload

ACTIVITIES	ESTIMATED TITLE V HOURS/YR	ESTIMATED TITLE V FTE/YR
Title V Inspections	4995	3.12
Report Reviews	2607	1.63
Complaint Investigations	290	0.18
Ambient Monitoring	2782	1.74
Training	1997	1.25
Review of Draft Permits	428	0.27
Special Projects	1404	0.88
Program Management	3172	1.98
Meetings	1124	0.70
Administrative Activities	1300	0.80
TOTAL	**20,099**	**12.55**

PERMITTING

Permitting staff are based in the Nashville Central Office and the Knoxville Environmental Field Office. The permitting program consists of four sector-based permitting sections. Each section consists of one Environmental Manager 3, one Environmental Consultant 3, and an average of five permit writers. A Deputy Director oversees the entire program with the technical assistance of a TDEC-Environmental Consultant 4 (EC4) and a TDEC Environmental Consultant (EC3) that handles complex permitting issues. The Deputy Director's time is included in the Director's office.

Responsibilities:

The Permitting program has the following responsibilities:

- Issuance of conditional major source construction and operating permits (only funding of the first conditional major operating permit that must undergo Title V public notice procedures for a facility is included in this analysis)
- Issuance of construction permits and Title V operating permits to Title V facilities
- Issuance of administrative amendments, minor modifications, and significant modifications to Title V operating permits, as well as operational flexibility determinations
- Issuance of Prevention of Significant Deterioration (PSD) and Non-Attainment New Source Review (NSR) construction permits, including plantwide applicability limit (PAL) permits
- Review of some MACT and NSPS reports, some Title V semi-annual reports (SARs), some annual compliance certifications (ACCs), and review of plans required by MACT and GACT standards (the remaining MACT and NSPS reports, SARs, and ACCs are reviewed by the Field Services Program)
- Issuance of Notices of Violation, assistance to the Enforcement Program, TDEC's Office of General Counsel, and EPA's Office of Enforcement and Compliance Assurance pertaining to enforcement of violations discovered by the Permit Program
- Review of Title V fee Actual Emissions Analysis Required report (AEAR) calculations
- Special projects as assigned (only those projects related to Title V issues are included here)
- Attendance at training sessions to stay knowledgeable about federal and state requirements, and remain familiar with source types and new emission control devices
- Management of the sections to ensure that the permitting program operates efficiently

Table 7 below shows the number of applications, modifications and reports in the system as of September 30, 2023, as well as the number expected in fiscal year 2025. Table 8 is a projection of the hours that will be necessary to review and complete current and new submittals, conduct report reviews, perform Title V related fee duties, enforcement, special projects, and for necessary technical training.

Table 7 – Current and Anticipated New Applications, TV Sources Only

APPLICATION TYPE	Currently in System as of September 30, 2023	EXPECTED NEW SUBMITTALS IN FY2025
Title V Sources – Initial	10	4
Title V Sources – Renewal	98	45
Significant Modifications	13	13
Re-opening for Cause	1	1
Minor Modifications	54	66
Administrative Amendments	10	43
Operational Flexibility and 502(b)(10) Changes	31	28
TV Insignificant Activity Requests	4	17
Title V General Permit NOIs	0	15
Initial Issuance Conditional Major Sources	8	3
TV Construction Permits - Non-Major NSR	29	52
TV Construction Permits - Major NSR (PSD)	2	4
Construction Permit Amendment for Title V Source	6	18
TV Construction Permits - Major NSR (Non-Attainment)	0	0
Initial Major NSR Plant Wide Applicability Limit (PAL) Permits	0	1
PAL renewals	3	0
CAIR and Acid Rain Permits	0	1
TV Semi-annual Reports and Annual Compliance Certifications*	0	86
TV MACT, NSPS, and Miscellaneous Reports*	8	445
TV AEAR Reports	21	118

*This is the number of reports expected to be reviewed by Permit Program staff. The majority of Title V semiannual reports and compliance certifications will be reviewed by Field Services staff.

Workload supports 15.1 FTEs of Title V work for this program.

CALCULATION BASIS

Permitting activity is based on the actual activity data from FY2019 through FY2022 August, FY2023. For most permit types, the average of all data was used. The projected number of non-Major NSR construction permits is based on July-September 2023, extrapolated for a full year. The number of PAL permits and CAIR/Acid Rain permits is based on the number of each that are scheduled to expire in FY2024.

The number of reports projected to be reviewed is based on the number that are currently due over the course of a year that will be reviewed by permit staff.

Workload for each permitting activity is calculated by multiplying the estimated number of each activity by the average estimated time for each type of activity. The time it

takes to complete each permitting activity is generally based on actual activity data from FY2019 through FY2023. Shorter time frames were used for permitting actions whose process was changed during that period. Since no PALs were issued in FY2023, the workload is based on recent experience. The Division intends to develop its first Title V general permit in FY2024. The Title V portion of program management, training, special projects, and other permitting time is based on the default funding split for all Division general activities (52% Title V/48% non-Title V).

ASSUMPTIONS

It is assumed that the number of non-PSD Title V construction permit and Title V minor modification applications received in FY2025 is consistent with what has been received during the first quarter of FY2024. There are 45 Title V permits that expire between January 2025, and December 2025. Since Title V renewal applications are due 6 months prior to expiration, it is assumed that 45 renewal applications will be received in FY2025. It is assumed that the number of PSD construction, initial conditional major, initial Title V operating permits, Title V significant modifications, Title V minor modification, Title V administrative amendments, amendments to construction permits for Title V sources, Title V insignificant activity determination requests, Title V operational flexibility change applications and re-openings for cause are the same as the average of FY2019 through FY2023. It is assumed that the Division will issue General Permit Notices of Coverage for the Title V General Permit mentioned above. It is assumed that the number of reports required to be reviewed by the permit program will remain unchanged. There are 12 facilities in the state with acid rain permits. Based on the expiration dates of those permits, it is assumed that one will be issued in FY2025. There are 5 facilities in the state with PAL limits in their Title V permit. Based on the expiration dates of those permits, it is assumed that none will be renewed in FY2025. It is assumed that one new PAL application will be received in FY2025. It is assumed that this will contain PALs for 4 pollutants (the average for all existing and pending PAL permits). It is assumed that the time to complete all permitting activities is the same as it was for FY2019 through FY2023. If some or all of these assumptions do not come to fruition or the business needs continue to increase at an unexpected rate, additional resources (i.e., FTEs) may be needed to satisfy the Title V permitting program workload. If additional FTEs are needed, they will be addressed in future workload analyses. For the sake of this workload analysis, all EC4 workload is included with the permitting program even though that position also does rule and SIP development, fee-related work, and supports other programs within the Division.

Table 8 – Projected Permitting Title V Workload

ACTIVITIES	ESTIMATED TITLE V HOURS/YR	ESTIMATED TITLE V FTE/YR
Title V sources permit preparation – new sources	720	0.45
Title V sources permit preparation – renewals	8100	5.06
Significant Modifications	640	0.40
Re-opening for Cause	40	0.02
Minor Modifications	1848	1.15
Administrative Amendments	384	0.24
Operational Flexibility and 502(b)(10) Changes	140	0.09
Title V Insignificant Activity Determinations	55	0.03
Title V General Permit Notices of Coverage	53	0.03
Initial Issuance Conditional major sources	360	0.22
Non-major NSR construction permits	2340	1.46
Major NSR permits	1050	0.66
Amendments to construction permits for Title V sources	162	0.10
Initial PAL permits	360	0.22
PAL Renewals	0	0.00
CAIR and Acid Rain Permits	78	0.05
Semiannual Report and Annual Compliance Certification Review	138	0.09
MACT, NSPS, and Miscellaneous Report Review	636	0.40
AEAR Report Review	224	0.14
Program Management	3328	2.08
Training	1248	0.78
Special Projects	1040	0.65
Other Title V Permitting Time[3]	1248	0.78
TOTAL	24,192	15.10

[3] Other Permitting time includes APC Board support, complaint investigation, corresponding with EPA, work with multi-jurisdictional organizations, corresponding/assisting the public, enforcement activity, fee support, and administrative activity.

REGULATORY DEVELOPMENT

The Regulatory Development program has the following responsibilities[4]:

- Development of revisions to Tennessee's air quality rules
- Development of revisions to Tennessee's State Implementation Plan (SIP)
- Computer modeling (dispersion modeling) to support the Division's permitting program
- Photochemical computer modeling to support the development of SIPs and special projects
- Policy analysis and development to assist the Division's Environmental Fellow and TDEC's Policy Office or to address air quality-specific issues Special projects as assigned
- Attendance at training sessions to stay knowledgeable of federal and state regulatory and SIP requirements, and technical training related to air pollution sources and controls
- Local program coordination with the four local air programs (Nashville/Davidson, Memphis/Shelby, Chattanooga/Hamilton, and Knoxville/Knox) to ensure local air regulations are as stringent as State requirements, as well as other oversight and coordination duties
- Management of the program to ensure it operates efficiently

Workload supports 4.4 FTEs of Title V work for this program.

CALCULATION BASIS

For most program activities, it is assumed that the Title V portion is the same as historical Title V workload for the regulatory development program following elimination of the motor vehicle emission inspection program. Data from January, 2022, through FY2023 indicates that 51% of all activity is Title V-related. Permit modeling (which mostly involves major source PSD permitting) is assumed to be 90% Title V-related based on actual data.

ASSUMPTIONS

Time is based on upcoming federal requirements and activities as well as projected permitting workload.

Table 9 – Regulatory Development Title V Workload

ACTIVITIES	ESTIMATED TITLE V HOURS/YR	ESTIMATED TITLE V FTE/YR
Rule and SIP Development	2288	1.43
SIP/Rule Reconciliation	245	0.15
Photochemical Modeling	735	0.46
Permit Modeling	2307	1.44
Local Program Support	327	0.20
Special Projects	408	0.26
Project Management	654	0.41
TOTAL	**6964**	**4.35**

EMISSIONS INVENTORY, FEES, AND SPECIAL PROJECTS

The Emissions Inventory and Special Projects program has the following responsibilities:

- Collecting, quality assuring, and reporting annual and triennial[5] emissions inventories from stationary sources
- Developing and submitting triennial emissions inventories for on-road mobile, non-road mobile and area source inventories (non-Title V work not included in this analysis)
- Managing the Division's Air Emission Inventory databases and updating EPA's databases
- Management of the Division's online system (SLEIS) for collecting annual and triennial emissions inventories and AEAR reports including training of regulated sources
- Requesting and collecting (SIP-required) annual NOx and VOC emission statements from sources in applicable counties and providing technical assistance to those sources
- Providing technical support to the Department's Division of Fiscal Services pertaining to air permit-related fee invoicing and tracking of fee payment
- Delinquent Title V fee collection
- Title V fee AEAR tracking, review, data management, and, when necessary, enforcement
- Annual Title V fee invoicing
- Revisions to Title V fee system
- Special projects as assigned (only those projects related to Title V issues are included here)
- Attendance at training sessions to stay knowledgeable about federal and state emissions inventory requirements and technical training related air pollution sources and controls
- Providing assistance for virtual board meetings and other virtual meetings and hearings
- Management of the program to ensure it operates efficiently

In addition to the above listed activities, the Emissions Inventory and Special Projects program started work to identify systems to replace the SLEIS emissions inventory and AEAR on-line reporting and management system. During FY2023, the Division was informed that the operating system of SLEIS will not be supported in the near future.

Workload supports 3.4 FTEs of Title V work for this program.

CALCULATION BASIS

Workload for each task is estimated based on actual time and activity data for upcoming requirements. The percent of the program's existing work that is Title V related is based on billing data from FY2019 through FY2023. Billing data compiled from all activities documented from for this period indicates that 59% of the Emissions Inventory and Special Projects program work was Title V related.

ASSUMPTIONS

It is assumed that the percentage of work related to Title V is consistent with historical workload plus upcoming federal requirements and activities. It is assumed that the SLEIS replacement work will be handled using existing manpower including an assessment of any additional Title V funding to procure a replacement solution.

[5] On July 25, 2023, U.S. EPA proposed revisions to the federal emissions reporting rule. Among other things, this proposed rule includes mandatory reporting of Hazardous Air Pollutants and increased the reporting frequency for all point sources from triennially to annually. In the "Overview Fact Sheet Proposed Updates to the AERR", EPA states "For states, local, and certain tribal air agencies, estimated annual costs are $335,000 per agency, on average, from 2024 to 2026, and $326,000 per agency, on average, beginning in 2027, the year the proposed rule would be fully implemented."

Table 10 – Emissions Inventory and Special Projects Title V Workload

ACTIVITIES	ESTIMATED TITLE V HOURS/YR	ESTIMATED TITLE V FTE/YR
Emission Inventory	3499	2.18
Fee Collection and Support	945	0.59
Special Projects	94	0.06
Training	189	0.12
Administration	94	0.06
Program Management	567	0.35
TOTAL	**5388**	**3.36**

AMBIENT MONITORING QUALITY CONTROL

There are two programs that are responsible for the Division's Ambient Monitoring Network, the Quality Control program and the Quality Assurance program. The primary responsibility of the Quality Control program is to monitor ambient air quality across the state to assess compliance with national ambient air quality standards. This is accomplished by operating a network of air monitoring stations throughout the state that record air quality data that is subsequently stored in EPA's national database. The work requires continuing evaluation of all monitoring sites to ensure that each site conforms to federal ambient air quality monitoring site criteria and remedying or relocating the sites to the extent necessary to render the site compliant. Monitors require bench and field servicing to ensure all components of the monitors are in compliance with manufacturer specifications and EPA requirements and are calibrated to assure they give a true reading of air quality. Shelter maintenance is also required to make certain the internal shelter temperatures meet federal requirements, that the shelters have no air/water intrusion leaks, that periodic theft and vandalism damages are rectified, and that the electrical/data communication lines are properly connected. In the event of a lightning strike, significant effort must be undertaken to restore the site's operability. While the ambient air monitors measure the emissions impact of all types of air contaminant sources, a portion of those sources are Title V facilities and those facilities must pay a portion of monitoring expenses.

Workload supports 2.5 FTEs of Title V work for this program.

CALCULATION BASIS

Projected workload was estimated based on actual time and activity data The Division receives CAA section 103 grant funds each year to partially fund the Quality Control program's personnel costs. As a result, approximately 20% of the Ambient Monitoring program's personnel costs is paid using section 103 funds. Upon request of the Air Pollution Control Board, the Division determined the proper cost allocation for the ambient monitoring network (which includes both the Quality Control program and the Quality Assurance program as well as a portion of the Field Services program) based on the sources of air pollutants and precursors in Tennessee. The findings of this analysis were presented to the board on June 10, 2020 and showed, that after subtracting the portion of the PM2.5 network funded by section 103 funds, the proper cost allocation is 52% Title V and 48% non-Title V. When combining these percentages, the projected Quality Control workload is estimated to be 42% Title V, 38% non-Title V, and 20% section 103.

ASSUMPTIONS

It is assumed that there will be no significant changes to the network as the result of federal or state requirements. The next EPA Technical Systems Audit is scheduled for calendar year 2025. For the purpose of this workload analysis, it is assumed that it will occur in FY2025.

Table 11 – Quality Control Title V Workload

ACTIVITIES	ESTIMATED TITLE V HOURS/YR	ESTIMATED TITLE V FTE/YR
Data Management – Input	15	0.01
Data Verification	1385	0.87
Document Development	84	0.05
Equipment Repair, Calibration, and Certification	1134	0.71
Monitoring Site Evaluation and Documentation	105	0.07
EPA Technical Systems Audit	147	0.09
Personnel Activities	294	0.18
Program Management	609	0.38
Special Projects	63	0.04
Training	210	0.13
TOTAL	**4046**	**2.53**

AMBIENT MONITORING QUALITY ASSURANCE

There are two programs that are responsible for the Division's Ambient Monitoring Network, the Quality Control program and the Quality Assurance program. The Quality Assurance program provides an independent review of ambient air quality monitoring measurements and data reduction/reporting of those measurements prior to uploading the data to EPA's national ambient air database. This process is referred to as data validation. The program is also responsible for the coordination, development, and review of Standard Operating Procedures (SOPs) for each type of ambient air monitor used, Quality Assurance Project Plans (QAPPs), and any other documents that may be necessary to ensure that quality procedures have been developed and are being followed by operators of ambient air monitors in Tennessee for regulatory purposes. Having data that is trusted to be accurate is essential for compliance with federal requirements, regulatory decision making, and for the public to know, with assurance, the quality of the air they breathe.

In addition to developing quality assurance documents and making certain that they are followed, the staff of the Quality Assurance program periodically audit monitoring sites operated within Tennessee's State or Local Air Monitoring Stations (SLAMs) network and sites at industrial facilities and within the Great Smoky Mountains National Park. The purpose of these audits is to ensure that ambient data being collected for evaluating regulatory compliance meet quality standards. If issues arise during these performance audits, Quality Assurance staff are responsible for coordinating a corrective action plan with the monitoring site operation personnel to minimize data loss.

The meteorology staff members are responsible for air quality forecasting. These staff members use meteorological parameters and current air quality conditions to predict future air quality. The forecast information is provided to the public so that informed decisions can be made to protect health and also to plan activities that lessen impact on air quality during high pollution days.

Workload supports 2.1 FTEs of Title V work for this program.

CALCULATION BASIS

Projected workload is based on time and activity data similar to information presented in the Quality Control section of this workload analysis. The Division receives CAA section 103 grant funds to partially fund the Quality Assurance's personnel cost. Using the same calculations as described in that section, projected Quality Assurance program workload is assumed to be 20% section 103, 42% Title V, and 38% non-Title V.

ASSUMPTIONS

It is assumed that there will be no significant changes to the network as the result of federal or state requirements.

Table 12 – Quality Assurance Title V Workload

ACTIVITIES	ESTIMATED TITLE V HOURS/YR	ESTIMATED TITLE V FTE/YR
Air Quality Forecasting	588	0.37
AQS Data Validation	420	0.26
Field Auditing	265	0.17
Local Program Field Auditing	420	0.26
Audit Equipment Repair, Calibration, and Certification	189	0.12
Certification and Calibration for Local Programs	84	0.05
EPA Technical Systems Audit	147	0.09
Personnel Activities	168	0.10
Program Management	504	0.31
Document Development	210	0.13
SOP Development	21	0.01
Training	210	0.13
Special Projects	126	0.08
TOTAL	**3352**	**2.08**

SUMMARY OF FTEs BY FUNCTIONAL UNIT

The following table shows the projected FY2025 FTEs needed to complete all Title V activities as indicated in this workload analysis. In addition, the actual Title V FTEs for the past five fiscal years (FY2019 through FY2023) and projected Title V FTEs for FY2024 from the FY2024 Title V Workload Analysis are presented below.

Functional Unit	FY2019 Actual FTEs	FY2020 Actual FTEs	FY2021 Actual FTEs	FY2022 Actual FTEs	FY2023 Actual FTEs	Projected FY2024 FTEs	Projected FY2025 FTEs
Administrative Services[6]	3.3	4.2	3.9	3.6	3.0	3.8	4.0
Director's Office	3.7	3.1	2.4	3.0	2.8	3.0	3.0
Small Business Assistance	2.0	1.9	1.5	2.0	2.0	2.0	2.0
Compliance Validation	4.1	3.6	3.5	4.0	4.7	3.6	4.8
Enforcement	2.7	2.6	2.5	2.5	2.4	2.3	2.5
Field Services	14.1	14.2	14.1	12.5	12.6	12.3	12.6
Permitting	11.7	10.5	10.2	13.4	10.4	13.2	15.1
Regulatory Development	1.9	2.4	2.6	2.2	3.2	3.3	4.4
Emissions Inventory and Special Projects	2.6	2.5	3.2	2.4	1.7	2.4	3.4
Quality Control	2.5	2.1	3.1	2.5	2.5	2.5	2.5
Quality Assurance	1.9	2.5	2.2	2.1	1.8	2.0	2.1
Total Title V FTEs	**50.5**	**49.6**	**49.2**	**50.2**	**45.4**	**50.4**	**56.4**

[6] One position within the Administrative Services program reports to a member of the Leadership team. For FY2019 and FY2020, the Title V work associated with this position was included with the Director's Office. Since the work performed by this position is more administrative in nature, the Title V work associated with this position has been moved to the Administrative Services functional unit for FY2021 and beyond.

TDEC GENERAL AND ADMINISTRATIVE EXPENSES

In addition to Title V eligible costs incurred directly by the Division, the Division is assessed charges by the BOE and TDEC for a number of support activities provided by the other areas of the Department to support the activities of the Division. Some of the Title V related support activities and the offices that provide them are listed below.

- Commissioner, Bureau of Environment Deputy Commissioner and staff, and the Deputy Commissioners of the Bureau of Operations, Strategy, & Engagement and their staff – management and organizational support
- Communications Office – media relations, website management, strategic messaging, video production, and social media engagement
- Office of Stakeholder Engagement – outreach and communication to department stakeholders, including local government, other government agencies, the regulated community, public interest groups, and citizens; public meeting and hearing support; sustainable practices, and management of the Small Business Environmental Assistance Program
- People and Organizational Development Office – all personnel related services including human resources, talent management, and employee relations
- Continuous Process Improvement Office – intra-agency and interagency business improvement efforts
- Workplace Risk Management Office – occupational and workplace safety and medical monitoring
- Office of General Counsel – rulemaking and SIP development support, enforcement activity, legislative services, administrative legal services, policy and guidance interpretation and development, emergency response, risk and safety planning
- Internal Audits Division - facilitates the promotion of good governance by performing audit, assurance, and consulting services that address key risks central to TDEC's strategies and objectives and helps improve internal controls, transparency, and accountability of operations.
- Office of Policy & Planning – support with rule, SIP, and policy development that require in-depth research, strategic planning, NEPA review coordination, comparison to other state or national programs, and coordination with other state agencies or entities
- Finance and Budget Office – budget development and management as coordinated with the overall department budget, fee collections, and centralized accounting
- Operational Administrative Services – procurement of all necessary equipment and supplies, including monitoring network assets and field and office supplies, equipment inventory and asset management, grants and contracts, and vehicle management
- Data Governance & Records Management – records and facilities management, Alternative Workplace Solutions (AWS) coordination
- Field Office administrative support staff – support APC Field Services, Compliance Validation, Permitting, and Technical Services staff in seven field offices

G&A expenses are charged to the Division according to formulae based on the percentage of the Division's budget in proportion to that of other BOE division budgets and special reserve funds and the Division's headcount. The Division's G&A expenses are charged to Title V funds, non-Title V funds, and federal grant income.

TITLE V EXPENSE ESTIMATES

An important step in developing a Title V fee system is to estimate future expenses to determine if projected revenue, together with the available reserve balance, is sufficient to fund the Title V permitting program. As mentioned earlier, federal regulations preclude the use of non-Title V funds for funding Title V activities. Thus, a failure to collect sufficient funds through the Title V fee system would have significant ramifications on the efficacy of Tennessee's Title V Program and economic development within the state and could eventually lead to federal intervention. Therefore, when designing a Title V fee system, the Division plans for a reserve at year-end to account for unexpected expenses and unanticipated reductions in fee revenue.

Historical and projected expenses are broken down into four categories: 1) salaries, longevity, and bonuses, 2) benefits, 3) Air Pollution Control (APC) General & Administrative (G&A) Expenses, and 4) TDEC G&A Expenses. APC G&A expenses include expenses such as travel, rent and utility costs for ambient monitoring sites, shipping costs, maintenance and repair costs, third-party professional and administrative expenses, office supplies, field and laboratory supplies, equipment purchases, and charges from other state agencies for services such as telephone and computer services, office rent, liability insurance, general accounting, purchasing, human resources, and legal services. TDEC G&A expenses are described earlier in this document.

Personnel costs: Personnel costs include salaries, benefits, longevity[7] and bonus pay[8]. Personnel costs are based on the number of positions for each functional unit for FY2025 based on demonstrated workload explained in this Workload Analysis. Longevity and bonus costs are added to regular salaries based on historical levels. $25,000 is then added to account for terminal leave. Benefit costs are approximately 45% of salary costs.

APC General & Administrative (G&A) Expenses: APC G&A expenses are forecasted based on historical trends.

TDEC General &Administrative (G&A) expenses: Not-to-exceed TDEC G&A expenses were provided by TDEC's Budget and Financial Planning Division.

[7] Longevity pay is based on years of service once an employee has been in state service a certain number of years.

[8] Bonus pay is a feature of the Tennessee TEAM Act's Pay-for-Performance system that awards employees for advanced and outstanding performance.

Table 14 – Historical and Projected Title V Expenses								
Expense Description	**FY2018**	**FY2019**	**FY2020**	**FY2021**	**FY2022**	**FY2023**	**Projected FY2024**	**Projected FY2025**
Regular Salaries, Longevity, & Bonus	$3,377,781	$3,546,448	$3,485,437	$3,449,044	$3,693,953	$3,809,843	$4,000,000	$4,200,000
Benefits	$1,494,311	$1,503,257	$1,463,404	$1,429,963	$1,611,779	$1,691,175	$1,750,000	$1,800,000
APC General & Administrative Expenses	$919,969	$653,654	$628,698	$529,628	$638,178	$630,020	$1,050,000	$1,070,000
TDEC General & Administrative expenses	$1,014,803	$0[9]	$0[9]	$850,291	$891,375	$750,201	$1,000,000	$1,100,000
Grand Total	$6,806,864	$5,703,359	$5,577,539	$6,321,925	$6,835,285	$6,881,239	$7,800,000	$8,170,000

[9] No TDEC G&A expenses were charged to the Division in FY2019 or FY2020.

FISCAL MANAGEMENT

The Division has established an accurate financial accounting structure and work practices such that Division and Department expenses can be monitored and properly allocated. This system has been institutionalized within the Division and will continue in FY2025.

The Division will continue, in FY2025, to use travel and training resources efficiently and utilize video conferencing tools effectively.

HISTORICAL TITLE V FEE AND EXPENSE DATA

Tables 15 and 16 on the next two pages show historical Title V information. Table 15 is based on income and expenses during each fiscal year, which runs from July 1st through June 30th. This table is intended to match up with fiscal budget periods. Table 16 provides emissions and financial information for each year of the Title V fee program since 2002. Each row in Table 16 contains information about the Title V fees that were due in a particular year based on that year's fee rates. In each year, the fees for a particular year are due in two different fiscal years. This table is intended to illustrate the trends in emissions and fee collections for each year's Title V fee system.

The two tables present information in slightly different time periods. Historically, Title V fees were based on allowable or actual emissions from July 1st of one year to June 30th of the next (i.e., the state fiscal year) and due on July 1st. Since it was usually impossible for a company to determine and report actual emissions on June 30th, fees based on actual emissions were usually received after July 1st, which is the next fiscal year. Since interest and late penalties don't apply until a fee is 15 days late, a large portion of Title V fees were received between July 1st and July 15th each year. There is also a provision in the fee rules that allow some companies (those paying on an actual or mixed emissions basis) to apply for a 90-day extension on reporting and paying fees. Thus, facilities that could not submit payments by July 15th could, and frequently did, request extensions until September 29th each year without incurring penalties. Both of these situations resulted in a significant amount of Title V fees being collected in the fiscal year following the year in which the fees are based. This is reflected in fiscal year 2015-2016 during which the financial practice of allowing payments received between July 1st and July 15th to be credited for the previous fiscal year ended.

In 2018, the Title V fee deadlines changed with calendar year-based fees (which became an option to fiscal year-based fees) due on April 1st of each year as well as an estimated 60% of a facility's fees due the same date for facilities that continued to determine fees based on fiscal year emissions. Fees based on allowable emissions are also due April 1st. Ninety-day extensions are still available for facilities who determine fees based on actual emissions. However, with these changes, a much larger percentage (approximately 95%) of Title V fees are now collected in the year in which the fees are based.

Note that the projected and collected tons indicated in Table 16 excludes allowable and reported actual tons for facilities that paid the minimum fee.

Table 15 – Historical Title V Collections and Expenses

Fiscal Year	Fees	Interest, penalties, and internet processing fees	Transfer In	Expenditures	Balance
2002-2003					$1,387,223.12
2003-2004	$5,780,573.30	$17,261.10		$5,299,426.96	$1,885,630.56
2004-2005	$5,773,095.32	$33,124.15		$6,289,281.06	$1,402,568.97
2005-2006	$6,806,903.33	$62,547.16		$6,604,384.65	$1,667,634.81
2006-2007	$6,170,217.54	$67,707.22		$6,993,064.19	$912,495.38
2007-2008	$7,116,004.10	$35,456.47		$7,254,796.79	$809,159.16
2008-2009	$7,939,773.17	$21,518.17		$6,613,669.61	$2,156,780.89
2009-2010	$7,587,853.93	$9317.34		$6,415,182.16	$3,338,770.00
2010-2011	$5,800,630.50	$5527.40		$7,261,266.44	$1,883,661.46
2011-2012	$6,336,163.20	$1636.87		$7,463,530.81	$757,930.72
2012-2013	$6,891,980.16	$1113.83		$6,844,668.87	$806,355.84
2013-2014	$6,844,856.89	$9484.30		$6,543,335.07	$1,117,361.96
2014-2015	$7,040,610.80	$1129.83		$6,694,005.01	$1,465,097.58
2015-2016	$5,321,521.83	$2108.31	$1,919,777.74[10]	$6,094,831.92	$2,613,673.54
2016-2017	$4,617,895.15	$9697.10		$5,687,186.70	$1,554,079.09
2017-2018	$6,293,711.88	$945.29		$6,818,383.34	$1,030,352.92
2018-2019	$6,347,961.86	$5268.62		$5,703,359.09	$1,591,187.35
2019-2020	$5,774,457.15	$7320.71		$5,577,539.13	$1,795,426.09
2020-2021	$6,088,563.08	$1355.56		$6,321,925.04	$1,589,911.20
2021-2022	$6,204,515.21	$114.00		$6,835,285.12	$1,277,400.69
2022-2023	$7,365,769.12[11]	$4756.93		$6,881,239.32	$1,942,272.68

[10] During fiscal year 2015-2016, the Division determined that $1,919,777.74 in non-Title V expenses had been charged to Title V fees over a several year period. This was corrected at the end of fiscal year 2015-2016, resulting in an increased Title V fee balance at the beginning of fiscal year 2016-2017.
[11] Includes construction application fees for Title V sources starting with FY2022-2023

Table 16 - Historical Tonnage Projections & Collections and Historical Fees

Year Fees Due	Number Companies/Facilities	$/Ton Allowable Emissions	$/Ton Actual Emissions	Minimum /Base Fee*	Projected Total Tons	Total Tons Collected	Projected Allowable Tons	Allowable Tons Collected	Projected Actual Tons	Actual Tons Collected	Projected Companies Paying Min./Base	Companies Actually Paying Min./Base	$ Amount Billed	$ Amount Collected
2023 Non-EGU	200	$48.50	$70.50	$10,000/ $6000	87,035	83,367	66,415	62,876	20,620	20,491	41	39	$5,740,853	TBD
2023 EGU	9	$68.00	$98.50	$10,000/ $6000	17,573	18,922	8015	8015	9578	10,907	0	0	$1,673,915	TBD
2022 non-EGU	200	$40.20	$64.20	$9000/ $5000	96,985	87,035	76,901	66,415	20,084	20,620	46	46	$5,095,923	$5,095,923
2022 EGU	9	$57.00	$90.00	$9000/ $5000	19,850	17,593	6535	8015	13,315	9578	0	0	$1,363,867	$1,363,867
2021 non-EGU	198	$40.20	$64.20	$9000/ $5000	93,258	86,598	73,246	66,363	20,0013	20,235	56	55	$5,176,865	$5,134,053
2021 EGU	9	$57.00	$90.00	$9000/ $5000	19,850	14,313	6535	8015	13,315	6298	0	0	$1,068,698	$1,068,698
2020 non-EGU	202	$33.50	$53.50	$7500/ $4000	92,783	96,985	71,943	76,901	20,840	20,084	49	55	$4,361,916.31	$4,383,491.96
2020 EGU	9	$47.00	$75.00	$7500/ $4000	17,724	19,850	4264	6535	13,460	13,315	0	0	$1,341,788,20	$1,341,788.20
2019 non-EGU	204	$33.50	$53.50	$7500/ $4000	90,255	93,206	70,769	73,181	19,486	20,024	57	59	$4,413,431.57	$4,386,631.42
2019 EGU	9	$47.00	$75.00	$7500/ $4000	19,675	20,420	4323	8264	15,352	12,156	0	0	$1,336,098.20	$1,336,098.20
2018 non-EGU	201	$32.50	$43.00	$7500	78,116	86,627	58,114	63,343	20,002	19,284	109	107	$3,787,675.97	$3,780,175.97
2018 EGU	9	$39.00	$49.50	$7500	27,994	26,737	16,642	12,323	11,352	14,414	2	1	1,201,499.94	1,201,499.94
2017 non-EGU	205	$32.50	$43.00	$7500	83,580	108,057	65,071	76,008	18,509	21.292	108	98	$4,083,515.65	$3,916,319.73
2017 EGU	9	$39.00	$49.50	$7500	27,994	28,235	16,642	16,532	11,352	11,719	2	0	$1,224,857.24	$1,224,857.24
2016 non-EGU	205	$32.50	$43.00	$7500	124,500	100,365	104,000	81,260	20,500	19,105	105	97	$4,215,224.16	$4,059,712.98
2016 EGU	11	$39.00	$49.50	$7500	43,000	41,259	39,500	36,603	3500	4656	3	4	$1,691,011.45	$1,691,011.45
2015 non-EGU	205	$28.50	$39.00	$7500	119,500	114,977	102,000	99,567	17,500	15,410	201	200 (83 only paid base)	$4,739,853.72	$4,692,656.26
2015 EGU	10	$45.50	$56.00	$7500	48,000	49,781	46,000	47,616	2000	2165	10	10 (1 only paid base)	$2,362,785.29	$2,362,785.29
*2014 non-EGU	201	$28.50	$39.00	$7500	118,000	121,396	101,000	103,650	17,000	17,746	201	200	$4,712,238.32	$4,646,138.70
*2014 EGU	10	$45.50	$56.00	$7500	57,000	48,802	55,000	46,648	2000	2154	10	10	$2,318,133.81	$2,318,133.81
2013 non-EGU	211	$29.50	$40.00	$7500	184,000	125,576	160,000	105,256	24,000	20,320	105	102	$4,403,500	$4,096,563.73
2013 EGU	9	$45.50	$56.00	$7500	65,000	60,425	62,500	58,110	2500	2315	3	3	$2,795,416.43	$2,795,416.43
2012	214	$28.50	$39.00	$7500	200,000	190,232	175,000	165,782	25,000	24,450	105	108	$5,973,274.94	$6,167,959.21
2011	220	$24.50	$35.00	$6500	210,000	204,961	190,000	179,953	20,000	25,008	110	106	$5,682,497	5,800,630.50
2010	221	$28.50	$39.00	$7500	217,064	211,344.7	195,801	191,346	21,263	19,999	105	111	$7,298,632.70	$7,587,853.93
2009	239	$28.50	$39.00	$7500	217,064	232,996	195,801	206,725.8	21,263	26,271	115	110	$7,835,606.93	$7,939,773.17
2008	243	$26.50	$37.00	$7500	230,489	234,615.4	213,772	207,541.6	16,717	27,073.8	88	119	$7,394,083.80	$7,317,445.36

2007	244	$22.50	$33.00	$5000	257,989	236,936.8	238,232	214,385.8	19,757	22,551	100	96	$6,093,539.15	$6,095,634.93
2006	250	$21.50	$32.00	$4500	284,639	259,420	256,578	232,764	28,061	26,656	100	92	$5,976,181.77	$6,000,240.56
2005	264	$19.50	$30.00	$3500	324,896	290,030.7	294,836	262,405.1	30,050	27,625.6	80	80	$5,869,607.39	$5,874,970.52
2004	267	$19.50	$30.00	$2500	330,731	287,381.9	309,213	258,052.4	21,519	29,329.5	72	56	$6,024,377.47	$6,032,675.99
2003		$17.50	$28.00		321,279								$	$
2002		$13.00	$21.70		382,476								$	$

*For FY 2013-2014, the Division replaced the minimum fee of $7500 with a base fee of $7500. All sources with total allowable emissions (excluding CO) of 250 TPY or less paid only the base fee. All sources with total allowable emissions (excluding CO) greater than 250 TPY paid the base fee plus their total tonnage (excluding CO) times the applicable $/ton value (actual, allowable, or mixed basis). This is also the case for 2014-2015. In 2015-2016, the base fee was replaced with the minimum fee. A base fee was re-instated in 2018-2019 and the minimum fee was retained.

Table 17 - Historical Federal Presumptive Minimum and Part 71 Fees

Presumptive Minimum			Part 71	
Effective	**Fee Rate**		**Effective**	**Fee Rate**
Sept 1989 – Aug 1990	$ 25.00			
Sept 1990 – Aug 1991	$ 26.21			
Sept 1991 – Aug 1992	$ 27.59			
Sept 1992 – Aug 1993	$ 28.43			
Sept 1993 – Aug 1994	$ 29.30			
Sept 1994 – Aug 1995	$ 30.07			
Sept 1995 – Aug 1996	$ 30.93		Calendar Year 1996	$ 32.00
Sept 1996 – Aug 1997	$ 31.78		Calendar Year 1997	$ 32.88
Sept 1997 – Aug 1998	$ 32.65		Calendar Year 1998	$ 33.78
Sept 1998 – Aug 1999	$ 33.21		Calendar Year 1999	$ 34.35
Sept 1999 – Aug 2000	$ 33.82		Calendar Year 2000	$ 34.98
Sept 2000 – Aug 2001	$ 34.87		Calendar Year 2001	$ 36.07
Sept 2001 – Aug 2002	$ 36.03		Calendar Year 2002	$ 37.27
Sept 2002 – Aug 2003	$ 36.60		Calendar Year 2003	$ 37.86
Sept 2003 – Aug 2004	$ 37.43		Calendar Year 2004	$ 38.72
Sept 2004 – Aug 2005	$ 38.29		Calendar Year 2005	$ 39.61
Sept 2005 – Aug 2006	$ 39.48		Calendar Year 2006	$ 40.84
Sept 2006 – Aug 2007	$ 41.02		Calendar Year 2007	$ 42.43
Sept 2007 – Aug 2008	$ 41.96		Calendar Year 2008	$ 43.40
Sept 2008 – Aug 2009	$ 43.75		Calendar Year 2009	$ 45.25
Sept 2009 – Aug 2010	$ 43.83		Calendar Year 2010	$ 45.33
Sept 2010 – Aug 2011	$ 44.48		Calendar Year 2011	$ 46.00
Sept 2011 – Aug 2012	$ 45.55		Calendar Year 2012	$ 47.11
Sept 2012 – Aug 2013	$ 46.73		Calendar Year 2013	$ 48.33
Sept 2013 – Aug 2014	$ 47.52		Calendar Year 2014	$ 49.15
Sept 2014 – Aug 2015	$ 48.27		Calendar Year 2015	$ 49.93
Sept 2015 – Aug 2016	$ 48.49		Calendar Year 2016	$ 50.16
Sept 2016 – Aug 2017	$ 48.88		Calendar Year 2017	$ 50.56
Sept 2017 – Aug 2018	$ 49.85		Calendar Year 2018	$ 51.56
Sept 2018- Aug 2019	$ 51.06		Calendar Year 2019	$ 52.81
Sept 2019 – Aug 2020	$ 52.03		Calendar Year 2020	$ 53.81
Sept 2020 – Aug 2021	$ 52.79		Calendar Year 2021	$ 54.60
Sept 2021 – Aug 2022	$ 54.37		Calendar Year 2022	$ 56.23
Sept 2022 – Aug 2023	$ 58.55		Calendar Year 2023	$ 60.56
Sept 2023 – Aug 2024	$ 61.73		Calendar Year 2024	$ 63.85

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
BUREAU OF ENVIRONMENT
DIVISION OF AIR POLLUTION CONTROL

IN THE MATTER OF	)	
	)	
	)	
Fiscal Year 2024-2025 Workload Analysis	)	Order Number: 23-005
	)	
	)	
	)	
	)	
	)	

BOARD ORDER

The Fiscal Year 2024-2025 Workload Analysis, as prepared by the Division of Air Pollution Control, was approved by the following Board Members on October 11, 2023. The Workload Analysis is the mechanism used by the Division of Air Pollution Control to determine the Title V annual fees needed to operate the Title V operating permit program in compliance with federal law for recommendation to the Air Pollution Control Board. This Workload Analysis provides an estimate of the manpower and funding needed to support the Title V program in state fiscal year 2024-2025 to ensure compliance with federal law.

This Workload Analysis projects that 56.4 full-time employee hours and $8,170,000 will be needed to conduct Title V-related work in fiscal year 2024-2025.

Category	Projected FY25 Title V Expenses
Regular Salaries, Longevity, and Bonuses	$4,200,000
Benefits	$1,800,000
Air Pollution Control General and Administrative Expenses	$1,070,000
TDEC General and Administrative Expenses	$1,100,000
Total	$8,170,000

Board Member	Aye	No	Abstain	Absent	Signature (if required)
Dr. Ronne Adkins Commissioner's Designee, Dept. of Environment and Conservation					
Dr. John Benitez Licensed Physician with experience in health effects of air pollutants					
Dr. Joshua Fu Involved with Institution of Higher Learning on air pollution evaluation and control					
Michael Haverstick Working in management in Private Manufacturing					
Dr. Shawn A. Hawkins Working in field related to Agriculture or Conservation					
Richard Holland Working for Industry with technical experience					
Caitlin Roberts Jennings Small Generator of Air Pollution representing Automotive Interests					
Dr. Chunrong Jia Environmental Interests					
Ken Moore Working in Municipal Government					
Stephen Moore Working for Industry with technical experience					
Nicholas Ramos Conservation Interests					
Amy Spann, PE Registered Professional Engineer					
Larry Waters County Mayor					
Jimmy West Commissioner's Designee, Dept. of Economic and Community Development					

Department of Environment & Conservation

Title V Program Funding Diversification, General Permit Fees, and Miscellaneous Fee Rule Revisions

October 11, 2023

Proposed Fee Rule Changes for Title V Sources

Annual Title V Fee – Dollar Per Ton and Minimum Fee

- Remains **unchanged** at:
  - Non-EGU Actual - $70.50 per ton
  - Non-EGU Allowable - $48.50 per ton
  - EGU Actual - $98.50 per ton
  - EGU Allowable - $68.00 per ton
- Minimum Fee
  - Currently $10,000
  - Proposal - **Eliminate**

Annual Title V Fee – Title V Modification Fee

- Each Minor Modification Issued - $2800
- Each Significant Modification Issued - $5000
- Billed with Annual Title V Fee

Annual Title V Fee – Base Feee

- Base Fee - Currently $6000 per Facility
- Proposal

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

- Alternative Proposal

Number of federal air quality standards	Base Fee
0 to 1	$15,000
2 to 4	$20,000
5 to 9	$40,000
10 and up	$75,000

Proposed - Application Fees for Title V Sources
1200-03-26-.02(5)(a)2

- Construction Permit Application Fee

Anticipated Maximum Emission Rate	Current Fee (TV & non-TV)	Proposal (TV)	Alternative Proposal (TV)
<10 tons/yr	$100	$7000	$4000
10 to < 100 tons/yr	$500		
100 to < 250 tons/yr	$1000		$8000
250 to < 500 tons/yr	$2000		$15,000
500 to < 1000 tons/yr	$3000		$30,000
1000 to < 5000 tons/yr	$4000		$40,000
≥ 5000 tons/yr	$5000		$50,000

- Fee for Non-TV Sources Remain the same

Proposed - Application Fees for Title V Sources (continued)
1200-03-26-.02(5)(a)2

- Other Application Fees (replaces regular construction fee)
  - PSD and Nonattainment NSR Permit - $70,000
  - PAL (initial or renewal) - $10,000 **per pollutant**
    - Added deadline of 18 months (1200-03-26-.02(5)(e)3.)
  - Title V to Conditional Major Permit - $18,000
    - Added deadline of 18 months (1200-03-26-.02(5)(e)4.)

- All application fees are due upon submission of the application

Proposed Fee Rule Changes for Title V Sources – Comments and Responses

Title V Minimum Fees

- Comments
  - Retain minimum fee and add language that minimum fee be no longer applicable when revised base fee becomes applicable (APC Comment)
- Responses
  - Minimum fee language of 1200-03-26-.02(9)(d)2(ii) retained
  - Added language that subpart 1200-03-26-.02(9)(d)2(ii) no longer applicable when 1200-03-26-.02(9)(d)1(i) through (iii) become effective

Title V Modification Fees

- Comments
  - $5000 (for significant modifications) and $2800 (for minor modifications) seems excessive based on number of documents being processed. This new fee unnecessary.
  - Should be covered by Title V annual fee.
- Responses
  - Entire set of proposed fee rules necessary to cover cost of Title V program
  - Modification fees based on actual workload data:
    - Minor Mods
      - average hours* = 25.7, cost** = $108/hour, = $2776 per minor mod (fee rounded to $2800)
      - average 52 per year* x $2800 = $144,480/year
    - Sig Mods – 10 per year
      - average hours* = 45.5, cost** = $108/hr = $4903 per sig mod (fee rounded to $5000)
      - average 10 per year* x $5000 = $51,000/year

*5-year average of actual activity

**Based on 2022 actual salary data for non-PSD permitting work projected to FY2028. Includes salary, benefits, portion of TDEC G&A costs.

Application Fees for Title V Sources

- Comment
  - Recommends staying with standard fee rather than complicate the matter by having a variable fee schedule
- Response
  - Final rule has flat $7000 construction permit application fee.
- Comment
  - Facility should be allowed to pay any permit fee at time of annual payment
- Response
  - Minor Mod and Sig Mod fee due at time of annual fee payment
  - Construction fee, PSD and Nonattainment NSR fee, PAL fees are “construction fees”. 1200-03-26-.02(4)(a) states “A construction permit application is not considered complete unless the application/filing processing fee has been paid in full.”
  - Once a Title V to Conditional Major permit is issued, source is no longer required to pay annual Title V fee

PAL Renewal Fee

- Comment
  - TDEC-APC should encourage use of PAL permits
    - PALs reduce burden on APC
  - Application fees associated with initial PAL permit are to be expected
  - PAL permit renewal fees are unwarranted
  - Should be covered by annual Title V fees and not separate renewal fee
- Response
  - Entire set of proposed fee rules necessary to cover cost of Title V program
  - PALs eliminate need for PSD and PSD-avoidance permitting. Other permit workload remains unchanged.
  - PAL Renewals require (every 10 years)
    - PAL adjustment based on 1) potential to emit of facility, 2) newly applicable state or federal requirements, 3) updated baseline actual emissions, 4) newly constructed units, 5) air quality needs, 6) advances in control technology, 7) anticipated economic growth in area, 8) to reward or encourage voluntary emission reductions, 9) other factors specified by Technical secretary (1200-03-09-.01(4)(s)10(iv))
    - Adjustment of emission factors based on re-validation performance testing* (1200-03-09-.01(4)(s)12(vi) and 14(iii))
    - Public participation (1200-03-09-.01(4)(s)5)
  - No recent data on man-hours for PAL Renewals
  - PAL renewals, and associated deadlines, not included in final rule. A fee for PAL renewals may be revisited once sufficient data is collected.

*revalidation testing required every 5 years

PAL and Title V to CM Deadline

- Comment
  - 18 month regulatory deadline for 1-pollutant PAL or Title V to Conditional Major application is excessive and hindering business operations
- Response
  - Deadlines for both initial PALs and Title V to Conditional Major permits changed to 12-months, with a provision for a longer issuance time if agreed to by the applicant in writing.
  - These are maximum regulatory deadlines. The Division strives to issue permits within timeframes to meet applicant's business needs.

Existing Modification and PAL Renewal Applications

- Comments
  - “in-process” modification applications (minor and significant) should be grandfathered and exempt from fees
  - PAL renewal applications that have been submitted should be exempt from fee
- Response
  - Modifications with complete applications < 7/1/2024 not subject to Title V modification and initial PAL fees
  - PAL renewal fee not included in final rule

General Permit Fee Rules

General Permit-Related changes

- 1200-03-26-.02(j) – removed fee exemption for General Permits
- 1200-03-26-.02(5)(a)4 – fees for General Permits that serve as construction permits
  - Dry Cleaners - $100
  - Concrete Batch Plants - $100
  - Portable Rock Crushers - $100
  - Asphalt Plants $250
- 1200-03-26-.02(6)(f) – annual fees for General Permits (non-Title V fees)
  - Dry Cleaners - $0
  - Concrete Batch Plants with emissions < 10 tpy - $0
  - Concrete Batch Plants with Emissions >= 10 tpy - $400
  - Portable Rock Crushers at True Minor Facilities - $1000
  - Portable Rock Crushers at Conditional Major Facilities - $1500
  - Asphalt Plants - $1500

General Permit Fee Rules – Comments and Responses

General Permit Fees

- Comments
  - Add $500 construction fee for Air Curtain Incinerators (APC Comments)
  - Support for fees for general permits; fee reasonable; having fee for general permits encourages companies to pay attention to them (TDEC Small Business Ombudsman)
- Responses
  - $500 construction fee added for Air Curtain Incinerator general permits

Miscellaneous/Administrative Fee Rule Changes

Administrative & Miscellaneous Changes

- Chapter 12000-3-02-.01
  - Definition of “Hazardous Air Pollutant” moved from Chapter 26, Administrative Fees Schedule, to Chapter 2, Definitions
- Paragraph 1200-03-26-.02(2), Definitions
  - Definition of “Synthetic Minor” removed
  - Definition of “Permit Amendment” added
  - Added definitions of “Anticipated Maximum Emission Rate (AMER)” and “Anticipated Maximum Increase in Emissions”

Administrative & Miscellaneous Changes

- Paragraph 1200-03-26-.02(3), General Provisions
  - Clarified that emissions from exempt sources not excluded from fees if included in facility-wide limit
  - Removed provision of crediting construction application fee to annual fee if it is determined that construction permit not needed
  - Combined “HAP with a standard” and “HAP without a standard” to just “HAP”
  - Clarified that construction application fees due upon submission of application

Administrative & Miscellaneous Changes

- Paragraph 1200-03-26-.02(5), Construction Fees
  - Clarified that when an existing source needs a new construction permit, new fee is due
  - Clarified that fees due upon submission of application
  - Clarified that revisions to an application (except during initial completeness review) the result in in crease in allowable or actual emissions required payment of one-half or application fee
  - Extended issuance/denial deadline when agreement letter required – 7 days after receipt of agreement letter
  - Extended issuance/denial deadline when compliance schedule required to be placed in permit
    - 21 if no public comment period required
    - 60 days if comment period required and no public hearing held
    - 60 days if comment period required and public hearing announced with comment period
    - 90 days if comment period required, public hearing requested during comment period, and hearing held after close of comment period

Administrative & Miscellaneous Changes

- Paragraph 1200-03-26-.02(6), Annual Fees for Minor and Conditional Major Sources
  - Sources issued a combined construction and operating permit required to pay annual fees upon issuance of combined construction and operating permit
  - Clarified that annual non-Title V fee based on allowable emissions “at the time of the fee assessment by the Division based on the current active permit(s)”
  - Fees for “synthetic minor” sources with allowable emissions below 10 tons/year removed
- Paragraph 1200-03-26-.02(8), Late Fees – Failure to Pay
  - Clarification that no permit or permit renewal will be issued until all fees required by APC Fee rules have been paid
  - Add provision that total penalty & interest shall not exceed three times original fee
  - Remove provision about consulting with Dept. of Finance & Administration to determine interest rate.

Administrative & Miscellaneous Changes

- Paragraph 1200-03-26-.02(9), Annual Fees for Major Sources and Sources Subject to Paragraph (11) of Rule 1200-03-09-.02 (i.e., Title V Fees)
  - Due date for facilities who determine fee based on **actual** or combination of **actual** and allowable on **fiscal year** (July 1 to June 30) – moved from July 1 to August 1
    - Extension for **actual** & **actual**/allowable on **fiscal** year changed from 90 days to 60 days (will still be September 28th)
  - Clarify that fee for sources that pay initial annual fee based on fraction of a calendar year shall pay no less than base fee.
  - Eliminate “Once-In-Always-In” Fee Provision

Administrative & Miscellaneous Changes

- Grammatical corrections
  - PM10 to PM_{10}
  - Several changes to non-Title V construction fee Schedule A
  - Change 5% to “five percent”

Administrative and Miscellaneous Changes– Comments and Responses

General Permit Fees

- Comments
  - Would the individual who signed as “responsible official” be personally liable to pay if the source does not have the ability to? This should be clarified.
- Responses
  - Generally, the “responsible official” is not personally liable for the payment of fees unless there are specific circumstances such as when the responsible official is also the owner or operator of the facility and may have structured the business and personal finances in a way that may make the individual personally liable.

Rulemaking Schedule

- Brief APC Board – 6/14/2023
- Public Hearing – 8/8/2023
- Board Adoption – 10/11/2023
- October, 2023 – June, 2024
  - Governor's Office Approval
  - Attorney General's Review
  - File with Secretary of State
  - Review by Joint Government Operations Committee

Effective Dates

- Effective 7/1/2024
  - For Title V Fees due in 2025
    - Including Fees for Minor Mods and Sig Mods issued in CY2024
    - Does not include modifications with complete applications < 7/1/2024
  - For complete construction permit, PSD and non-attainment NSR, initial PAL, and TV to CM applications submitted on and after 7/1/2024
  - For general permit NOIs submitted on and after 7/1/2024
  - For non-Title V annual fees due after 7/1/2024
  - Miscellaneous and Administrative Changed effective 7/1/2024
    - Including Revised Deadline and Extension for 2024 Fees based on actual or mixed basis
    - Includes Extended Deadlines for Agreement Letters and Compliance Schedules

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Rule ID(s): _____
File Date: _____
Effective Date: _____

Rulemaking Hearing Rule(s) Filing Form

Rulemaking Hearing Rules are rules filed after and as a result of a rulemaking hearing (Tenn. Code Ann. § 4-5-205).

Pursuant to Tenn. Code Ann. § 4-5-229, any new fee or fee increase promulgated by state agency rule shall take effect on July 1, following the expiration of the ninety (90) day period as provided in § 4-5-207. This section shall not apply to rules that implement new fees or fee increases that are promulgated as emergency rules pursuant to § 4-5-208(a) and to subsequent rules that make permanent such emergency rules, as amended during the rulemaking process. In addition, this section shall not apply to state agencies that did not, during the preceding two (2) fiscal years, collect fees in an amount sufficient to pay the cost of operating the board, commission, or entity in accordance with § 4-29-121(b).

Agency/Board/Commission:	Air Pollution Control Board
Division:	Air Pollution Control
Contact Person:	James P. Johnston
Address:	William R. Snodgrass Tennessee Tower 312 Rosa L. Parks Avenue, 15th Floor Nashville, Tennessee
Zip:	37243
Phone:	(615) 253-7319
Email:	james.johnston@tn.gov

Revision Type (check all that apply):

_X_ Amendment
___ New
___ Repeal

___ Content based on previous emergency rule filed on _____
___ Content is identical to the emergency rule

Rule(s) (**ALL** chapters and rules contained in filing must be listed here. If needed, copy and paste additional tables to accommodate multiple chapters. Please make sure that **ALL** new rule and repealed rule numbers are listed in the chart below. Please enter only **ONE** Rule Number/Rule Title per row.)

Chapter Number	**Chapter Title**
1200-03-02	Definitions
Rule Number	**Rule Title**
1200-03-02-.01	General Definitions

Chapter Number	**Chapter Title**
1200-03-26	Administrative Fees Schedule
Rule Number	**Rule Title**
1200-03-26-.02	Construction and Annual Fees

Place substance of rules and other info here. Please be sure to include a detailed explanation of the changes being made to the listed rule(s). Statutory authority must be given for each rule change. For information on formatting rules go to https://sos.tn.gov/products/division-publications/rulemaking-guidelines.

Chapter 1200-03-02
Definitions

Amendments

Paragraph (1) of Rule 1200-03-02-.01 General Definitions is amended by adding a new definition (mmmm) placed in numeric order to read as follows:

(mmmm) “Hazardous air pollutant” or “HAP” means the air contaminants listed in this subparagraph:

CAS No.	Chemical name
75070	Acetaldehyde
60355	Acetamide
75058	Acetonitrile
98862	Acetophenone
53963	2-Acetylaminofluorene
107028	Acrolein
79061	Acrylamide
79107	Acrylic acid
107131	Acrylonitrile
107051	Allyl chloride
92671	4-Aminobiphenyl
62533	Aniline
90040	o-Anisidine
1332214	Asbestos
71432	Benzene (including benzene from gasoline) 92875 Benzidine
98077	Benzotrichloride
100447	Benzyl chloride
92524	Biphenyl
117817	Bis(2-ethylhexyl)phthalate (DEHP)
542881	Bis(chloromethyl) ether
75252	Bromoform
106945	1-Bromopropane
106990	1,3-Butadiene
156627	Calcium cyanamide
133062	Captan
63252	Carbaryl
75150	Carbon disulfide
56235	Carbon tetrachloride
463581	Carbonyl sulfide
120809	Catechol
133904	Chloramben
57749	Chlordane
7782505	Chlorine
79118	Chloracetic acid
532274	2-Chloroacetophenone
108907	Chlorobenzene
510156	Chlorobenzilate
67663	Chloroform
107302	Chloromethyl methyl ether
126998	Chloroprene
1319773	Cresols/Cresylic acid (isomers and mixture) 95487 o-Cresol
108394	m-Cresol

106445	p-Cresol
98828	Cumene
94757	2,4-D, salts and esters
3547044	DDE
334883	Diazomethane
132649	Dibenzofurans
96128	1,2-Dibromo-3-chloropropane
84742	Dibutylphthalate
106467	1,4-Dichlorobenzene(p)
91941	3,3-Dichlorobenzidene
111444	Dichloroethyl ether (Bis(2-chloroethyl)ether)
542756	1,3-Dichloropropene
62737	Dichlorvos
111422	Diethanolamine
121697	N,N-Diethyl aniline (N,N-Dimethylaniline) 64675 Diethyl sulfate
119904	3,3-Dimethoxybenzidine
60117	Dimethyl aminoazobenzene
119937	3,3'-Dimethylbenzidine
79447	Dimethyl carbamoyl chloride
68122	Dimethyl formamide
57147	1,1-Dimethyl hydrazine
131113	Dimethyl phthalate
77781	Dimethyl sulfate
534521	4,6-Dinitro-o-cresol, and salts 51285 2,4-Dinitrophenol
121142	2,4-Dinitrotoluene
123911	1,4-Dioxane (1,4-Diethyleneoxide)
122667	1,2-Diphenylhydrazine
106898	Epichlorohydrin (1-Chloro-2,3-epoxypropane)
106887	1,2-Epoxybutane
140885	Ethyl acrylate
100414	Ethyl benzene
51796	Ethyl carbamate (Urethane)
75003	Ethyl Chloride (Chloroethane) 106934 Ethylene dibromide (Dibromoethane)
107062	Ethylene dichloride (1,2-Dichlorethane)
107211	Ethylene glycol
151564	Ethylene imine (Aziridine)
75218	Ethylene oxide
96457	Ethylene thiourea
75343	Ethylidene dichloride (1,1-Dichloroethane) 50000 Formaldehyde
76448	Hepotachlor
118741	Hexachlorobenzene
87683	Hexachlorobutadiene
77474	Hexachlorocyclepentadiene
67721	Hexachloroethane
822060	Hexamethylene-1,6-diisocyanate
680319	Hexamethylphosphoramide
110543	Hexane
302012	Hydrazine
7647010	Hydrochloric acid
7664393	Hydrogen fluoride (Hydrofluoric acid)
123319	Hydroquinone
78591	Isophorone
58899	Lindane (all isomers)
108316	Maleic anhydride
67561	Methanol
72435	Methoxychlor
74839	Methyl bromide (Bromomethane)

74873	Methyl chloride (Chloromethane)
71556	Methyl chloroform (1,1,1-Trichloroethane) 60344 Methyl hydrazine
74884	Methyl iodide (Iodomethane) 108101 Methyl isobutyl ketone (Hexone)
624839	Methyl isocyanate
80626	Methyl methacrylate
1634044	Methyl tert butyl ether
101144	4,4-Methylene bis(2-chloroniline) 75092 Methylene chloride (Dichloromethane)
101688	Methylene diphenyl diisocyanate (MDI)
101779	4,4-Methylenedianilne
91203	Naphthalene
98953	Nitrobenzene
92933	4-Nitrobiphenyl
100027	4-Nitrophenol
79469	2-Nitropropane
684935	N-Nitroso-N-methylurea
62759	N-Nitrosodimethylamine
59892	N-Nitrosomorpholine
56382	Parathion
82688	Pentachloronitrobenzene (Quintobenzene)
87865	Pentachlorophenol
108952	Phenol
106503	p-Phenylenediamine
75445	Phosgene
7803512	Phosphine
7723140	Phosphorus
85449	Phthalic anhydride
1336363	Polychlorinated biphenyls (Arochlors)
1120714	1,3-Propane sultone
57578	beta-Propiolactone
123386	Propionaldehyde
114261	Propoxur (Baygon)
78875	Propylene dichloride (1,2-Dichloropropane) 75569 Propylene oxide
75558	1,2-Propylenimine (2-Methyl aziridine) 91225 Quinoline
106514	Quinone
100425	Styrene
96093	Styrene oxide
1746016	2,3,7,8-Tetrachlorodibenzo-p-dioxin
79345	1,1,2,2-Tetrachloroethane
127184	Tetrachoroethylene (Perchloroethylene)
7550450	Titanium tetrachloride
108883	Toluene
95807	2,4-Toluene diamine
584849	2,4-Toluene diisocyanate
95534	o-Toluidine
8001352	Toxaphene (chlorinated camphene)
120821	1,2,4-Trichlorobenzene
79005	1,1,2-Trichloroethane
79016	Trichloroethylene
95954	2,4,5-Trichlorophenol
88062	2,4,6-Trichlorophenol
121448	Triethylamine
1582098	Trifluralin
540841	2,2,4-Trimethylpentane
108054	Vinyl acetate
593602	Vinyl bromide
75014	Vinyl chloride

75354	Vinylidene chloride (1,1-Dichloroethylene)
1330207	Xylenes (isomers and mixture)
95476	o-Xylenes
108383	m-Xylenes
106423	p-Xylenes
0	Antimony Compounds
0	Arsenic Compounds (inorganic including arsine)
0	Beryllium Compounds
0	Cadmium Compounds
0	Chromium Compounds
0	Cobalt Compounds
0	Coke Oven Emissions
0	Cyanide compounds[1]
0	Glycol ethers[2, 6]
0	Lead Compounds
0	Manganese Compounds
0	Mercury Compounds
0	Fine mineral fibers[3]
0	Nickel Compounds
0	Polycyclic Organic Matter[4]
0	Radionuclides (including radon)[5]
0	Selenium Compounds

[1] X'CN where X = H' or any other group where a formal dissociation may occur. For example KCN or $Ca(CN)_2$.

[2] Include mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-$(OCH_2CH_2)_n$- OR'. Where:
n = 1, 2, or 3:
R = alkyl C7 or less; or
R = phenyl or alkyl substituted phenyl; R' =
H or alkyl C7 or less; or
OR' consisting of carboxylic acid ester, sulfate, phosphate, nitrate, or sulfonate.

This action deletes each individual compound in a group called the surfactant alcohol ethoxylates and their derivatives (SAED) from the glycol ethers category in the list of hazardous air pollutants established by section 112(b)(1) of the Clean Air Act (CAA).

[3] Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of an average diameter of one micrometer or less.

[4] Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100°C.

[5] A type of atom that spontaneously undergoes radioactive decay.

[6] The substance ethylene glycol monobutyl ether (EGBE, 2-Butoxyethanol) (Chemical Abstract Service (CAS) Number 111-76-2) is deleted from the list of hazardous air pollutants established by 42 U.S.C. § 7412(b)(1).

Authority: T.C.A. §§ 4-5-201, et seq. and 68-201-101, et seq.

Chapter 1200-03-26
Administrative Fees Schedule

Amendments

Part 12 of subparagraph (i) of paragraph (2) of Rule 1200-03-26-.02 is amended by deleting it in its entirety and substituting instead the following:

12. Each hazardous air pollutant actually emitted or allowed to be emitted from a source subject to paragraph (11) of Rule 1200-03-09-.02.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (k) of paragraph (2) of Rule 1200-03-26-.02 Construction and Annual Emission Fees is amended by deleting it in its entirety and substituting instead the following:

(k) Reserved.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Paragraph (2) of Rule 1200-03-26-.02 Construction and Annual Emission Fees is amended by adding three new subparagraphs (t), (u), and (v) to read as follows:

(t) "Permit amendment" is a permit revision that:

1. Corrects typographical errors;

2. Identifies a change in the name, address, or phone number of any person identified in the permit, or makes a similar minor administrative change at the source;

3. Requires more frequent monitoring or reporting by the permittee;

4. Allows for a change of ownership or operational control of a source where the Technical Secretary determines that no other change in the permit is necessary, provided that a transfer of ownership permit application is filed consistent with the provisions of paragraph (6) of Rule 1200-03-09-.03;

5. Incorporates into a true minor source or conditional major source operating permit the requirements of a construction permit issued pursuant to Rule 1200-03-09-.01;

6. Extends the expiration date of a construction permit;

7. Changes the name of a source or facility;

8. Changes a deadline established in a permit; or

9. Adds or revises a monitoring parameter.

(u) "Anticipated maximum emission rate" (AMER) means the maximum rate of actual emissions, in tons per year, from all regulated air pollutants, as defined in part (11)(b)19 of Rule 1200-03-09-.02, emitted from all sources listed in a construction permit application, excluding sources that are not required to obtain a permit in accordance with Rule 1200-03-09-.04. Except as specified below, the responsible official shall calculate AMER based on each source operating at its maximum actual hourly emission rate, as listed in the construction permit application, for 8,760 hours per year.

$$AMER = \sum_{i=1}^{m} \sum_{j=1}^{n} E_{i,j} \; x \; h_j$$

Where:

m = number of pollutants emitted by sources included in the application

n = total number of sources included in the application, excluding sources that are exempt from permitting in accordance with Rule 1200-03-09-.04
E = emission rate in pounds per hour
h = hours per year (8,760 except as specified below)

For applications that do not list a maximum pound-per-hour emission rate for a particular pollutant or source, the responsible official shall use the potential emissions, in tons per year, as listed in the construction permit application. The responsible official may use a reduced emission rate or hours of operation if the same is limited by federal or state air quality regulation, limited by operational constraints within the process (i.e., a bottleneck), or the responsible official has requested a limitation of the same in the construction permit application. Emission of a greenhouse gas that is a regulated air pollutant solely because the pollutant is a constituent of greenhouse gases shall not be included when calculating AMER. Emission of a hazardous air pollutant that is also a VOC or particulate matter shall be counted only as VOC or particulate matter. When calculating the AMER for particulate matter, the responsible official shall use the highest of the source's PM, PM_{10}, or $PM_{2.5}$ emission rate. For construction permit applications that include the retirement of existing sources or the reduction of emissions from existing sources, the AMER shall not include the emission reductions associated with such retirement or reduction of emissions.

(v) "Anticipated maximum increase in emissions" means the anticipated maximum emission rate of the existing source following the change minus the anticipated maximum emission rate prior to the change.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (c) of paragraph (3) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(c) Any source exempted by Rule 1200-03-09-.04 is exempt from the annual emission fee requirements of this chapter, unless emissions from the exempt source are included in a facility-wide emissions limit. However, the emissions from any exempt source must comply with all rules and regulations of the Tennessee Air Pollution Control Board.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (d) of paragraph (3) of Rule 1200-03-26-.02 Construction and Annual Emission Fees is amended by deleting it in its entirety and substituting instead the following:

(d) All construction fees required by paragraph (5) of this rule must be paid in full upon submission of the application.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (h) of paragraph (3) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(h) In the event a fee is paid for a construction permit and it is later determined that only an operating permit is needed or the source is insignificant or otherwise exempt from permitting, 100% of the fee will be forfeited for the permit review.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (i) of paragraph (3) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(i) Where more than one allowable emission limit is applicable to a regulated pollutant, the allowable emissions for the regulated pollutants shall not be double counted.

1. Major sources subject to the provisions of paragraph (9) of this rule shall apportion their emissions as follows to ensure that their fees are not double counted.

(i) For fee purposes, hazardous air pollutants that are also in the family of volatile organic compounds or the family of particulate matter will be included in their respective family category when determining annual emission fees.

(ii) For fee purposes, hazardous air pollutants that are not in the family of volatile organic compounds or the family of particulate matter will be reported separately.

(iii) Each individual hazardous air pollutant is subject to the 4,000-ton cap provisions of subparagraph (2)(i) of this rule.

(iv) Major sources that wish to pay annual fees for PM_{10} on an allowable emission basis may do so if they have a specific PM_{10} allowable emission standard. If a major source has a total particulate emission standard but wishes to pay annual fees on an actual PM_{10} emission basis, it may do so if the PM_{10} actual emission levels are proven to the satisfaction of the Technical Secretary. The method to demonstrate the actual PM_{10} emission levels must be made as part of the source's major source operating permit in advance in order to exercise this option. The PM_{10} emissions reported under these options shall not be subject to fees under the family of particulate emissions. The 4,000-ton cap provisions of subparagraph (2)(i) of this rule shall also apply to PM_{10} emissions.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (j) of paragraph (3) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(j) No construction fee, annual emission fee, or permit review fee under paragraph (1) of this rule shall be imposed for review of notices of intent for authorization under a permit-by-rule or issuance of a notice of authorization.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (a) of paragraph (5) of Rule 1200-03-26-.02 Construction and Annual Emission Fees is amended by deleting it in its entirety and substituting instead the following:

(a) Construction Permit and Opt-Out Permit Application Filing/Processing Fees

1. The fee rates of this subparagraph effective on July 1, 2022, continue to apply until July 1, 2024.

2. On and after July 1, 2024, a responsible official applying for the construction permit (i.e., construction as defined in subparagraph (2)(j) of this rule) required by Rule 1200-03-09-.01, or an opt-out permit, must pay a construction permit application filing/processing fee as follows:

(i) A responsible official of a minor source or a conditional major source must pay construction permit application fees as set forth in subparagraph (g), Schedule A of this paragraph. The fee determined from subparagraph (g), Schedule A of this paragraph shall be calculated based on the definitions of anticipated maximum emission rate and anticipated maximum increase in emissions, as defined in subparagraphs (2)(u) and (v) of this rule.

(ii) A responsible official of a major source or a source subject to paragraph (11) of this rule (hereinafter, "Paragraph 11 source") must pay a construction permit application fee of $7,000.

(iii) Except as specified in subpart (v) of this part, a responsible official applying for a Prevention of Significant Air Quality Deterioration permit as required by paragraph (4) of Rule 1200-03-09-.01 must pay a construction application fee of $70,000.

(iv) Except as specified in subpart (v) of this part, a responsible official applying for a

permit under the provisions of paragraph (5) of Rule 1200-03-09-.01, Growth Policy, must pay a construction application fee of $70,000.

(v) A responsible official applying for a plantwide applicability limit (PAL) under the provisions of subparagraph (4)(s) of Rule 1200-03-09-.01 or part (5)(b)10 of Rule 1200-03-09-.01 must pay an application fee of $10,000 per pollutant.

(vi) A responsible official of an existing Paragraph 11 source applying for an operating permit to opt out of being a Paragraph 11 source, as described in subparagraph (11)(a) of Rule 1200-03-09-.02, by limiting the potential to emit such that the potential emissions of all pollutants are below the major source applicability thresholds, as defined in part (11)(b)14 of Rule 1200-03-09-.02, must pay an application fee of $18,000.

3. On and after July 1, 2024, an applicant for a minor source or a conditional major source applying to make a change to an existing source or permit such that a new construction permit is required must pay a permit application fee as set forth in subparagraph (g), Schedule A of this paragraph. This fee is determined by the anticipated maximum increase in emissions, as defined in subparagraph (2)(v) of this rule, from the anticipated maximum emission rate of the previous construction permit for the source. The fee rates in this part in effect on July 1, 2022, continue to apply until July 1, 2024.

4. On and after July 1, 2024, an owner or operator of a source that submits notice of intent for coverage under a general permit serving as a construction permit shall pay a permit application fee equal to that determined in accordance with the subparagraph (g) of this paragraph, Schedule A fee corresponding to the applicant's anticipated maximum emission rate, unless an alternate construction permit application fee is stipulated in the table below. If Schedule A from subparagraph (g) of this paragraph is used to determine the fee, it shall be determined by the anticipated maximum increase in emissions, as defined in subparagraph (2)(v) of this rule, from the anticipated maximum emission rate of the previous construction permit for the source.

General Permit Category	Construction and Modification Permit Application Fee
Perchloroethylene and Petroleum Solvent Dry Cleaners	$100
Concrete batch plants	$100
Portable rock crushers	$100
Asphalt plants	$250
Air Curtain Incinerators	$500

5. All application filing/processing fees required by this subparagraph are due upon submission of the permit application.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (b) of paragraph (5) of Rule 1200-03-26-.02 Construction and Annual Emission Fees is amended by deleting it in its entirety and substituting instead the following:

(b) 1. The fee rates required by this subparagraph effective July 1, 2022, continue until July 1, 2024.

2. With the exception of changes received during the initial construction permit evaluation period (i.e., prior to the Division letter or email denoting application completeness), all revisions under subparagraph (4)(e) of this rule that result in an increase in allowable emissions sought by the applicant or an increase in actual emissions declared in the original application for a permit shall be subject to a fee equal to the following:

(i) For minor sources and conditional major sources, one-half of the Schedule A fee

corresponding to the applicant's anticipated maximum emission rate, not to exceed $500.

(ii) For Paragraph 11 sources, $3,500.

3. The fee required by subparts 2(i) and (ii) of this subparagraph is determined by the anticipated maximum increase in emissions from the anticipated maximum emission rate of the previous construction permit for the source.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (c) of paragraph (5) of Rule 1200-03-26-.02 Construction and Annual Emission Fees is amended by deleting it in its entirety and substituting instead the following:

(c) Reserved.

T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (e) of paragraph (5) of Rule 1200-03-26-.02 Construction and Annual Emission Fees is amended by deleting it in its entirety and substituting instead the following:

(e) The Division must make a decision to issue or deny a request for a permit in one of the categories listed in parts 1 through 4 of this subparagraph and notify the applicant of that decision in accordance with the following time-lines:

1. Major source or Paragraph 11 source construction permit reviews must be completed in 180 days, from receipt of a complete application unless a longer period is agreed to in writing by the applicant.

2. Minor and conditional major source construction permit reviews must be completed within 115 days from receipt of a complete application.

3. PAL reviews must be completed within 12 months from receipt of a complete application unless a longer period is agreed to in writing by the applicant.

4. Operating permit reviews for an existing major source or Paragraph 11 source applying for an operating permit to opt out of being a major source or Paragraph 11 source by limiting the potential to emit such that they are below the major source applicability thresholds must be completed within 12 months from receipt of a complete application unless a longer period is agreed to in writing by the applicant.

5. If a mutual agreement letter required by part (6)(b)1 of this rule or subparagraph (11)(a) of Rule 1200-03-09-.02 has been requested by the Division at least seven days prior to a deadline specified in part 1, 2, 3, or 4 of this subparagraph, but is not received by that deadline, the applicable deadline specified in part 1, 2, 3, or 4 of this subparagraph shall be seven days after receipt of the agreement letter.

6. If a source is required to have a compliance schedule in their permit in accordance with paragraph (4) of Rule 1200-03-09-.02 arises after an application was deemed complete, the deadlines specified in part 1, 2, 3, or 4 of this subparagraph shall be extended as follows:

(i) 21 days after receipt of a compliance schedule from the applicant that is acceptable to the Technical Secretary if the draft permit is not required to have a public comment period.

(ii) 60 days after receipt of a compliance schedule from the applicant that is acceptable to the Technical Secretary if the draft permit is subject to an opportunity for public comment, and no public hearing is held.

(iii) 60 days after receipt of a compliance schedule from the application that is

acceptable to the Technical Secretary if the draft permit is subject to an opportunity for public comment and a public hearing is announced along with the opportunity for public comment on the draft permit.

(iv) 90 days after receipt of a compliance schedule from the applicant that is acceptable to the Technical Secretary if the draft permit is subject to an opportunity for public comment, if a public hearing is requested during the public comment period, and the public hearing is held after the close of the public comment period.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (g) of paragraph (5) of Rule 1200-03-26-.02 Construction and Annual Emission Fees is amended by deleting it in its entirety and substituting instead the following:

(g) The appropriate permit filing/processing fee shall be determined by the applicant from the following schedules:

SCHEDULE A—
CONSTRUCTION PERMIT FEES FOR MINOR AND CONDITIONAL MAJOR SOURCES

Anticipated Maximum Emission Rate	(Filing/Processing) Permit Fee
Less Than 10 Tons/Year	$100
10 to < 100 Tons/Year	$500
100 to < 250 Tons/Year	$1,000
250 to < 500 Tons/Year	$2,000
500 to < 1,000 Tons/Year	$3,000
1,000 to < 5,000 Tons/Year	$4,000
5,000 and Greater Tons/Year	$5,000

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (c) of paragraph (6) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(c) All minor and conditional major source annual fees are due and payable to the State of Tennessee in full according to Schedule I of this subparagraph. The county in which a source is located determines when the source's annual fee is due. If a source is located on contiguous property in more than one county, the county appearing earliest in the calendar year shall be used to determine the due date of the annual fee. Due to seasonal operations, cotton gin source annual fees are due and payable annually to the State of Tennessee by December 1 of each year regardless of the county in which the source is located. The fee must be paid to the State of Tennessee in full by the first day of the month that the fee is due. The Technical Secretary extends this due date by an appropriate period not to exceed 90 days where the source owner or operator's fee notice was mailed by the Department to an incorrect mailing address.

SCHEDULE I

Month the Annual Fee is Due (Accounting Period)
Counties in the Monthly Grouping

January	Anderson, Bedford, Benton, Bledsoe, Blount, Bradley, and Campbell
February	Cannon, Carroll, Carter, Cheatham, Chester, Claiborne, Clay, and Cocke
March	Coffee, Crockett, Cumberland, Davidson, Decatur, DeKalb, Dickson, Dyer, and Fayette
April	Fentress, Franklin, Gibson, Giles, Grainger, Greene, and Grundy
May	Hamblen, Hamilton, Hancock, Hardeman, Hardin, Hawkins, Haywood, and Henderson

June	Henry, Hickman, Houston, Humphreys, Jackson, Jefferson, Johnson, Knox, Lake, Lauderdale, Lawrence, and Lewis
July	Lincoln, Loudon, McMinn, McNairy, Macon, and Madison
August	Marion, Marshall, Maury, Meigs, Monroe, Montgomery, Moore, and Morgan
September	Obion, Overton, Perry, Pickett, Polk, Putnam, and Rhea
October	Roane, Robertson, Rutherford, Scott, Sequatchie, Sevier, and Shelby
November	Smith, Stewart, Sullivan, Sumner, Tipton, Trousdale, Unicoi, and Union
December	Van Buren, Warren, Washington, Wayne, Weakley, White, Williamson, and Wilson

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (d) of paragraph (6) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(d) 1. A newly constructed minor or conditional major source beginning operation subsequent to the annual accounting period for the county in which it is located shall not be required to pay an annual fee for the remainder of the annual accounting period. A minor or conditional major source ceasing operations during the annual accounting period will not receive a refund for annual fees paid.

2. Sources issued a combination construction and operating permit in accordance with paragraph (12) of Rule 1200-03-09-.02 shall pay annual fees as if operation of the new or modified source began on the date of permit issuance. This part does not apply to sources for which construction and operation of the new source or modification began prior to receipt of a construction permit.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (e) of paragraph (6) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(e) Except for sources that are covered under a general permit issued in accordance with Rule 1200-03-09-.06, the appropriate annual emissions fee for minor and conditional major sources in operation on or after July 1, 1993, shall be calculated at an emission fee rate of $18.75 per ton of allowable emissions of regulated pollutants at the time of the fee assessment by the Division based on the current active permit(s). Sources with allowable emissions less than 10 tons will not be subject to this fee, provided that such source has not taken a limitation on their permit that would render them a conditional major source.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (f) of paragraph (6) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(f) A responsible official of a source operating under a general permit shall pay an annual emissions fee as stipulated in subparagraph (e) of this paragraph based on the allowable emissions specified in the general permit unless different fee rates are stipulated in the following table. These fees are due and payable by the date established in subparagraph (c) of this paragraph:

General Permit Category	Combined Annual Emission Fee and Base Fee	Permit Review Fee

Perchloroethylene and Petroleum Solvent Dry Cleaners	$0	$0
Concrete Batch Plants with emissions less than 10 tons per calendar year	$0	$0
Concrete Batch Plants with emissions greater than or equal to 10 tons per calendar year	$400	$0
Portable rock crushers at True Minor Facilities	$1,000	$0
Portable rock crushers at Conditional Major Facilities	$1,000	$500
Asphalt Plants	$1,000	$500

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (a) of paragraph (8) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(a) The Technical Secretary will not issue any permit or renewal of a permit to an applicant until all fees required by this chapter have been paid in full to the State of Tennessee.

Authority: T.C.A. §§ 4-5-201, et seq.; 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (b) of paragraph (8) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(b) If any part of any fee imposed under this rule is not paid within 15 days of the due date, a late payment penalty of five percent of the amount due shall at once accrue and be added thereto. Thereafter, on the first day of each month during which any part of any fee or any prior accrued late payment penalty remains unpaid, an additional late payment penalty of five percent of the then unpaid balance shall accrue and be added thereto. In addition, the fees not paid within 15 days after the due date, shall bear interest at the maximum lawful rate from the due date to the date paid, compounded monthly; however, the total of the penalties and interest that accrue pursuant to this subparagraph shall not exceed three times the amount of the original fee.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subpart (iii) part 2 of subparagraph (a) of paragraph (9) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(iii) Sources choosing to pay annual fees on an actual emissions basis or a combination of actual and allowable emissions basis and on a fiscal year basis pursuant to subparagraph (b) of this paragraph shall pay an estimated 65% of the fee due pursuant to subparagraph (d) of this paragraph no later than April 1 of the current fiscal year. The remainder of the annual fee is due August 1 of each year, except as allowed by part (g)3. of this paragraph.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Part 4 of subparagraph (b) of paragraph (9) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

4. The responsible official of a newly constructed major source, Paragraph 11 source, or minor source modifying its operation such that the source becomes a major source or Paragraph 11 source shall pay an initial annual fee based on a calendar year and allowable emissions for the fractional remainder of the calendar year commencing upon the source's

start-up. However, in no case shall the annual fee be less than the annual base fee established in part (d)1 of this paragraph. Prior to July 1, 2024, in no case shall the annual fee be less than the minimum fee established in subpart (d)2(ii) of this paragraph effective on July 1, 2022.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (d) of paragraph (9) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(d) 1. Notwithstanding the fee rates established by parts 2 and 4 of this subparagraph, a responsible official of any source subject to this paragraph shall pay an annual base fee which shall be calculated in accordance with subparts (i) through (iii) of this part. This base fee shall be paid in addition to the annual emission fee established by subpart 2(iii) of this subparagraph. The fee rates required by this part effective July 1, 2022, continue to apply until July 1, 2024.

(i) The base fee shall be determined by the number of federal air quality standards to which a major source or Paragraph 11 source is subject. The following federal air quality standards shall be considered if the standards have been incorporated into a permit issued to the facility under the provisions of Chapter 1200-03-09 or have been incorporated into Chapter 0400-30-38 or Chapter 0400-30-39:

(I) Standards of Performance for New Stationary Sources as codified in 40 C.F.R. part 60, excluding subparts A, B, Ba, C, Cb, Cc, Cd, Ce, Cf, AAA, DDDD, FFFF, MMMM, and UUUUa.

(II) National Emission Standards for Hazardous Air Pollutants as codified in 40 C.F.R. part 61, excluding subpart A.

(III) National Emissions Standards for Hazardous Air Pollutants as codified in 40 C.F.R. part 63, excluding subparts A, B, C, D, E, OO, PP, QQ, RR, SS, TT, UU, VV, and XX.

(ii) If a facility is subject to 40 C.F.R. part 60 subpart IIII or JJJJ, or 40 C.F.R. part 63 subpart ZZZZ or CCCCCC and is only subject to that subpart for air contaminate sources that are not required to be included in a permit in accordance with paragraph (4) of Rule 1200-03-09-.04, then such subpart shall not be included when determining the number of federal air quality standards that a source is subject.

(iii) 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

2. (i) For purposes of this part, an electric utility generating unit (EGU) means any steam electric generating unit or stationary combustion turbine that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW net-electrical output to any utility power distribution system for sale. Also, any steam supplied to a steam distribution system for the purpose of providing steam to a steam electric generator that would produce electrical energy for sale is considered in determining the electrical energy output capacity of the affected EGU.

(ii) Notwithstanding the annual emission fee rates established by subpart (iii) of this part, the annual fee required to be paid by a responsible official of any source subject to this paragraph shall be no less than:

(I) $5,500 for sources (Once in/Always in sources) subject to this paragraph solely due to the May 16, 1995 EPA memorandum entitled, ‘‘Potential to Emit for MACT Standards—Guidance on Timing Issues,’’ from John Seitz, Director, Office of Air Quality Planning and Standards (OAQPS), to EPA Regional Air Division Directors, provided that the source has permitted allowable emissions below the major source thresholds found in part (11)(b)14 of Rule 1200-03-09-.02. If the source’s permitted allowable emissions are not below those major source thresholds as of October 31 of the annual accounting period for which fees are due under this part, then item (II) of this subpart applies; and

(II) $10,000 for all other sources subject to this paragraph for fees due on and after January 1, 2023.

(iii) The emission fee rates applied to calculate the annual fee assessed pursuant to subparagraph (a) of this paragraph shall be as follows:

(I) Fee based on actual emissions: $70.50 per ton for non-EGU sources and $98.50 per ton for EGU sources; and

(II) Fee based on allowable emissions: $48.50 per ton for non-EGU sources and $68.00 per ton for EGU sources.

(iv) The fees and fee rates enumerated in this subparagraph must be supported by the Division’s annual workload analysis that is approved by the Board.

(v) When subparts 1(i) through (iii) of this subparagraph become effective, subpart (ii) of this part will no longer be applicable.

3. The fees and fee rates specified in this subparagraph shall remain in effect until the effective date of an amendment to this subparagraph. Any revision to the fees and fee rates must result in the collection of sufficient fee revenue to fund the activities identified in subparagraph (1)(c) of this rule and must be supported by the Division’s annual workload analysis that is approved by the Board.

4. Notwithstanding the fee rates established by part 1 or 2 of this subparagraph, a responsible official of any source subject to this paragraph shall pay a Title V modification fee calculated as follows:

(i) For each minor permit modification issued in accordance with subpart (11)(f)5(ii) of Rule 1200-03-09-.02 during the calendar year preceding the year in which the annual fee is due, the responsible official shall pay $2,800.

(ii) For each significant modification issued in accordance with subpart (11)(f)5(iv) of Rule 1200-03-09-.02 during the calendar year preceding the year in which the annual fee is due, the responsible official shall pay $5,000.

5. The Title V modification fee required by part 4 of this subparagraph shall be paid in addition to the annual emission fee established by subpart 2(iii) of this subparagraph. The Title V modification fee is not required for complete minor permit modification and significant modification applications received prior to July 1, 2024.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subpart (i) part 3 of subparagraph (g) of paragraph (9) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(i) Responsible officials choosing to pay the annual fee based on actual emissions or a mixture of actual and allowable emissions may request an extension of time for filing the emissions analysis with the Technical Secretary. The extension may, for facilities paying fees on a calendar year basis, be granted by the Technical Secretary for up to 90 days after the fee is due pursuant to subparagraph (a) of this paragraph. The extension may, for facilities paying fees on a fiscal year basis, be granted by the Technical Secretary for up to 60 days after the fee is due pursuant to subparagraph (a) of this paragraph. The request for extension must be received by the Division no later than 4:30 p.m. on April 1 or the request for extension shall be denied. The request for extension to file must state the reason for the request and provide an adequate explanation. An estimated annual fee payment of no less than 65% of the annual fee must accompany the request for extension to avoid penalties and interest on the underpayment of the annual fee. The remaining balance due must accompany the emission analysis. If there has been an overpayment, the responsible official may request a refund in writing to the Division or the amount of the overpayment may be applied as a credit toward the next annual fee.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

* If a roll-call vote was necessary, the vote by the Agency on these rulemaking hearing rules was as follows:

Board Member	Aye	No	Abstain	Absent	Signature (if required)
Dr. Ronné Adkins Commissioner's Designee, Dept. of Environment and Conservation					
Dr. John Benitez Licensed Physician with experience in health effects of air pollutants					
Dr. Joshua Fu Involved with Institution of Higher Learning on air pollution evaluation and control					
Mike Haverstick Working in management in Private Manufacturing					
Dr. Shawn A. Hawkins Working in field related to Agriculture or Conservation					
Richard Holland Working for Industry with technical experience					
Caitlin Roberts Jennings Small Generator of Air Pollution representing Automotive Interests					
Dr. Chunrong Jia Environmental Interests					
Ken Moore Working in Municipal Government					
Stephen Moore Working for Industry with technical experience					
Amy Spann, PE Registered Professional Engineer					
Nicholas Ramos Conservation Interest					
Larry Waters County Mayor					
Jimmy West Commissioner's Designee, Dept. of Economic and Community Development					

I certify that this is an accurate and complete copy of rulemaking hearing rules, lawfully promulgated and adopted by the Air Pollution Control Board on 10/11/2023 and is in compliance with the provisions of T.C.A. § 4-5-222.

I further certify the following:

Notice of Rulemaking Hearing filed with the Department of State on: 06/20/2023

Rulemaking Hearing(s) Conducted on: (add more dates). 08/11/2023

Date: _____

Signature: _____

Name of Officer: Michelle W. Owenby

Title of Officer: Technical Secretary

Agency/Board/Commission: Air Pollution Control Board

Rule Chapter Number(s): 1200-03-02 and 1200-03-26

All rulemaking hearing rules provided for herein have been examined by the Attorney General and Reporter of the State of Tennessee and are approved as to legality pursuant to the provisions of the Administrative Procedures Act, Tennessee Code Annotated, Title 4, Chapter 5.

_____
Jonathan Skrmetti
Attorney General and Reporter

_____
Date

Department of State Use Only

Filed with the Department of State on: _____

Effective on: _____

_____
Tre Hargett
Secretary of State

Public Hearing Comments

One copy of a document that satisfies T.C.A. § 4-5-222 must accompany the filing.

1. Comment: A commenter stated that a construction and modification permit application fee of $500 for air curtain incinerators should be added to the proposed table in part (5)(a)4 of Rule 1200-03-26-.02.

   Response: The Board agrees to add a $500 fee for air curtain incinerators to the table in part (5)(a)4 of Rule 1200-03-26-.02. The Division is in the process of developing a general construction permit for air curtain incinerators and a fee of $500 is typical for a traditional permit for an air curtain incinerator.

2. Comment: A commenter stated that it would be appropriate to retain the existing language in subpart (9)(d)2(ii) of Rule 1200-03-26-.02 and add subpart (9)(d)2(v) to read as follows: "When subparts (1)(i) through (iii) of this subparagraph become effective, subpart (ii) of this part will no longer be applicable."

   Response: The Board agrees these changes are needed to ensure there will not be any unintended revenue erosion if the effective date of the amendments is delayed past July 1, 2024.

3. Comment: Commenters stated that the Division should encourage the use of plantwide applicability limit (PAL) permits because they reduce the burden on the Division. Application fees associated with an initial PAL permit are to be expected, and the PAL permit renewal fees, per pollutant or otherwise, are unwarranted and should be covered by the annual Title V fees. A commenter included a quote from the federal rule that established EPA's PAL rule, which states that fewer resources are required by the permitting agency. A commenter noted that changes made during the 10-year term of a PAL permit are already incorporated into the compliance demonstration methodologies and that PAL renewals should be "uncomplicated, straightforward, and efficient administrative affirmation of the changes that involve minimal staff time and effort."

   Response: While the commenter is correct that PAL permits reduce the burden on the Division, only prevention of significant air quality deterioration (PSD) and PSD-avoidance permitting is avoided. All other permit workload remains for facilities that have PALs. Some of the substantial work required by the Division to renew a PAL includes:

   - Adjusting the level of the PAL based on (1) the facility's current potential to emit, (2) state and federal requirements that became applicable during the PAL term, (3) updated baseline actual emissions, (4) units that were constructed during the term of the PAL, (5) air quality needs, (6) advances in control technology, (7) anticipated economic growth in the area, (8) rewarding or encouraging voluntary emission reductions, and (9) other factors specified by the Technical Secretary. See 40 C.F.R. § 52.21(aa)(10)(iv) and subpart (4)(s)10(iv) of Rule 1200-03-09-.01.
   - Adjustment of emission factors based on re-validation performance testing (which is required every five years). See 40 C.F.R. § 52.21(aa)(12)(vi) and 14(iii) and subparts (4)(s)12(vi) and (4)(s)14(iii) of Rule 1200-03-09-.01.
   - Public participation. See 40 C.F.R. § 52.21(aa)(5) and part (4)(s)5 of Rule 1200-03-09-.01.

   Tennessee currently has four facilities with active PAL permits. These range from a single-pollutant PAL with eight sources to a facility with PALs for 10 different pollutants with approximately three dozen sources. Thus, the level of complexity and resulting amount of work to renew a PAL can range from being rather straightforward to relatively difficult. The Division does not have any recent data on the person-hours required for PAL Renewals. Given the lack of data on the workload associated with a PAL renewal, the Board has decided not to include a fee for PAL renewals, and the associated proposed deadline, in the current rule. A fee for PAL renewals may be revisited once sufficient data is collected.

4. Comment: Commenters stated that the 2023-2024 Title V Workload Analysis provided by the Division indicated that 1.34 FTEs will be required to process an estimated 86 significant and minor modifications received and that the $5000 fee for significant modifications and $2800 fee for minor modifications seem excessive based on the number of documents being processed and should be significantly reduced. The Commenters stated that fees for these services should be covered by the Title V annual fees.

Response: The entire set of proposed fees, including proposed significant modification and minor modification fees, that pertain to Title V sources are necessary to cover the actual cost to the State of the Title V program. The cost of the Title V program includes various expenses that are directly attributable to individual sources, such as source inspections, stack test observations and report reviews, continuous emissions monitor report reviews, enforcement activity, and emission inventory reviews, as well as many expenses that are not directly attributable to individual sources, such as ambient monitoring, management and administration, TDECs Small Business Environmental Assistance Program, regulatory development, and a portion of the Division's General and Administrative fees. Where the Board can identify specific activities that are directly related to a specific permitting activity for a specific facility and data exists to estimate the average amount of time taken to complete those activities, such as Title V minor modification and significant modification, per-service fees to be paid by the facility receiving the service were developed to capture those costs. This was done to align the costs for these services with those companies that are directly requesting those services whenever possible. It is expected that the cost for many of the services mentioned above that cannot be directly attributable to individual sources would be covered by the Title V annual emission fee or base fee.

The proposed minor modification fee is based on a five-year average number of man-hours (25.7) for issuing a minor modification and an hourly rate of $108/hour. Thus, the proposed minor modification fee was calculated as follows: 25.7 hours x $108/hour = $2776, which was rounded up to $2800 for the proposal.

The proposed significant modification fee is based on a five-year average number of man-hours (45.5) for issuing a minor modification and an hourly rate of $108/hour. Thus, the proposed minor modification fee was calculated as follows: 45.5 hours x $108/hour = $4,903, which was rounded up to $5,l000 for the proposal.

The average hourly cost of $108/hour was projected for FY2028, the target year for the fee rule analysis, and includes salary, benefits, and a pro-rated portion of the TDEC General & Administrative (G&A) costs. Actual salaries, benefit ratios, and TDEC G&A costs were used assuming a three percent per year increase to project them to FY2028.

5. Comment: Commenters supported the proposed flat fee of $7,000 for construction permits at Title V facilities instead of the alternative proposed fee schedule based on the Anticipated Maximum Emission Rate associated with the application.

   Response: The Board has included the flat $7,000 construction permit application fee for Title V sources in the final rule.

6. Comment: A commenter inquired as to whether an individual who signed as a "responsible official" is personally liable to pay if the source does not have the ability to do so. The commenter stated that this should be clarified.

   Response: Generally, the "responsible official" is not personally liable for the payment of fees unless there are specific circumstances such as when the responsible official is also the owner or operator of the facility and may have structured the business and personal finances in a way that may make the individual personally liable.

7. Comment: A commenter stated that facilities should be allowed to pay any permit fee, whether they be renewal fees, application fees, or modification fees, at the time of annual fee payment.

   Response: The proposed rule allows for the proposed minor modification and significant modification fees to be paid along with the annual fee payment; therefore, the Board attempted to allow fees to be paid annually to the extent the law allows. The proposed construction fee for Title V sources, the PSD and Nonattainment NSR permit fees, and PAL fees are construction permit fees. Subparagraph (4)(a) of Rule 1200-03-26-.02 states: "A construction permit application is not considered complete unless the application filing/processing fee has been paid in full." A facility that is issued a Title V to Conditional Major permit would not be subject to Title V fees once that permit is issued and thus it would not be possible to assess the Title V to Conditional Major fee with annual Title V fees. Furthermore, T.C.A. section 68-203-103(d) of the Tennessee Environmental Protection Fund Act states: "No permit or renewal of a permit shall be issued to an applicant for a permit under the

foregoing authorities until all fees required by this chapter are paid in full."

8. Comment: A commenter stated that the proposed 18-month regulatory deadline to review a 1-pollutant PAL or a Title V to Conditional Major application is excessive and hindering to business operations.

   Response: The Division has issued two initial PAL permits in recent years. One was a three pollutant PAL permit (PM, PM_{10}, and $PM_{2.5}$) and took slightly over 19 months from the date of receipt of a complete application to issue. The other was a nine pollutant PAL permit (NO_x, CO, SO2, VOC, TRS, H_2S, Pb, H_2SO_4, and HF) and took slightly over seven months from the date of a complete application to issue. Both PAL permits were issued to the same company. Many key issues pertaining to the second PAL permit were resolved while processing the first PAL permit, making development of the second quicker. Also, issuance of the three pollutant PAL was delayed at the request of the applicant so the effective dates of both PAL permits would be the same.

   The Division currently has four facilities with active PAL permits, which range from a single pollutant PAL for eight sources to 10 pollutant-specific PALs for more than three dozen sources. The compliance methods for the various PALs range from simple mass balance calculations for surface coating operations to emission factors that require initial validation and periodic re-validation for process sources. Because each PAL application is unique in its breadth and complexity, the length of time to issue a PAL permit will vary and is difficult to project. The regulatory deadline for taking final action on a PAL permit must cover both the simple single-pollutant PAL permit and the complex multi-pollutant, multi-source PAL permit.

   Based on the information listed above, the Board recognizes that the Division may be able to take final action on a PAL application in less than the proposed regulatory deadline of 18 months. However, a standard 180-day deadline for a regular construction permit is not likely to provide sufficient time for the Division to work with the applicant to craft a quality PAL that meets the needs of the applicant and that can pass Environmental Protection Agency (EPA) and public scrutiny. Given the data currently available, the Board has determined that a 12-month deadline, with a provision for a longer issuance time if agreed to by the applicant, is appropriate to handle the wide range of PAL applications that would need to be processed.

   Conditional major permits are one of the more complex types of permits issued by the Division. Conditional major permits require the development of voluntary emission or production limitations to ensure that the potential emissions of all pollutants emitted by the facility remain below major source threshold. These emission limits must include enforceable testing, monitoring, recordkeeping, and reporting requirements developed on a case-by-case basis. The Division uses an 18-month goal for initial conditional major permits, which is the same deadline that would apply to the same facility for a Title V permit. The workload required for going from an existing Title V permit to a conditional major permit should be somewhat less because the Title V permit should already have the emission limits and compliance methods for applicable state and federal regulatory requirements. However, the source-specific conditional major requirements must still be developed.

   The Division has issued four permits to change facilities from Title V to Conditional Major in the last five years. The length of time to issue these permits ranged from 60 to 539 days from receipt of a complete application. As with the PAL permits, the Board recognizes that the Division may be able to take final action on a complete Title V to Conditional Major application in less than 18 months. However, given that half of these permits exceeded the standard 180-day deadline for a construction permit for a Title V source, the Board has determined that a 12-month deadline, with a provision for a longer issuance time if agreed to by the applicant, is appropriate.

   These regulatory deadlines are the maximum time the Division is allowed to act on a permit application. The Board encourages the Division to continue to issue permits within timeframes necessary to meet the applicant's business needs.

9. Comment: A commentor requested that "in-process" modification and PAL renewal applications should be grandfathered as exempt from the proposed fee.

   Response: Applications deemed complete before the effective date of this rule revision will be subject to the previous version of the Title V fee rule. Applications deemed complete on or after the effective date

of this rule change will be subject to the new fee structure. Language has been added to part (9)(d)5 of Rule 1200-03-26-.02 to clarify this.

10. Comment: TDEC's Small Business Environmental Ombudsman expressed support for establishment of general permits, many of which cover source categories that include small businesses. He stated that he understands that even general permits require some staff time to process and supported the proposed fees for general permits. Based on comments from industry, small costs, such as those proposed, may make a facility pay more attention to a general permit than if it was provided at no cost.

Response: The Board appreciates the comment.

Regulatory Flexibility Addendum

Pursuant to T.C.A. §§ 4-5-401 through 4-5-404, prior to initiating the rule making process, all agencies shall conduct a review of whether a proposed rule or rule affects small business.

(1) The type or types of small business and an identification and estimate of the number of small businesses subject to the proposed rule that would bear the cost of, or directly benefit from the proposed rule.

The Board does not require sources to identify whether a facility is a small business in air quality permit applications, therefore, identification of individual small businesses subject to these rule changes is not possible. However, some examples of the types of small businesses that would be subject to the various parts of the rule revision are as follows:

- Fees for Title V sources – Categories of industries that will be impacted may include fiberglass boat, tub, and spa manufacturers; furniture manufacturers; building materials production companies; chemical plants; private landfill operators; foam products manufacturers; and secondary metals plants. While the proposed rule will require affected businesses to pay more in fees, adequate funding of the Title V program should ultimately result in the timely issuance of Title V operating permits, modifications, and construction permits for sources subject to the Title V permitting program. Small businesses required to obtain Title V operating permits will see increased fees because of this proposed rulemaking. However, only a small percentage of facilities required to obtain such permits are small businesses as defined in the Uniform Administrative Procedures Act, Tennessee Code Annotated section 4-5-102(13). Also, as stated below, it is expected that small businesses, which tend to be subject to fewer federal regulations, should see only a modest impact in annual fees.

- General Permits – Categories of industries that may be impacted include dry cleaners, concrete batch plants, asphalt plants, portable rock crushing companies, and owners of air curtain incinerators. General permits, which are included in these amendments, should be beneficial to small businesses that would fall into the categories covered by general permits as it provides an expedited process for permitting new and modified sources.

(2) The projected reporting, recordkeeping, and other administrative costs required for compliance with the proposed rule, including the type of professional skills necessary for preparation of the report or record.

- Fees for Title V sources – The proposed amendments will not add any reporting, recordkeeping, or other administrative costs for compliance with the proposed rule.

- General Permits – The prosed rule, which adds fees for facilities that choose to be covered by a general permit, will require minimal administrative costs associated with payment of the fees. It is anticipated that a facility's existing administrative and financial staff will be able to cover payment of the fees. However, the burden associated with applying for and complying for a general permit itself will significantly reduce the burden on the facility.

(3) A statement of the probable effect on impacted small businesses and consumers.

The rule amendments increase fees owed for small businesses required to have Title V operating permits or construction permits. However, the base fee structure that aligns increasing cost with the number of federal regulations applicable to the company ensures that small business with few federal regulations applied to their facility will see minimal increase to their annual fee. Additionally, small businesses have an opportunity to avoid construction permits and the associated costs by using Title V minor modifications, which have a lower fee, and operational flexibility changes, which have no fee.

(4) A description of any less burdensome, less intrusive or less costly alternative methods of achieving the purpose and objectives of the proposed rule that may exist, and to what extent the alternative means might be less burdensome to small business.

Section 502(b)(3)(A) of the federal Clean Air Act (CAA) requires Tennessee, as a state approved by the EPA to administer a Title V major source operating permit program ("Title V program"), to collect "an annual fee, or the equivalent over some other period, sufficient to cover all reasonable (direct and indirect) costs required to develop and administer the permit program requirements[.]" All facilities within the program must contribute to the direct and indirect costs.

Regarding the proposal's changes relative to general permits, both in the Title V and the non-Title V program, these are a less burdensome and less costly alternative to standard permits. The changes to the general permit fees will allow the Division to develop and implement general permits without impacting fee revenue.

(5) A comparison of the proposed rule with any federal or state counterparts.

Each state's fee system is unique, so direct comparisons cannot be made. However, federal law requires each state to recoup the cost from the participants of the title V program that are adequate to cover the program. Therefore, small businesses would be required to contribute to the cost of each states Title V program.

(6) Analysis of the effect of the possible exemption of small businesses from all or any part of the requirements contained in the proposed rule.

Exemption of small businesses from Title V fee rules would violate federal law and would collect insufficient funds to fund the Title V program. [Section 502(b)(3)(A) of the Clean Air Act] Because small businesses are generally subject to less federal regulations than larger businesses and do not require some of the more complex permitting services like PSD permits, it is anticipated that this proposal avoids putting any additional burden on small businesses to cover the cost of services that are requested by other businesses and streamlines the fee structure to be more specific to what the companies are requesting wherever possible.

Impact on Local Governments

Pursuant to T.C.A. §§ 4-5-220 and 4-5-228, “On any rule and regulation proposed to be promulgated, the proposing agency shall state in a simple declarative sentence, without additional comments on the merits or the policy of the rule or regulation, whether the rule or regulation may have a projected financial impact on local governments. The statement shall describe the financial impact in terms of increase in expenditures or decrease in revenues.”

The Department anticipates that these amended rules will have a financial impact on local governments with a Title V permit.

Additional Information Required by Joint Government Operations Committee

All agencies, upon filing a rule, must also submit the following pursuant to T.C.A. § 4-5-226(i)(1).

(A) A brief summary of the rule and a description of all relevant changes in previous regulations effectuated by such rule;

The rule amendments achieve three different purposes: (1) diversify the Title V fee structure to establish a stable revenue stream to adequately fund the Title V program, (2) establish fees for categories of general permits that currently exist or are under development, and (3) make miscellaneous changes to clarify or streamline the fee process.

Title V Program Fee Diversification:

The Title V program was added to the Clean Air Act (CAA) with the 1990 amendments and is a self-funded[1] federal permitting program for which states seek delegation from EPA to implement for major sources of air emissions in the state. This rule reflects the Board's partnership with stakeholders to develop a long-term funding solution ensuring the state of Tennessee continues to meet the CAA requirement that each state's Title V program fees cover the cost of administering the program. Cost recovery is also a goal of the state's Environmental Protection Fund statute. The proposed rule establishes a more stable and diverse fee structure resulting in a long-term funding solution. Projections for the Title V program show a $16.8 million deficit from FY24 to FY30 without the proposed rule change, due to projected emission reductions resulting from TVA plant closures and conversions and the general downward trend in emissions from non-EGUs. These amendments are projected to fund $13.5 million of this gap, with the balance covered by reserves.

Tennessee's Title V program is primarily funded through emissions-based fees. Although the regulated community in Tennessee is continuing to make major strides in limiting emission of pollutants, program workload has not decreased (technical reviews continue to increase in complexity as federal rules are added or change), and the Title V program has become increasingly underfunded. The Division worked with stakeholders to explore a more diverse fee structure with a goal of avoiding the frequently recurring need to request emission-fee rate increases.

These amendments retain Tennessee's competitive advantage when recruiting businesses to Tennessee. The Division relies on the ability to hire and retain highly qualified technical employees to conduct the work. The Division consistently receives positive feedback from regulated entities regarding the high level of personalized service they receive and how important this service is to their success in Tennessee. The Division's timely and competent processing of permit applications for new and modified facilities, compliance assistance, and response to information requests enables Tennessee to attract and retain large businesses.

The current Title V fee system is based on the federal model that was promulgated over 30 years ago. The model, based on emissions, assumes the cost of a Title V program is proportionally related to emissions (i.e., fee = tons emitted times dollars per ton). This model has proven to be short-sighted as the state's work to meet federal requirements does not decrease proportionally with the reduction in emissions in the Title V program. In fact, as the federal regulatory structure has grown, so has the program's workload.

Cleaner air in Tennessee can be attributed to a decrease of about 70% of the emissions from Title V facilities over the past 20 years. A significant share of the decreasing emissions has occurred at electric utility units as TVA has made changes to its power generation fleet. This decrease is expected to continue as TVA completes the conversion of its generation fleet from coal to cleaner fuels over the next few years. Other large industrial sources have also moved to power their facilities with cleaner, less emitting fuels, causing emissions to decline over time. Because the Title V program has been predominately funded on a dollar/ton emission fee, The Board has had to continually raise that fee to ensure the program continues to comply with federal law as a self-funded program. However, as emissions continue to decline as more facilities move to lesser emitting fuels to power their operations, more fee increases would be needed to fund the program and comply with federal law. During the same 20-year time frame, the Title V workload, and the level of technical complexity associated with such, has increased. The number of federal air quality rules implemented by the Division has nearly doubled from 136 to 264. The number of Title V facilities is remaining steady at between 210 and 220; however, the need for

[1] The CAA requires that a minimum element of the Title V program administered by a state include that the owner or operator of all sources subject to the requirement to obtain a permit pay an annual fee, or the equivalent over some other period, sufficient to cover all reasonable direct and indirect costs required to develop and administer the program. 502(b)(3)(A).

Division support of these facilities has grown. For example, the number of major new source permits increased from an average of two per year in FY2012 through FY2021 to eight in FY2022. The Division is now challenged with meeting current workload needs to support this program.

This proposed rulemaking is the result of stakeholder meetings, webinars, and surveys to explore options and develop consensus for a funding solution. The Division's and stakeholders' feedback is reflected in the proposed Title V fee structure. This new fee structure relies less on emissions and more on elements that reflect work associated with individual Title V facilities. This structure should be more stable over time and reduce the need for frequent fee rule changes. The elements added to the fee structure are related to workload pertaining to individual sources and the services they receive from the Division.

The proposed amendments will add several elements that are based on actual workload associated with each fee element:

- Establish a new construction permit application fee structure for Title V sources.
- Establish new application fees for major new source review (NSR) permits, plantwide applicability limit (PAL) permits, and permits for facilities that "opt out" of the Title V program. NSR, PAL, and "opt-out" permits are the most complex permits issued by the Division.
- Establish regulatory deadlines for issuing PAL and opt out permits (as required by the Environmental Protection Fund Act, Tenn. Code Ann. Title 68, Chapter 203)
- Establish new fees for Title V modifications ($2,800 for minor permit modifications and $5,000 for significant permit modifications).
- Replace the existing $6,000 base fee and $10,000 minimum fee with a base fee that ranges from $10,000 to $75,000 per year based on the number of federal air quality standards that a source is subject to.

The dollar-per-ton fee rates remains unchanged.

<u>General Permit Fee (Non-Title V program):</u>

In response to stakeholders' requests for a streamlined alternative to traditional air quality construction and operating permits, which were issued on an individual basis, the Division has developed a general permit program. General permits are utilized in other divisions within the Department and reduce the amount of work and the length of time required by regulated entities to obtain permits. They also reduce the amount of work for the Division to issue coverage under those permits while maintaining the same level of environmental protection. Coverage under general permits can be issued in much shorter time frames, averaging 25 days (for those that don't require individual public notice, which is the vast majority) since the program began in 2017 compared to 102 days for individual construction permits. To avoid revenue erosion, the proposed amendments remove the fee exemption for general permits and establish annual emission fees that are based on the average fee currently paid by sources in these fee categories.

(B) A citation to and brief description of any federal law or regulation or any state law or regulation mandating promulgation of such rule or establishing guidelines relevant thereto;

Section 502(b)(3)(A) of the federal Clean Air Act (CAA) requires Tennessee, as a state approved by the Environmental Protection Agency ("EPA") to administer a Title V major source operating permit program ("Title V program"), to collect "an annual fee, or the equivalent over some other period, sufficient to cover all reasonable (direct and indirect) costs required to develop and administer the permit program requirements[.]" Tennessee Code Annotated section 68-203-103 authorizes the Board to establish fees under the Tennessee Air Quality Act. Federal air quality rules, at 40 C.F.R. § 70.9 stipulates that states "shall require that the owners or operators of part 70 sources pay annual fees, or the equivalent over some other period, that are sufficient to cover the permit program costs and shall ensure that any fee required by this section will be used solely for permit program costs." The proposed Title V fee diversification rules include some fees that are paid by part 70 sources on an annual basis, and some fees that are paid at the time a permit application is submitted.

(C) Identification of persons, organizations, corporations or governmental entities most directly affected by this rule, and whether those persons, organizations, corporations or governmental entities urge adoption or rejection of this rule;

The proposed changes to the Title V fee rule will affect owners and operators of sources in the state required to have Title V operating permits. Most of these sources are major sources of air pollution. Major sources are made up of large industrial, commercial, and governmental entities that are authorized to emit pollutants in amounts

exceeding 100 tons per year of any criteria pollutant, 10 tons per year of any hazardous air pollutant, and/or 25 tons per year of a combination of hazardous air pollutants. A few categories of sources (e.g., solid waste landfills) with lower emissions are required by the EPA to obtain Title V operating permits. The Division of Air Pollution Control conducted an extensive stakeholder process prior to proposal of the rule. That process began in August 2022, and included meetings with the Tennessee Chamber of Commerce and Industry, two stakeholder webinars, and several individual one-on-one meetings with key stakeholders. Additional stakeholder involvement was held to discuss the proposed rule including another stakeholder webinar and a meeting with the Tennessee Chamber of Comments and Industry. These stakeholders recognize the Title V program to be mandated and established as self-supporting and have participated in the development of the framework in Tennessee. These regulated entities have taken a vested interest in their responsibility to pay for the services they receive from the Division. As explained in detail above, the Division spent over a year with stakeholders discussing the changes proposed changes. The revisions to the current fee rules are necessary to provide stability and diversification of the fee system. The proposed rule included alternatives that were suggested by persons, organizations, corporations, and government entities that participated in the stakeholder process that began in 2022. This rule contains some provisions that are different than originally proposed by the Board based on comments received during the public comment period.

Owners and operators of sources that request coverage under a general permit will be affected by the general permit fees included in this rulemaking. This would include owners and operators of drycleaners, concrete batch plants, portable rock crushers, asphalt plants, and air curtain incinerators. Generally, these sources have supported the Division's efforts to create general permits for their businesses. TDEC's Small Business Ombudsman provided input when developing the regulations.

(D) Identification of any opinions of the attorney general and reporter or any judicial ruling that directly relates to the rule or the necessity to promulgate the rule;

The Board is not aware of any opinions that directly relate to the rulemaking.

(E) An estimate of the probable increase or decrease in state and local government revenues and expenditures, if any, resulting from the promulgation of this rule, and assumptions and reasoning upon which the estimate is based. An agency shall not state that the fiscal impact is minimal if the fiscal impact is more than two percent (2%) of the agency's annual budget or five hundred thousand dollars ($500,000), whichever is less;

This rulemaking will result in increased revenues of approximately $13.5 million over a six year period.

(F) Identification of the appropriate agency representative or representatives, possessing substantial knowledge and understanding of the rule;

James P. Johnston
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, Tennessee 37243
james.johnston@tn.gov

(G) Identification of the appropriate agency representative or representatives who will explain the rule at a scheduled meeting of the committees;

Blair Beaty
Legislative Director
Office of General Counsel

(H) Office address, telephone number, and email address of the agency representative or representatives who will explain the rule at a scheduled meeting of the committees; and

Office of General Counsel
Tennessee Department of Environment and Conservation
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 2nd Floor
Nashville, Tennessee 37243
(615) 253-5339

Blair.Beaty@tn.gov

(l) Any additional information relevant to the rule proposed for continuation that the committee requests.

(1) A description of the action proposed, the purpose of the action, the legal authority for the action and the plan for implementing the action.

Fees for Title V sources: The Title V annual fee rule is revised by eliminating the minimum fee, revising the current base fee of $6000 to one that ranges from $10,000 to $75,000 per year based on the number of federal air quality standards that a facility is subject to, and adding fees for Title V minor modifications ($2800) and significant modifications ($5000) issued. The rule increases the construction application fee from the current rates that range from $100 to $5000 per application to a flat rate of $7000 per application. New fees are added for Prevention of Significant Deterioration and Nonattainment New Source Review applications ($70,000), Plantwide Applicability Limit permit applications ($10,000 per pollutant) and permits for Title V sources which “opt-out” of the Title V program and become Conditional Major sources ($18,000).

General Permits: The fee exemption for general permits is removed. Application fees for general permits that serve as construction permits as follows: drycleaners - $100, concrete batch plants - $100, portable rock crushers - $100, asphalt plants - $250, and air curtain incinerators - $500. Annual non-Title V fees are set for certain sources covered by a general permit: concrete batch plants with emissions ≥ 10 tons/year - $400, portable rock crushers at true minor facilities - $1000, portable rock crushers at conditional major facilities - $1500, and asphalt plants - $1500.

(2) A determination that the action is the least-cost method for achieving the stated purpose.

Title V fees: Because the U.S. Clean Air Act requires that fee payers pay all costs, direct and indirect, to operate the Title V operating permit program, the Division prepares a detailed Workload Analysis each year that must be approved by the Board. This analysis must show that the fees assessed will be adequate to fund the program. The Board has determined that these amendments are necessary to support continuing operation of the Title V permitting program and are the least-costly method of achieving the purposes of these amendments.

General permit fees: The fees for general permits were based on the average fee for a traditional permit for the same facility. Thus, affected facilities should not see a significant change.

(3) A comparison of the cost-benefit relation of the action to nonaction.

Not amending the Title V fee rules to ensure adequate collections to fund the Title V operating permit program would place operation of the program by the State of Tennessee in jeopardy and could result in direct regulation of the affected sources by the U.S. EPA.

(4) A determination that the action represents the most efficient allocation of public and private resources.

The Board, comprised of members that represent both public and private interests, believes that these amendments are an efficient allocation of public and private resources.

(5) A determination of the effect of the action on competition.

No impact on competition is expected.

(6) A determination of the effect of the action on the cost of living in the geographical area in which the action would occur.

These amendments are applied equally across Tennessee and are not anticipated to have a measurable impact on the cost of living.

(7) A determination of the effect of the action on employment in the geographical area in which the action would occur.

These amendments are applied equally across Tennessee and are not anticipated to have a measurable impact on employment.

(8) The source of revenue to be used for the action.

Existing revenues will be used to implement these revisions.

(9) A conclusion as to the economic impact upon all persons substantially affected by the action, including an analysis containing a description as to which persons will bear the costs of the action and which persons will benefit directly and indirectly from the action.

For Title V fees, major sources of air pollution in the state will be affected by this action. The effects of this action will vary based on the number applicable federal air quality regulations and number of permitting and modification applications processed for each source. Ensuring adequate funding for the Division will benefit Title V companies in that regulatory permitting and compliance activities will remain implemented by Tennessee and critical permits like construction permits will be issued by or even before in some cases, regulatory deadlines. Citizens of the state of Tennessee will benefit directly from this action through continued maintenance of the National Ambient Air Quality Standards assured by adequate regulation and oversight of major sources of air pollution by the Department. For the general permit fees, owners and operators of facilities that elect to be covered by a general permit will be affected by this action. They will benefit from a quicker, streamlined permitting process. The impact of the fee should be minimal because (1) the fee is designed to be the same as a typical traditional permit for the source category and (2) coverage under a general permit is voluntary.

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Sequence Number: _____
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File Date: _____
Effective Date: _____

Rulemaking Hearing Rule(s) Filing Form

Rulemaking Hearing Rules are rules filed after and as a result of a rulemaking hearing (Tenn. Code Ann. § 4-5-205).

Pursuant to Tenn. Code Ann. § 4-5-229, any new fee or fee increase promulgated by state agency rule shall take effect on July 1, following the expiration of the ninety (90) day period as provided in § 4-5-207. This section shall not apply to rules that implement new fees or fee increases that are promulgated as emergency rules pursuant to § 4-5-208(a) and to subsequent rules that make permanent such emergency rules, as amended during the rulemaking process. In addition, this section shall not apply to state agencies that did not, during the preceding two (2) fiscal years, collect fees in an amount sufficient to pay the cost of operating the board, commission, or entity in accordance with § 4-29-121(b).

Agency/Board/Commission:	Air Pollution Control Board
Division:	Air Pollution Control
Contact Person:	James P. Johnston
Address:	William R. Snodgrass Tennessee Tower 312 Rosa L. Parks Avenue, 15th Floor Nashville, Tennessee
Zip:	37243
Phone:	(615) 253-7319
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Revision Type (check all that apply):

_X_ Amendment
___ New
___ Repeal

___ Content based on previous emergency rule filed on _____
___ Content is identical to the emergency rule

Rule(s) (**ALL** chapters and rules contained in filing must be listed here. If needed, copy and paste additional tables to accommodate multiple chapters. Please make sure that **ALL** new rule and repealed rule numbers are listed in the chart below. Please enter only **ONE** Rule Number/Rule Title per row.)

Chapter Number	**Chapter Title**
1200-03-02	Definitions
Rule Number	**Rule Title**
1200-03-02-.01	General Definitions

Chapter Number	**Chapter Title**
1200-03-26	Administrative Fees Schedule
Rule Number	**Rule Title**
1200-03-26-.02	Construction and Annual Fees

Place substance of rules and other info here. Please be sure to include a detailed explanation of the changes being made to the listed rule(s). Statutory authority must be given for each rule change. For information on formatting rules go to https://sos.tn.gov/products/division-publications/rulemaking-guidelines.

Chapter 1200-03-02
Definitions

Amendments

Paragraph (1) of Rule 1200-03-02-.01 General Definitions is amended by adding a new definition (mmmm) placed in numeric order to read as follows:

(mmmm) "Hazardous air pollutant" or "HAP" means the air contaminants listed in this subparagraph:

CAS No.	Chemical name
75070	Acetaldehyde
60355	Acetamide
75058	Acetonitrile
98862	Acetophenone
53963	2-Acetylaminofluorene
107028	Acrolein
79061	Acrylamide
79107	Acrylic acid
107131	Acrylonitrile
107051	Allyl chloride
92671	4-Aminobiphenyl
62533	Aniline
90040	o-Anisidine
1332214	Asbestos
71432	Benzene (including benzene from gasoline) 92875 Benzidine
98077	Benzotrichloride
100447	Benzyl chloride
92524	Biphenyl
117817	Bis(2-ethylhexyl)phthalate (DEHP)
542881	Bis(chloromethyl) ether
75252	Bromoform
106945	1-Bromopropane
106990	1,3-Butadiene
156627	Calcium cyanamide
133062	Captan
63252	Carbaryl
75150	Carbon disulfide
56235	Carbon tetrachloride
463581	Carbonyl sulfide
120809	Catechol
133904	Chloramben
57749	Chlordane
7782505	Chlorine
79118	Chloracetic acid
532274	2-Chloroacetophenone
108907	Chlorobenzene
510156	Chlorobenzilate
67663	Chloroform
107302	Chloromethyl methyl ether
126998	Chloroprene
1319773	Cresols/Cresylic acid (isomers and mixture) 95487 o-Cresol
108394	m-Cresol

106445	p-Cresol
98828	Cumene
94757	2,4-D, salts and esters
3547044	DDE
334883	Diazomethane
132649	Dibenzofurans
96128	1,2-Dibromo-3-chloropropane
84742	Dibutylphthalate
106467	1,4-Dichlorobenzene(p)
91941	3,3-Dichlorobenzidene
111444	Dichloroethyl ether (Bis(2-chloroethyl)ether)
542756	1,3-Dichloropropene
62737	Dichlorvos
111422	Diethanolamine
121697	N,N-Diethyl aniline (N,N-Dimethylaniline) 64675 Diethyl sulfate
119904	3,3-Dimethoxybenzidine
60117	Dimethyl aminoazobenzene
119937	3,3'-Dimethylbenzidine
79447	Dimethyl carbamoyl chloride
68122	Dimethyl formamide
57147	1,1-Dimethyl hydrazine
131113	Dimethyl phthalate
77781	Dimethyl sulfate
534521	4,6-Dinitro-o-cresol, and salts 51285 2,4-Dinitrophenol
121142	2,4-Dinitrotoluene
123911	1,4-Dioxane (1,4-Diethyleneoxide)
122667	1,2-Diphenylhydrazine
106898	Epichlorohydrin (1-Chloro-2,3-epoxypropane)
106887	1,2-Epoxybutane
140885	Ethyl acrylate
100414	Ethyl benzene
51796	Ethyl carbamate (Urethane)
75003	Ethyl Chloride (Chloroethane) 106934 Ethylene dibromide (Dibromoethane)
107062	Ethylene dichloride (1,2-Dichlorethane)
107211	Ethylene glycol
151564	Ethylene imine (Aziridine)
75218	Ethylene oxide
96457	Ethylene thiourea
75343	Ethylidene dichloride (1,1-Dichloroethane) 50000 Formaldehyde
76448	Hepotachlor
118741	Hexachlorobenzene
87683	Hexachlorobutadiene
77474	Hexachlorocyclepentadiene
67721	Hexachloroethane
822060	Hexamethylene-1,6-diisocyanate
680319	Hexamethylphosphoramide
110543	Hexane
302012	Hydrazine
7647010	Hydrochloric acid
7664393	Hydrogen fluoride (Hydrofluoric acid)
123319	Hydroquinone
78591	Isophorone
58899	Lindane (all isomers)
108316	Maleic anhydride
67561	Methanol
72435	Methoxychlor
74839	Methyl bromide (Bromomethane)

74873	Methyl chloride (Chloromethane)
71556	Methyl chloroform (1,1,1-Trichloroethane) 60344 Methyl hydrazine
74884	Methyl iodide (Iodomethane) 108101 Methyl isobutyl ketone (Hexone)
624839	Methyl isocyanate
80626	Methyl methacrylate
1634044	Methyl tert butyl ether
101144	4,4-Methylene bis(2-chloroniline) 75092 Methylene chloride (Dichloromethane)
101688	Methylene diphenyl diisocyanate (MDI)
101779	4,4-Methylenedianilne
91203	Naphthalene
98953	Nitrobenzene
92933	4-Nitrobiphenyl
100027	4-Nitrophenol
79469	2-Nitropropane
684935	N-Nitroso-N-methylurea
62759	N-Nitrosodimethylamine
59892	N-Nitrosomorpholine
56382	Parathion
82688	Pentachloronitrobenzene (Quintobenzene)
87865	Pentachlorophenol
108952	Phenol
106503	p-Phenylenediamine
75445	Phosgene
7803512	Phosphine
7723140	Phosphorus
85449	Phthalic anhydride
1336363	Polychlorinated biphenyls (Arochlors)
1120714	1,3-Propane sultone
57578	beta-Propiolactone
123386	Propionaldehyde
114261	Propoxur (Baygon)
78875	Propylene dichloride (1,2-Dichloropropane) 75569 Propylene oxide
75558	1,2-Propylenimine (2-Methyl aziridine) 91225 Quinoline
106514	Quinone
100425	Styrene
96093	Styrene oxide
1746016	2,3,7,8-Tetrachlorodibenzo-p-dioxin
79345	1,1,2,2-Tetrachloroethane
127184	Tetrachoroethylene (Perchloroethylene)
7550450	Titanium tetrachloride
108883	Toluene
95807	2,4-Toluene diamine
584849	2,4-Toluene diisocyanate
95534	o-Toluidine
8001352	Toxaphene (chlorinated camphene)
120821	1,2,4-Trichlorobenzene
79005	1,1,2-Trichloroethane
79016	Trichloroethylene
95954	2,4,5-Trichlorophenol
88062	2,4,6-Trichlorophenol
121448	Triethylamine
1582098	Trifluralin
540841	2,2,4-Trimethylpentane
108054	Vinyl acetate
593602	Vinyl bromide
75014	Vinyl chloride

75354	Vinylidene chloride (1,1-Dichloroethylene)
1330207	Xylenes (isomers and mixture)
95476	o-Xylenes
108383	m-Xylenes
106423	p-Xylenes
0	Antimony Compounds
0	Arsenic Compounds (inorganic including arsine)
0	Beryllium Compounds
0	Cadmium Compounds
0	Chromium Compounds
0	Cobalt Compounds
0	Coke Oven Emissions
0	Cyanide compounds[1]
0	Glycol ethers[2, 6]
0	Lead Compounds
0	Manganese Compounds
0	Mercury Compounds
0	Fine mineral fibers[3]
0	Nickel Compounds
0	Polycyclic Organic Matter[4]
0	Radionuclides (including radon)[5]
0	Selenium Compounds

[1] X'CN where X = H' or any other group where a formal dissociation may occur. For example KCN or $Ca(CN)_2$.

[2] Include mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-$(OCH_2CH_2)_n$- OR'. Where:
n = 1, 2, or 3:
R = alkyl C7 or less; or
R = phenyl or alkyl substituted phenyl; R' =
H or alkyl C7 or less; or
OR' consisting of carboxylic acid ester, sulfate, phosphate, nitrate, or sulfonate.

This action deletes each individual compound in a group called the surfactant alcohol ethoxylates and their derivatives (SAED) from the glycol ethers category in the list of hazardous air pollutants ~~(HAP)~~ established by section 112(b)(1) of the Clean Air Act (CAA).

[3] Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of an average diameter ~~1~~ of one micrometer or less.

[4] Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100°C.

[5] A type of atom ~~which~~ that spontaneously undergoes radioactive decay.

[6] The substance ethylene glycol monobutyl ether (EGBE, 2-Butoxyethanol) (Chemical Abstract Service (CAS) Number 111-76-2) is deleted from the list of hazardous air pollutants established by 42 U.S.C. § 7412(b)(1).

Authority: T.C.A. §§ 4-5-201, et seq. and 68-201-101, et seq.

Amendments

Part 12 of subparagraph (i) of paragraph (2) of Rule 1200-03-26-.02 is amended by deleting it in its entirety and substituting instead the following:

12. Each hazardous air pollutant ~~listed below~~ actually emitted or allowed to be emitted from a source subject to paragraph (11) of Rule 1200-03-09-.02.

~~CAS No.~~	~~Chemical name~~
~~75070~~	~~Acetaldehyde~~
~~60355~~	~~Acetamide~~
~~75058~~	~~Acetonitrile~~
~~98862~~	~~Acetophenone~~
~~53963~~	~~2-Acetylaminofluorene~~
~~107028~~	~~Acrolein~~
~~79061~~	~~Acrylamide~~
~~79107~~	~~Acrylic acid~~
~~107131~~	~~Acrylonitrile~~
~~107051~~	~~Allyl chloride~~
~~92671~~	~~4-Aminobiphenyl~~
~~62533~~	~~Aniline~~
~~90040~~	~~o-Anisidine~~
~~1332214~~	~~Asbestos~~
~~71432~~	~~Benzene (including benzene from gasoline)~~
~~92875~~	~~Benzidine~~
~~98077~~	~~Benzotrichloride~~
~~100447~~	~~Benzyl chloride~~
~~92524~~	~~Biphenyl~~
~~117817~~	~~Bis(2-ethylhexyl)phthalate (DEHP)~~
~~542881~~	~~Bis(chloromethyl) ether~~
~~75252~~	~~Bromoform~~
~~106990~~	~~1,3-Butadiene~~
~~156627~~	~~Calcium cyanamide~~
~~133062~~	~~Captan~~
~~63252~~	~~Carbaryl~~
~~75150~~	~~Carbon disulfide~~
~~56235~~	~~Carbon tetrachloride~~
~~463581~~	~~Carbonyl sulfide~~
~~120809~~	~~Catechol~~
~~133904~~	~~Chloramben~~
~~57749~~	~~Chlordane~~
~~7782505~~	~~Chlorine~~
~~79118~~	~~Chloracetic acid~~
~~532274~~	~~2-Chloroacetophenone~~
~~108907~~	~~Chlorobenzene~~
~~510156~~	~~Chlorobenzilate~~
~~67663~~	~~Chloroform~~
~~107302~~	~~Chloromethyl methyl ether~~
~~126998~~	~~Chloroprene~~
~~1319773~~	~~Cresols/Cresylic acid (isomers and mixture)~~
~~95487~~	~~o-Cresol~~
~~108394~~	~~m-Cresol~~
~~106445~~	~~p-Cresol~~
~~98828~~	~~Cumene~~
~~94757~~	~~2,4-D, salts and esters~~
~~3547044~~	~~DDE~~
~~334883~~	~~Diazomethane~~

~~132649 Dibenzofurans~~
~~96128 1,2-Dibromo-3-chloropropane~~
~~84742 Dibutylphthalate~~
~~106467 1,4-Dichlorobenzene(p)~~
~~91941 3,3-Dichlorobenzidene~~
~~111444 Dichloroethyl ether (Bis(2-chloroethyl)ether)~~
~~542756 1,3-Dichloropropene~~
~~62737 Dichlorvos~~
~~111422 Diethanolamine~~
~~121697 N,N-Diethyl aniline (N,N-Dimethylaniline)~~
~~64675 Diethyl sulfate~~
~~119904 3,3-Dimethoxybenzidine~~
~~60117 Dimethyl aminoazobenzene~~
~~119937 3,3'-Dimethylbenzidine~~
~~79447 Dimethyl carbamoyl chloride~~
~~68122 Dimethyl formamide~~
~~57147 1,1-Dimethyl hydrazine~~
~~131113 Dimethyl phthalate~~
~~77781 Dimethyl sulfate~~
~~534521 4,6-Dinitro-o-cresol, and salts~~
~~51285 2,4-Dinitrophenol~~
~~121142 2,4-Dinitrotoluene~~
~~123911 1,4-Dioxane (1,4-Diethyleneoxide)~~
~~122667 1,2-Diphenylhydrazine~~
~~106898 Epichlorohydrin (1-Chloro-2,3-epoxypropane)~~
~~106887 1,2-Epoxybutane~~
~~140885 acrylate~~
~~100414 Ethyl benzene~~
~~51796 Ethyl carbamate (Urethane)~~
~~75003 Ethyl Chloride (Chloroethane) 106934~~
~~Ethylene dibromide (Dibromoethane)~~
~~107062 Ethylene dichloride (1,2-Dichlorethane)~~
~~107211 Ethylene glycol~~
~~151564 Ethylene imine (Aziridine)~~
~~75218 Ethylene oxide~~
~~96457 Ethylene thiourea~~
~~75343 Ethylidene dichloride (1,1-Dichloroethane)~~
~~50000 Formaldehyde~~
~~76448 Hepotachlor~~
~~118741 Hexachlorobenzene~~
~~87683 Hexachlorobutadiene~~
~~77474 Hexachlorocyclepentadiene~~
~~67721 Hexachloroethane~~
~~822060 Hexamethylene-1,6-diisocyanate~~
~~680319 Hexamethylphosphoramide~~
~~110543 Hexane~~
~~302012 Hydrazine~~
~~7647010 Hydrochloric acid~~
~~7664393 Hydrogen fluoride (Hydrofluoric acid)~~
~~123319 Hydroquinone~~
~~78591 Isophorone~~
~~58899 Lindane (all isomers)~~
~~108316 Maleic anhydride~~
~~67561 Methanol~~
~~72435 Methoxychlor~~
~~74839 Methyl bromide (Bromomethane)~~
~~74873 Methyl chloride (Chloromethane)~~
~~71556 Methyl chloroform (1,1,1-Trichloroethane)~~
~~60344 Methyl hydrazine~~
~~74884 Methyl iodide (Iodomethane) 108101~~
~~Methyl isobutyl ketone (Hexone)~~

624839	Methyl isocyanate
80626	Methyl methacrylate
1634044	Methyl tert butyl ether
101144	4,4-Methylene bis(2-chloroniline) 75092
	Methylene chloride (Dichloromethane)
101688	Methylene diphenyl diisocyanate (MDI)
101779	4,4-Methylenedianilne
91203	Naphthalene
98953	Nitrobenzene
92933	4-Nitrobiphenyl
100027	4-Nitrophenol
79469	2-Nitropropane
684935	N-Nitroso-N-methylurea
62759	N-Nitrosodimethylamine
59892	N-Nitrosomorpholine
56382	Parathion
82688	Pentachloronitrobenzene (Quintobenzene)
87865	Pentachlorophenol
108952	Phenol
106503	p-Phenylenediamine
75445	Phosgene
7803512	Phosphine
7723140	Phosphorus
85449	Phthalic anhydride
1336363	Polychlorinated biphenyls (Arochlors)
1120714	1,3-Propane sultone
57578	beta-Propiolactone
123386	Propionaldehyde
114261	Propoxur (Baygon)
78875	Propylene dichloride (1,2-Dichloropropane)
75569	Propylene oxide
75558	1,2-Propylenimine (2-Methyl aziridine)
91225	Quinoline
106514	Quinone
100425	Styrene
96093	Styrene oxide
1746016	2,3,7,8-Tetrachlorodibenzo-p-dioxin
79345	1,1,2,2-Tetrachloroethane
127184	Tetrachoroethylene (Perchloroethylene)
7550450	Titanium tetrachloride
108883	Toluene
95807	2,4-Toluene diamine
584849	2,4-Toluene diisocyanate
95534	o-Toluidine
8001352	Toxaphene (chlorinated camphene)
120821	1,2,4-Trichlorobenzene
79005	1,1,2-Trichloroethane
79016	Trichloroethylene
95954	2,4,5-Trichlorophenol
88062	2,4,6-Trichlorophenol
121448	Triethylamine
1582098	Trifluralin
540841	2,2,4-Trimethylpentane
108054	Vinyl acetate
593602	Vinyl bromide
75014	Vinyl chloride
75354	Vinylidene chloride (1,1-Dichloroethylene)
1330207	Xylenes (isomers and mixture)
95476	o-Xylenes
108383	m-Xylenes
106423	p-Xylenes

0 Antimony Compounds
0 Arsenic Compounds (inorganic including arsine)
0 Beryllium Compounds
0 Cadmium Compounds
0 Chromium Compounds
0 Cobalt Compounds
0 Coke Oven Emissions
0 Cyanide compounds[1]
0 Glycol ethers[2, 6]
0 Lead Compounds
0 Manganese Compounds
0 Mercury Compounds
0 Fine mineral fibers[3]
0 Nickel Compounds
0 Polycyclic Organic Matter[4]
0 Radionuclides (including radon)[5]
0 Selenium Compounds

[1] X'CN where X = H' or any other group where a formal dissociation may occur. For example KCN or $Ca(CN)_2$

[2] Include mono- and di ethers of ethylene glycol, diethylene glycol, and triethylene glycol R-$(OCH_2CH_2)_n$-OR'. Where:
n = 1, 2, or 3;
R = alkyl C7 or less; or
R = phenyl or alkyl substituted phenyl; R' =
H or alkyl C7 or less; or
OR' consisting of carboxylic acid ester, sulfate, phosphate, nitrate, or sulfonate.

This action deletes each individual compound in a group called the surfactant alcohol ethoxylates and their derivatives (SAED) from the glycol ethers category in the list of hazardous air pollutants (HAP) established by section 112(b)(1) of the Clean Air Act (CAA).

[3] Includes mineral fiber emissions from facilities manufacturing or processing glass, rock, or slag fibers (or other mineral derived fibers) of average diameter 1 micrometer or less.

[4] Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100°C

[5] A type of atom which spontaneously undergoes radioactive decay.

[6] The substance ethylene glycol monobutyl ether (EGBE, 2-Butoxyethanol) (Chemical Abstract Service (CAS) Number 111-76-2) is deleted from the list of hazardous air pollutants established by 42 U.S.C. § 7412(b)(1).

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (k) of paragraph (2) of Rule 1200-03-26-.02 Construction and Annual Emission Fees is amended by deleting it in its entirety and substituting instead the following:

(k) Reserved. "Synthetic minor source" is a minor or major source that wishes to restructure its allowable emissions for the purposes of lowering its annual emission fees. Upon mutual agreement of the responsible official and the Technical Secretary, a more restrictive regulatory requirement may be established to minimize the allowable emissions and thus the annual emission fee.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Paragraph (2) of Rule 1200-03-26-.02 Construction and Annual Emission Fees is amended by adding three new subparagraphs (t), (u), and (v) to read as follows:

(t) "Permit amendment" is a permit revision that:

1. Corrects typographical errors;

2. Identifies a change in the name, address, or phone number of any person identified in the permit, or makes a similar minor administrative change at the source;

3. Requires more frequent monitoring or reporting by the permittee;

4. Allows for a change of ownership or operational control of a source where the Technical Secretary determines that no other change in the permit is necessary, provided that a transfer of ownership permit application is filed consistent with the provisions of paragraph (6) of Rule 1200-03-09-.03;

5. Incorporates into a true minor source or conditional major source operating permit the requirements of a construction permit issued pursuant to Rule 1200-03-09-.01;

6. Extends the expiration date of a construction permit;

7. Changes the name of a source or facility;

8. Changes a deadline established in a permit; or

9. Adds or revises a monitoring parameter.

(u) "Anticipated maximum emission rate" (AMER) means the maximum rate of actual emissions, in tons per year, from all regulated air pollutants, as defined in part (11)(b)19 of Rule 1200-03-09-.02, emitted from all sources listed in a construction permit application, excluding sources that are not required to obtain a permit in accordance with Rule 1200-03-09-.04. Except as specified below, the responsible official shall calculate AMER based on each source operating at its maximum actual hourly emission rate, as listed in the construction permit application, for 8,760 hours per year.

$$AMER = \sum_{i=1}^{m} \sum_{j=1}^{n} E_{i,j} \; x \; h_j$$

Where:

m = number of pollutants emitted by sources included in the application
n = total number of sources included in the application, excluding sources that are exempt from permitting in accordance with Rule 1200-03-09-.04
E = emission rate in pounds per hour
h = hours per year (8,760 except as specified below)

For applications that do not list a maximum pound-per-hour emission rate for a particular pollutant or source, the responsible official shall use the potential emissions, in tons per year, as listed in the construction permit application. The responsible official may use a reduced emission rate or hours of operation if the same is limited by federal or state air quality regulation, limited by operational constraints within the process (i.e., a bottleneck), or the responsible official has requested a limitation of the same in the construction permit application. Emission of a greenhouse gas that is a regulated air pollutant solely because the pollutant is a constituent of greenhouse gases shall not be included when calculating AMER. Emission of a hazardous air pollutant that is also a VOC or particulate matter shall be counted only as VOC or particulate matter. When calculating the AMER for particulate matter, the responsible official shall use the highest of the source's PM, PM_{10}, or $PM_{2.5}$ emission rate. For construction permit applications that include the retirement of existing sources or the reduction of emissions from existing sources, the AMER shall not include the emission reductions associated with such retirement or reduction of emissions.

(v) "Anticipated maximum increase in emissions" means the anticipated maximum emission rate of the existing source following the change minus the anticipated maximum emission rate prior to the change.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (c) of paragraph (3) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(c) Any source exempted ~~in~~ by Rule 1200-03-09-.04 ~~Exemptions~~ is exempt from the annual emission

fee requirements of this chapter, unless emissions from the exempt source are included in a facility-wide emissions limit. However, the emissions from any exempt source must comply with all rules and regulations of the Tennessee Air Pollution Control Board.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (d) of paragraph (3) of Rule 1200-03-26-.02 Construction and Annual Emission Fees is amended by deleting it in its entirety and substituting instead the following:

(d) ~~Reserved.~~ All construction fees required by paragraph (5) of this rule must be paid in full upon submission of the application.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (h) of paragraph (3) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(h) In the event a fee is paid for a construction permit and it is later determined that only an operating permit is needed or the source is insignificant or otherwise exempt from permitting, ~~fifty percent (50%) of the fee will be credited toward the annual emission fee for the source and the other fifty percent (50%)~~ 100% of the fee will be forfeited for the permit review.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (i) of paragraph (3) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(i) Where more than one allowable emission limit is applicable to a regulated pollutant, the allowable emissions for the regulated pollutants shall not be double counted.

1. Major sources subject to the provisions of paragraph (9) of this rule shall apportion their emissions as follows to ensure that their fees are not double counted.

(i) ~~Sources that are subject to federally promulgated hazardous air pollutant standards that can be imposed under Chapter 0400-30-38 or Chapter 1200-03-31 will place such regulated emissions in the specific hazardous air pollutant under regulation. If the pollutant is also in the family of volatile organic compounds or the family of particulates, the pollutant shall not be placed in that respective family category~~ For fee purposes, hazardous air pollutants that are also in the family of volatile organic compounds or the family of particulate matter will be included in their respective family category when determining annual emission fees.

(ii) ~~A miscellaneous category of hazardous air pollutants shall be used for hazardous air pollutants listed at part (2)(i)12. of this rule that do not have an allowable emission standard under Chapter 0400-30-38 or Chapter 1200-03-31. A pollutant placed in this category shall not be subject to being placed in any other category such as volatile organic compounds or particulates~~ For fee purposes, hazardous air pollutants that are not in the family of volatile organic compounds or the family of particulate matter will be reported separately.

(iii) Each individual hazardous air pollutant ~~and the miscellaneous category of hazardous air pollutants~~ is subject to the 4,000-ton cap provisions of subparagraph (2)(i) of this rule.

(iv) Major sources that wish to pay annual fees for ~~PM10~~ PM_{10} on an allowable emission basis may do so if they have a specific ~~PM10~~ PM_{10} allowable emission standard. If a major source has a total particulate emission standard~~,~~ but wishes to pay annual fees on an actual ~~PM10~~ PM_{10} emission basis, it may do so if the ~~PM10~~ PM_{10} actual emission levels are proven to the satisfaction of the Technical Secretary. The method to demonstrate the actual ~~PM10~~ PM_{10} emission levels must be made as part of the source's major source operating permit in advance in order

to exercise this option. The ~~PM10~~ PM_{10} emissions reported under these options shall not be subject to fees under the family of particulate emissions. The 4,000-ton cap provisions of subparagraph (2)(i) of this rule shall also apply to ~~PM10~~ PM_{10} emissions.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (j) of paragraph (3) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(j) No construction fee, annual emission fee, or permit review fee under paragraph (1) of this rule shall be imposed for review of notices of intent for ~~coverage under a general permit,~~ authorization under a permit-by-rule~~,~~ or issuance of ~~the~~ a notice of ~~coverage or~~ authorization.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (a) of paragraph (5) of Rule 1200-03-26-.02 Construction and Annual Emission Fees is amended by deleting it in its entirety and substituting instead the following:

(a) Construction Permit and Opt-Out Permit Application Filing/Processing Fees

1. The fee rates of this subparagraph effective on July 1, 2022, continue to apply until July 1, 2024.

2. ~~A~~ On and after July 1, 2024, a responsible official applying for the construction permit ~~[~~(i.e., construction as defined in subparagraph (2)(j) of this rule~~]~~) required by Rule 1200-03-09-.01, or an opt-out permit, must pay a construction permit application filing/processing fee as ~~set forth in subparagraph (5)(g), Schedule A of this rule~~ follows:

(i) A responsible official of a minor source or a conditional major source must pay construction permit application fees as set forth in subparagraph (g), Schedule A of this paragraph. The fee determined from subparagraph ~~(5)~~(g), Schedule A of this ~~rule~~ paragraph shall be calculated based on ~~increases in emissions of regulated pollutants.~~ the definitions of anticipated maximum emission rate and anticipated maximum increase in emissions, as defined in subparagraphs (2)(u) and (v) of this rule.

(ii) A responsible official of a major source or a source subject to paragraph (11) of this rule (hereinafter, "Paragraph 11 source") must pay a construction permit application fee of $7,000.

(iii) Except as specified in subpart (v) of this part, a responsible official applying for a Prevention of Significant Air Quality Deterioration permit as required by paragraph (4) of Rule 1200-03-09-.01 must pay a construction application fee of $70,000.

(iv) Except as specified in subpart (v) of this part, a responsible official applying for a permit under the provisions of paragraph (5) of Rule 1200-03-09-.01, Growth Policy, must pay a construction application fee of $70,000.

(v) A responsible official applying for a plantwide applicability limit (PAL) under the provisions of subparagraph (4)(s) of Rule 1200-03-09-.01 or part (5)(b)10 of Rule 1200-03-09-.01 must pay an application fee of $10,000 per pollutant.

(vi) A responsible official of an existing Paragraph 11 source applying for an operating permit to opt out of being a Paragraph 11 source, as described in subparagraph (11)(a) of Rule 1200-03-09-.02, by limiting the potential to emit such that the potential emissions of all pollutants are below the major source applicability thresholds, as defined in part (11)(b)14 of Rule 1200-03-09-.02, must pay an application fee of $18,000.

3. On and after July 1, 2024, an applicant for a minor source or a conditional major source

applying to make a change to an existing source or permit such that a new construction permit is required must pay a permit application fee as set forth in subparagraph (g), Schedule A of this paragraph. This fee is determined by the anticipated maximum increase in emissions, as defined in subparagraph (2)(v) of this rule, from the anticipated maximum emission rate of the previous construction permit for the source. The fee rates in this part in effect on July 1, 2022, continue to apply until July 1, 2024.

4. On and after July 1, 2024, an owner or operator of a source that submits notice of intent for coverage under a general permit serving as a construction permit shall pay a permit application fee equal to that determined in accordance with the subparagraph (g) of this paragraph, Schedule A fee corresponding to the applicant's anticipated maximum emission rate, unless an alternate construction permit application fee is stipulated in the table below. If Schedule A from subparagraph (g) of this paragraph is used to determine the fee, it shall be determined by the anticipated maximum increase in emissions, as defined in subparagraph (2)(v) of this rule, from the anticipated maximum emission rate of the previous construction permit for the source.

General Permit Category	Construction and Modification Permit Application Fee
Perchloroethylene and Petroleum Solvent Dry Cleaners	$100
Concrete batch plants	$100
Portable rock crushers	$100
Asphalt plants	$250
Air Curtain Incinerators	$500

5. All application filing/processing fees required by this subparagraph are due upon submission of the permit application.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (b) of paragraph (5) of Rule 1200-03-26-.02 Construction and Annual Emission Fees is amended by deleting it in its entirety and substituting instead the following:

(b) 1. The fee rates required by this subparagraph effective July 1, 2022, continue until July 1, 2024.

2. With the exception of changes received during the initial construction permit evaluation period (i.e., prior to the ~~certified~~ Division letter or email denoting application completeness), all revisions under subparagraph (4)(e) of this rule ~~which~~ that result in an increase in allowable emissions sought by the applicant or an increase in actual emissions declared in the original application for a permit shall be subject to a fee equal to the following:

(i) For minor sources and conditional major sources, one-half of the Schedule A fee corresponding to the applicant's anticipated maximum emission rate, not to exceed $500.

(ii) For Paragraph 11 sources, $3,500.

3. ~~This~~ The fee required by subparts 2(i) and (ii) of this subparagraph is determined by the anticipated maximum increase in emissions from the anticipated maximum emission rate of the previous construction permit for the source.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (c) of paragraph (5) of Rule 1200-03-26-.02 Construction and Annual Emission Fees is amended by deleting it in its entirety and substituting instead the following:

(c) Reserved. ~~A responsible official applying to make a change to a source or permit such that a new construction permit is required must pay a permit filing/processing fee equal to one-half the Schedule A fee corresponding to the applicant's anticipated maximum emission rate, not to exceed $500. This fee is determined by the anticipated maximum increase in emissions from the anticipated maximum emission rate of the previous construction permit for the source.~~

T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (e) of paragraph (5) of Rule 1200-03-26-.02 Construction and Annual Emission Fees is amended by deleting it in its entirety and substituting instead the following:

(e) The Division must make a decision to issue or deny a request for a ~~construction~~ permit in one of the categories listed in parts 1 through 4 of this subparagraph and notify the applicant of that decision in accordance with the following time-lines:

1. Major source or Paragraph 11 source construction permit reviews must be completed in ~~one hundred eighty (~~180~~)~~ days, from receipt of a complete application unless a longer ~~time~~ period is agreed to in writing by the applicant.

2. Minor and conditional major source construction permit reviews must be completed within ~~one hundred fifteen (~~115~~)~~ days from receipt of a complete application.

3. PAL reviews must be completed within 12 months from receipt of a complete application unless a longer period is agreed to in writing by the applicant.

4. Operating permit reviews for an existing major source or Paragraph 11 source applying for an operating permit to opt out of being a major source or Paragraph 11 source by limiting the potential to emit such that they are below the major source applicability thresholds must be completed within 12 months from receipt of a complete application unless a longer period is agreed to in writing by the applicant.

5. If a mutual agreement letter required by part (6)(b)1 of this rule or subparagraph (11)(a) of Rule 1200-03-09-.02 has been requested by the Division at least seven days prior to a deadline specified in part 1, 2, 3, or 4 of this subparagraph, but is not received by that deadline, the applicable deadline specified in part 1, 2, 3, or 4 of this subparagraph shall be seven days after receipt of the agreement letter.

6. If a source is required to have a compliance schedule in their permit in accordance with paragraph (4) of Rule 1200-03-09-.02 arises after an application was deemed complete, the deadlines specified in part 1, 2, 3, or 4 of this subparagraph shall be extended as follows:

(i) 21 days after receipt of a compliance schedule from the applicant that is acceptable to the Technical Secretary if the draft permit is not required to have a public comment period.

(ii) 60 days after receipt of a compliance schedule from the applicant that is acceptable to the Technical Secretary if the draft permit is subject to an opportunity for public comment, and no public hearing is held.

(iii) 60 days after receipt of a compliance schedule from the application that is acceptable to the Technical Secretary if the draft permit is subject to an opportunity for public comment and a public hearing is announced along with the opportunity for public comment on the draft permit.

(iv) 90 days after receipt of a compliance schedule from the applicant that is acceptable to the Technical Secretary if the draft permit is subject to an opportunity for public comment, if a public hearing is requested during the public comment period, and the public hearing is held after the close of the public comment period.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (g) of paragraph (5) of Rule 1200-03-26-.02 Construction and Annual Emission Fees is amended by deleting it in its entirety and substituting instead the following:

(g) The appropriate permit filing/processing fee shall be determined by the applicant from the following ~~schedule~~ schedules:

SCHEDULE A ~~–~~
CONSTRUCTION PERMIT FEES FOR MINOR AND CONDITIONAL MAJOR SOURCES

Anticipated Maximum Emission Rate	(Filing/Processing) Permit Fee
Less Than 10 Tons/Year	$100~~.00~~
10 to < 100 Tons/Year	$500~~.00~~
100 to < 250 Tons/Year	$1,000~~.00~~
250 to < 500 Tons/Year	$2,000~~.00~~
500 to < 1,000 Tons/Year	$3,000~~.00~~
1,000 to < 5,000 Tons/Year	$4,000~~.00~~
5,000 ~~to~~ and Greater Tons/Year	$5,000~~.00~~

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (c) of paragraph (6) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(c) All minor and conditional major source annual fees are due and payable to the State of Tennessee in full according to Schedule I of this subparagraph. The county in which a source is located determines when the source's annual fee is due. If a source is located on contiguous property in more than one county, the county appearing earliest in the calendar year shall be used to determine the due date of the annual fee. Due to seasonal operations, cotton gin source annual fees are due and payable annually to the State of Tennessee by December 1 of each year regardless of the county in which the source is located. The fee must be paid to the State of Tennessee in full by the first day of the month that the fee is due. The Technical Secretary ~~may extend~~ extends this due date ~~an additional~~ by an appropriate period not to exceed 90 days where the source owner or operator's fee notice was mailed by the Department to an incorrect mailing address.

SCHEDULE I

Month the Annual Fee is Due (Accounting Period)
Counties in the Monthly Grouping

January	Anderson, Bedford, Benton, Bledsoe, Blount, Bradley, and Campbell
February	Cannon, Carroll, Carter, Cheatham, Chester, Claiborne, Clay, and Cocke
March	Coffee, Crockett, Cumberland, Davidson, Decatur, DeKalb, Dickson, Dyer, and Fayette
April	Fentress, Franklin, Gibson, Giles, Grainger, Greene, and Grundy
May	Hamblen, Hamilton, Hancock, Hardeman, Hardin, Hawkins, Haywood, and Henderson
June	Henry, Hickman, Houston, Humphreys, Jackson, Jefferson, Johnson, Knox, Lake, Lauderdale, Lawrence, and Lewis
July	Lincoln, Loudon, McMinn, McNairy, Macon, and Madison
August	Marion, Marshall, Maury, Meigs, Monroe, Montgomery, Moore, and Morgan
September	Obion, Overton, Perry, Pickett, Polk, Putnam, and Rhea

October	Roane, Robertson, Rutherford, Scott, Sequatchie, Sevier, and Shelby
November	Smith, Stewart, Sullivan, Sumner, Tipton, Trousdale, Unicoi, and Union
December	Van Buren, Warren, Washington, Wayne, Weakley, White, Williamson, and Wilson

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (d) of paragraph (6) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(d) 1. A newly constructed minor or conditional major source beginning operation subsequent to the annual accounting period for the county in which it is located shall not be required to pay an annual fee for the remainder of the annual accounting period. A minor or conditional major source ceasing operations during the annual accounting period will not receive a refund for annual fees paid.

2. Sources issued a combination construction and operating permit in accordance with paragraph (12) of Rule 1200-03-09-.02 shall pay annual fees as if operation of the new or modified source began on the date of permit issuance. This part does not apply to sources for which construction and operation of the new source or modification began prior to receipt of a construction permit.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (e) of paragraph (6) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(e) ~~The~~ Except for sources that are covered under a general permit issued in accordance with Rule 1200-03-09-.06, the appropriate annual emissions fee for minor and conditional major sources in operation on or after July 1, 1993, shall be calculated at an emission fee rate of $18.75 per ton of allowable emissions of regulated pollutants at the time of the fee assessment by the Division based on the current active permit(s). Sources with allowable emissions less than 10 ~~(ton)~~ tons will not be subject to this fee, provided that such source has not taken a limitation on their permit that would render them a conditional major ~~or synthetic minor~~ source.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (f) of paragraph (6) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(f) ~~Deleted.~~ A responsible official of a source operating under a general permit shall pay an annual emissions fee as stipulated in subparagraph (e) of this paragraph based on the allowable emissions specified in the general permit unless different fee rates are stipulated in the following table. These fees are due and payable by the date established in subparagraph (c) of this paragraph:

General Permit Category	Combined Annual Emission Fee and Base Fee	Permit Review Fee
Perchloroethylene and Petroleum Solvent Dry Cleaners	$0	$0
Concrete Batch Plants with emissions less than 10 tons per calendar year	$0	$0
Concrete Batch Plants with emissions greater	$400	$0

than or equal to 10 tons per calendar year		
Portable rock crushers at True Minor Facilities	$1,000	$0
Portable rock crushers at Conditional Major Facilities	$1,000	$500
Asphalt Plants	$1,000	$500

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (a) of paragraph (8) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(a) The Technical Secretary will not issue any ~~certificate,~~ permit or ~~other official document subject to a fee in this chapter~~ renewal of a permit to an applicant until ~~the required fee has~~ all fees required by this chapter have been paid in full to the ~~Division~~ State of Tennessee.

Authority: T.C.A. §§ 4-5-201, et seq.; 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (b) of paragraph (8) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(b) If any part of any fee imposed under this rule is not paid within 15 days of the due date, a late payment penalty of ~~5%~~ five percent of the amount due shall at once accrue and be added thereto. Thereafter, on the first day of each month during which any part of any fee or any prior accrued late payment penalty remains unpaid, an additional late payment penalty of ~~5%~~ five percent of the then unpaid balance shall accrue and be added thereto. In addition, the fees not paid within 15 days after the due date, shall bear interest at the maximum lawful rate from the due date to the date paid, compounded monthly; however, the total of the penalties and interest that accrue pursuant to this subparagraph shall not exceed three times the amount of the original fee. ~~The Division will consult with the State of Tennessee's Department of Finance and Administration to determine the appropriate rate of interest.~~

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subpart (iii) part 2 of subparagraph (a) of paragraph (9) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(iii) Sources choosing to pay annual fees on an actual emissions basis or a combination of actual and allowable emissions basis and on a fiscal year basis pursuant to subparagraph (b) of this paragraph shall pay an estimated 65% of the fee due pursuant to subparagraph (d) of this paragraph no later than April 1 of the current fiscal year. The remainder of the annual fee is due ~~July~~ August 1 of each year, except as allowed by part (g)3. of this paragraph.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Part 4 of subparagraph (b) of paragraph (9) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

4. The responsible official of a newly constructed major source, Paragraph 11 source, or minor source modifying its operation such that the source becomes a major source or Paragraph 11 source shall pay an initial annual fee based on a calendar year and allowable emissions for the fractional remainder of the calendar year commencing upon the source's start-up. However, in no case shall the annual fee be less than the annual base fee established in part (d)1 of this paragraph. Prior to July 1, 2024, in no case shall the annual fee be less than the minimum fee established in subpart (d)2(ii) of this paragraph effective on July 1, 2022.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subparagraph (d) of paragraph (9) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(d) 1. Notwithstanding the fee rates established by ~~part 2.~~ parts 2 and 4 of this subparagraph, a responsible official of any source subject to this paragraph ~~(9)~~ shall pay an annual base fee ~~of $6,000 for fees due on and after January 1, 2023~~ which shall be calculated in accordance with subparts (i) through (iii) of this part. This base fee shall be paid in addition to the annual emission fee established by subpart 2.(iii) of this subparagraph~~, but shall be counted toward the applicable minimum fee set forth in subpart 2.(ii) of this subparagraph~~. The fee rates required by this part effective July 1, 2022, continue to apply until July 1, 2024.

(i) The base fee shall be determined by the number of federal air quality standards to which a major source or Paragraph 11 source is subject. The following federal air quality standards shall be considered if the standards have been incorporated into a permit issued to the facility under the provisions of Chapter 1200-03-09 or have been incorporated into Chapter 0400-30-38 or Chapter 0400-30-39:

(I) Standards of Performance for New Stationary Sources as codified in 40 C.F.R. part 60, excluding subparts A, B, Ba, C, Cb, Cc, Cd, Ce, Cf, AAA, DDDD, FFFF, MMMM, and UUUUa.

(II) National Emission Standards for Hazardous Air Pollutants as codified in 40 C.F.R. part 61, excluding subpart A.

(III) National Emissions Standards for Hazardous Air Pollutants as codified in 40 C.F.R. part 63, excluding subparts A, B, C, D, E, OO, PP, QQ, RR, SS, TT, UU, VV, and XX.

(ii) If a facility is subject to 40 C.F.R. part 60 subpart IIII or JJJJ, or 40 C.F.R. part 63 subpart ZZZZ or CCCCCC and is only subject to that subpart for air contaminate sources that are not required to be included in a permit in accordance with paragraph (4) of Rule 1200-03-09-.04, then such subpart shall not be included when determining the number of federal air quality standards that a source is subject.

(iii) 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

2. (i) For purposes of this part, an electric utility generating unit (EGU) means any steam electric generating unit or stationary combustion turbine that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW net-electrical output to any utility power distribution system for sale. Also, any steam supplied to a steam distribution system for the purpose of providing steam to a steam electric generator that would produce electrical energy for sale is considered in determining the electrical energy output capacity of the affected EGU.

(ii) Notwithstanding the annual emission fee rates established by subpart (iii) of this part, the annual fee required to be paid by a responsible official of any source subject to this paragraph ~~(9)~~ shall be no less than:

(I) $5,500 for sources (~~once in always in or OIAI~~ Once in/Always in sources) subject to this paragraph ~~(9)~~ solely due to the May 16, 1995 EPA memorandum entitled, ''Potential to Emit for MACT Standards—Guidance on Timing Issues,'' from John Seitz, Director, Office of Air Quality Planning and Standards (OAQPS), to EPA Regional Air Division Directors, provided that the source has permitted allowable emissions below the major source thresholds found in part (11)(b)14~~.~~ of Rule 1200-03-09-.02. If the source's permitted allowable emissions are not below those major source thresholds as of October 31 of the annual accounting period for which fees are due under this part, then item (II) of this subpart applies; and

(II) $10,000 for all other sources subject to this paragraph ~~(9)~~ for fees due on and after January 1, 2023.

(iii) The emission fee rates applied to calculate the annual fee assessed pursuant to subparagraph (a) of this paragraph shall be as follows:

(I) Fee based on actual emissions: $70.50 per ton for non-EGU sources and $98.50 per ton for EGU sources; and

(II) Fee based on allowable emissions: $48.50 per ton for non-EGU sources and $68.00 per ton for EGU sources.

(iv) The fees and fee rates enumerated in this subparagraph ~~(d)~~ must be supported by the Division's annual workload analysis that is approved by the Board.

(v) When subparts 1(i) through (iii) of this subparagraph become effective, subpart (ii) of this part will no longer be applicable.

3. The fees and fee rates specified in this subparagraph ~~(d)~~ shall remain in effect until the effective date of an amendment to this subparagraph ~~(d)~~. Any revision to the fees and fee rates must result in the collection of sufficient fee revenue to fund the activities identified in subparagraph (1)(c) of this rule and must be supported by the Division's annual workload analysis that is approved by the Board.

4. Notwithstanding the fee rates established by part 1 or 2 of this subparagraph, a responsible official of any source subject to this paragraph shall pay a Title V modification fee calculated as follows:

(i) For each minor permit modification issued in accordance with subpart (11)(f)5(ii) of Rule 1200-03-09-.02 during the calendar year preceding the year in which the annual fee is due, the responsible official shall pay $2,800.

(ii) For each significant modification issued in accordance with subpart (11)(f)5(iv) of Rule 1200-03-09-.02 during the calendar year preceding the year in which the annual fee is due, the responsible official shall pay $5,000.

5. The Title V modification fee required by part 4 of this subparagraph shall be paid in addition to the annual emission fee established by subpart 2(iii) of this subparagraph. The Title V modification fee is not required for complete minor permit modification and significant modification applications received prior to July 1, 2024.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

Subpart (i) part 3 of subparagraph (g) of paragraph (9) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

(i) Responsible officials choosing to pay the annual fee based on actual emissions or a mixture of actual and allowable emissions may request an extension of time for filing the emissions analysis with the Technical Secretary. The extension may, for

facilities paying fees on a calendar year basis, be granted by the Technical Secretary for up to 90 days after the fee is due pursuant to subparagraph (a) of this paragraph. The extension may, for facilities paying fees on a fiscal year basis, be granted by the Technical Secretary for up to 60 days after the fee is due pursuant to subparagraph (a) of this paragraph. The request for extension must be received by the Division no later than 4:30 p.m. on April 1 or the request for extension shall be denied. The request for extension to file must state the reason for the request and provide an adequate explanation. An estimated annual fee payment of no less than 65% of the annual fee must accompany the request for extension to avoid penalties and interest on the underpayment of the annual fee. The remaining balance due must accompany the emission analysis. If there has been an overpayment, the responsible official may request a refund in writing to the Division or the amount of the overpayment may be applied as a credit toward the next annual fee.

Authority: T.C.A. §§ 4-5-201, et seq., 68-203-103, et seq.; and 68-201-101, et seq.

* If a roll-call vote was necessary, the vote by the Agency on these rulemaking hearing rules was as follows:

Board Member	Aye	No	Abstain	Absent	Signature (if required)
Dr. Ronné Adkins Commissioner's Designee, Dept. of Environment and Conservation					
Dr. John Benitez Licensed Physician with experience in health effects of air pollutants					
Dr. Joshua Fu Involved with Institution of Higher Learning on air pollution evaluation and control					
Mike Haverstick Working in management in Private Manufacturing					
Dr. Shawn A. Hawkins Working in field related to Agriculture or Conservation					
Richard Holland Working for Industry with technical experience					
Caitlin Roberts Jennings Small Generator of Air Pollution representing Automotive Interests					
Dr. Chunrong Jia Environmental Interests					
Ken Moore Working in Municipal Government					
Stephen Moore Working for Industry with technical experience					
Amy Spann, PE Registered Professional Engineer					
Nicholas Ramos Conservation Interest					
Larry Waters County Mayor					
Jimmy West Commissioner's Designee, Dept. of Economic and Community Development					

I certify that this is an accurate and complete copy of rulemaking hearing rules, lawfully promulgated and adopted by the Air Pollution Control Board on 10/11/2023 and is in compliance with the provisions of T.C.A. § 4-5-222.

I further certify the following:

Notice of Rulemaking Hearing filed with the Department of State on: 06/20/2023

Rulemaking Hearing(s) Conducted on: (add more dates). 08/11/2023

Date: _____

Signature: _____

Name of Officer: Michelle W. Owenby

Title of Officer: Technical Secretary

Agency/Board/Commission: Air Pollution Control Board

Rule Chapter Number(s): 1200-03-02 and 1200-03-26

All rulemaking hearing rules provided for herein have been examined by the Attorney General and Reporter of the State of Tennessee and are approved as to legality pursuant to the provisions of the Administrative Procedures Act, Tennessee Code Annotated, Title 4, Chapter 5.

_____
Jonathan Skrmetti
Attorney General and Reporter

_____
Date

Department of State Use Only

Filed with the Department of State on: _____

Effective on: _____

_____
Tre Hargett
Secretary of State

Public Hearing Comments

One copy of a document that satisfies T.C.A. § 4-5-222 must accompany the filing.

1. Comment: A commenter stated that a construction and modification permit application fee of $500 for air curtain incinerators should be added to the proposed table in part (5)(a)4 of Rule 1200-03-26-.02.

   Response: The Board agrees to add a $500 fee for air curtain incinerators to the table in part (5)(a)4 of Rule 1200-03-26-.02. The Division is in the process of developing a general construction permit for air curtain incinerators and a fee of $500 is typical for a traditional permit for an air curtain incinerator.

2. Comment: A commenter stated that it would be appropriate to retain the existing language in subpart (9)(d)2(ii) of Rule 1200-03-26-.02 and add subpart (9)(d)2(v) to read as follows: "When subparts (1)(i) through (iii) of this subparagraph become effective, subpart (ii) of this part will no longer be applicable."

   Response: The Board agrees these changes are needed to ensure there will not be any unintended revenue erosion if the effective date of the amendments is delayed past July 1, 2024.

3. Comment: Commenters stated that the Division should encourage the use of plantwide applicability limit (PAL) permits because they reduce the burden on the Division. Application fees associated with an initial PAL permit are to be expected, and the PAL permit renewal fees, per pollutant or otherwise, are unwarranted and should be covered by the annual Title V fees. A commenter included a quote from the federal rule that established EPA's PAL rule, which states that fewer resources are required by the permitting agency. A commenter noted that changes made during the 10-year term of a PAL permit are already incorporated into the compliance demonstration methodologies and that PAL renewals should be "uncomplicated, straightforward, and efficient administrative affirmation of the changes that involve minimal staff time and effort."

   Response: While the commenter is correct that PAL permits reduce the burden on the Division, only prevention of significant air quality deterioration (PSD) and PSD-avoidance permitting is avoided. All other permit workload remains for facilities that have PALs. Some of the substantial work required by the Division to renew a PAL includes:

   - Adjusting the level of the PAL based on (1) the facility's current potential to emit, (2) state and federal requirements that became applicable during the PAL term, (3) updated baseline actual emissions, (4) units that were constructed during the term of the PAL, (5) air quality needs, (6) advances in control technology, (7) anticipated economic growth in the area, (8) rewarding or encouraging voluntary emission reductions, and (9) other factors specified by the Technical Secretary. See 40 C.F.R. § 52.21(aa)(10)(iv) and subpart (4)(s)10(iv) of Rule 1200-03-09-.01.
   - Adjustment of emission factors based on re-validation performance testing (which is required every five years). See 40 C.F.R. § 52.21(aa)(12)(vi) and 14(iii) and subparts (4)(s)12(vi) and (4)(s)14(iii) of Rule 1200-03-09-.01.
   - Public participation. See 40 C.F.R. § 52.21(aa)(5) and part (4)(s)5 of Rule 1200-03-09-.01.

   Tennessee currently has four facilities with active PAL permits. These range from a single-pollutant PAL with eight sources to a facility with PALs for 10 different pollutants with approximately three dozen sources. Thus, the level of complexity and resulting amount of work to renew a PAL can range from being rather straightforward to relatively difficult. The Division does not have any recent data on the person-hours required for PAL Renewals. Given the lack of data on the workload associated with a PAL renewal, the Board has decided not to include a fee for PAL renewals, and the associated proposed deadline, in the current rule. A fee for PAL renewals may be revisited once sufficient data is collected.

4. Comment: Commenters stated that the 2023-2024 Title V Workload Analysis provided by the Division indicated that 1.34 FTEs will be required to process an estimated 86 significant and minor modifications received and that the $5000 fee for significant modifications and $2800 fee for minor modifications seem excessive based on the number of documents being processed and should be significantly reduced. The Commenters stated that fees for these services should be covered by the Title V annual fees.

Response: The entire set of proposed fees, including proposed significant modification and minor modification fees, that pertain to Title V sources are necessary to cover the actual cost to the State of the Title V program. The cost of the Title V program includes various expenses that are directly attributable to individual sources, such as source inspections, stack test observations and report reviews, continuous emissions monitor report reviews, enforcement activity, and emission inventory reviews, as well as many expenses that are not directly attributable to individual sources, such as ambient monitoring, management and administration, TDECs Small Business Environmental Assistance Program, regulatory development, and a portion of the Division's General and Administrative fees. Where the Board can identify specific activities that are directly related to a specific permitting activity for a specific facility and data exists to estimate the average amount of time taken to complete those activities, such as Title V minor modification and significant modification, per-service fees to be paid by the facility receiving the service were developed to capture those costs. This was done to align the costs for these services with those companies that are directly requesting those services whenever possible. It is expected that the cost for many of the services mentioned above that cannot be directly attributable to individual sources would be covered by the Title V annual emission fee or base fee.

The proposed minor modification fee is based on a five-year average number of man-hours (25.7) for issuing a minor modification and an hourly rate of $108/hour. Thus, the proposed minor modification fee was calculated as follows: 25.7 hours x $108/hour = $2776, which was rounded up to $2800 for the proposal.

The proposed significant modification fee is based on a five-year average number of man-hours (45.5) for issuing a minor modification and an hourly rate of $108/hour. Thus, the proposed minor modification fee was calculated as follows: 45.5 hours x $108/hour = $4,903, which was rounded up to $5,l000 for the proposal.

The average hourly cost of $108/hour was projected for FY2028, the target year for the fee rule analysis, and includes salary, benefits, and a pro-rated portion of the TDEC General & Administrative (G&A) costs. Actual salaries, benefit ratios, and TDEC G&A costs were used assuming a three percent per year increase to project them to FY2028.

5. Comment: Commenters supported the proposed flat fee of $7,000 for construction permits at Title V facilities instead of the alternative proposed fee schedule based on the Anticipated Maximum Emission Rate associated with the application.

   Response: The Board has included the flat $7,000 construction permit application fee for Title V sources in the final rule.

6. Comment: A commenter inquired as to whether an individual who signed as a "responsible official" is personally liable to pay if the source does not have the ability to do so. The commenter stated that this should be clarified.

   Response: Generally, the "responsible official" is not personally liable for the payment of fees unless there are specific circumstances such as when the responsible official is also the owner or operator of the facility and may have structured the business and personal finances in a way that may make the individual personally liable.

7. Comment: A commenter stated that facilities should be allowed to pay any permit fee, whether they be renewal fees, application fees, or modification fees, at the time of annual fee payment.

   Response: The proposed rule allows for the proposed minor modification and significant modification fees to be paid along with the annual fee payment; therefore, the Board attempted to allow fees to be paid annually to the extent the law allows. The proposed construction fee for Title V sources, the PSD and Nonattainment NSR permit fees, and PAL fees are construction permit fees. Subparagraph (4)(a) of Rule 1200-03-26-.02 states: "A construction permit application is not considered complete unless the application filing/processing fee has been paid in full." A facility that is issued a Title V to Conditional Major permit would not be subject to Title V fees once that permit is issued and thus it would not be possible to assess the Title V to Conditional Major fee with annual Title V fees. Furthermore, T.C.A. section 68-203-103(d) of the Tennessee Environmental Protection Fund Act states: "No permit or renewal of a permit shall be issued to an applicant for a permit under the

foregoing authorities until all fees required by this chapter are paid in full."

8. Comment: A commenter stated that the proposed 18-month regulatory deadline to review a 1-pollutant PAL or a Title V to Conditional Major application is excessive and hindering to business operations.

   Response: The Division has issued two initial PAL permits in recent years. One was a three pollutant PAL permit (PM, PM_{10}, and $PM_{2.5}$) and took slightly over 19 months from the date of receipt of a complete application to issue. The other was a nine pollutant PAL permit (NO_x, CO, SO2, VOC, TRS, H_2S, Pb, H_2SO_4, and HF) and took slightly over seven months from the date of a complete application to issue. Both PAL permits were issued to the same company. Many key issues pertaining to the second PAL permit were resolved while processing the first PAL permit, making development of the second quicker. Also, issuance of the three pollutant PAL was delayed at the request of the applicant so the effective dates of both PAL permits would be the same.

   The Division currently has four facilities with active PAL permits, which range from a single pollutant PAL for eight sources to 10 pollutant-specific PALs for more than three dozen sources. The compliance methods for the various PALs range from simple mass balance calculations for surface coating operations to emission factors that require initial validation and periodic re-validation for process sources. Because each PAL application is unique in its breadth and complexity, the length of time to issue a PAL permit will vary and is difficult to project. The regulatory deadline for taking final action on a PAL permit must cover both the simple single-pollutant PAL permit and the complex multi-pollutant, multi-source PAL permit.

   Based on the information listed above, the Board recognizes that the Division may be able to take final action on a PAL application in less than the proposed regulatory deadline of 18 months. However, a standard 180-day deadline for a regular construction permit is not likely to provide sufficient time for the Division to work with the applicant to craft a quality PAL that meets the needs of the applicant and that can pass Environmental Protection Agency (EPA) and public scrutiny. Given the data currently available, the Board has determined that a 12-month deadline, with a provision for a longer issuance time if agreed to by the applicant, is appropriate to handle the wide range of PAL applications that would need to be processed.

   Conditional major permits are one of the more complex types of permits issued by the Division. Conditional major permits require the development of voluntary emission or production limitations to ensure that the potential emissions of all pollutants emitted by the facility remain below major source threshold. These emission limits must include enforceable testing, monitoring, recordkeeping, and reporting requirements developed on a case-by-case basis. The Division uses an 18-month goal for initial conditional major permits, which is the same deadline that would apply to the same facility for a Title V permit. The workload required for going from an existing Title V permit to a conditional major permit should be somewhat less because the Title V permit should already have the emission limits and compliance methods for applicable state and federal regulatory requirements. However, the source-specific conditional major requirements must still be developed.

   The Division has issued four permits to change facilities from Title V to Conditional Major in the last five years. The length of time to issue these permits ranged from 60 to 539 days from receipt of a complete application. As with the PAL permits, the Board recognizes that the Division may be able to take final action on a complete Title V to Conditional Major application in less than 18 months. However, given that half of these permits exceeded the standard 180-day deadline for a construction permit for a Title V source, the Board has determined that a 12-month deadline, with a provision for a longer issuance time if agreed to by the applicant, is appropriate.

   These regulatory deadlines are the maximum time the Division is allowed to act on a permit application. The Board encourages the Division to continue to issue permits within timeframes necessary to meet the applicant's business needs.

9. Comment: A commentor requested that "in-process" modification and PAL renewal applications should be grandfathered as exempt from the proposed fee.

   Response: Applications deemed complete before the effective date of this rule revision will be subject to the previous version of the Title V fee rule. Applications deemed complete on or after the effective date

of this rule change will be subject to the new fee structure. Language has been added to part (9)(d)5 of Rule 1200-03-26-.02 to clarify this.

10. Comment: TDEC's Small Business Environmental Ombudsman expressed support for establishment of general permits, many of which cover source categories that include small businesses. He stated that he understands that even general permits require some staff time to process and supported the proposed fees for general permits. Based on comments from industry, small costs, such as those proposed, may make a facility pay more attention to a general permit than if it was provided at no cost.

Response: The Board appreciates the comment.

Regulatory Flexibility Addendum

Pursuant to T.C.A. §§ 4-5-401 through 4-5-404, prior to initiating the rule making process, all agencies shall conduct a review of whether a proposed rule or rule affects small business.

(1) The type or types of small business and an identification and estimate of the number of small businesses subject to the proposed rule that would bear the cost of, or directly benefit from the proposed rule.

The Board does not require sources to identify whether a facility is a small business in air quality permit applications, therefore, identification of individual small businesses subject to these rule changes is not possible. However, some examples of the types of small businesses that would be subject to the various parts of the rule revision are as follows:

- Fees for Title V sources – Categories of industries that will be impacted may include fiberglass boat, tub, and spa manufacturers; furniture manufacturers; building materials production companies; chemical plants; private landfill operators; foam products manufacturers; and secondary metals plants. While the proposed rule will require affected businesses to pay more in fees, adequate funding of the Title V program should ultimately result in the timely issuance of Title V operating permits, modifications, and construction permits for sources subject to the Title V permitting program. Small businesses required to obtain Title V operating permits will see increased fees because of this proposed rulemaking. However, only a small percentage of facilities required to obtain such permits are small businesses as defined in the Uniform Administrative Procedures Act, Tennessee Code Annotated section 4-5-102(13). Also, as stated below, it is expected that small businesses, which tend to be subject to fewer federal regulations, should see only a modest impact in annual fees.

- General Permits – Categories of industries that may be impacted include dry cleaners, concrete batch plants, asphalt plants, portable rock crushing companies, and owners of air curtain incinerators. General permits, which are included in these amendments, should be beneficial to small businesses that would fall into the categories covered by general permits as it provides an expedited process for permitting new and modified sources.

(2) The projected reporting, recordkeeping, and other administrative costs required for compliance with the proposed rule, including the type of professional skills necessary for preparation of the report or record.

- Fees for Title V sources – The proposed amendments will not add any reporting, recordkeeping, or other administrative costs for compliance with the proposed rule.

- General Permits – The prosed rule, which adds fees for facilities that choose to be covered by a general permit, will require minimal administrative costs associated with payment of the fees. It is anticipated that a facility's existing administrative and financial staff will be able to cover payment of the fees. However, the burden associated with applying for and complying for a general permit itself will significantly reduce the burden on the facility.

(3) A statement of the probable effect on impacted small businesses and consumers.

The rule amendments increase fees owed for small businesses required to have Title V operating permits or construction permits. However, the base fee structure that aligns increasing cost with the number of federal regulations applicable to the company ensures that small business with few federal regulations applied to their facility will see minimal increase to their annual fee. Additionally, small businesses have an opportunity to avoid construction permits and the associated costs by using Title V minor modifications, which have a lower fee, and operational flexibility changes, which have no fee.

(4) A description of any less burdensome, less intrusive or less costly alternative methods of achieving the purpose and objectives of the proposed rule that may exist, and to what extent the alternative means might be less burdensome to small business.

Section 502(b)(3)(A) of the federal Clean Air Act (CAA) requires Tennessee, as a state approved by the EPA to administer a Title V major source operating permit program ("Title V program"), to collect "an annual fee, or the equivalent over some other period, sufficient to cover all reasonable (direct and indirect) costs required to develop and administer the permit program requirements[.]" All facilities within the program must contribute to the direct and indirect costs.

Regarding the proposal's changes relative to general permits, both in the Title V and the non-Title V program, these are a less burdensome and less costly alternative to standard permits. The changes to the general permit fees will allow the Division to develop and implement general permits without impacting fee revenue.

(5) A comparison of the proposed rule with any federal or state counterparts.

Each state's fee system is unique, so direct comparisons cannot be made. However, federal law requires each state to recoup the cost from the participants of the title V program that are adequate to cover the program. Therefore, small businesses would be required to contribute to the cost of each states Title V program.

(6) Analysis of the effect of the possible exemption of small businesses from all or any part of the requirements contained in the proposed rule.

Exemption of small businesses from Title V fee rules would violate federal law and would collect insufficient funds to fund the Title V program. [Section 502(b)(3)(A) of the Clean Air Act] Because small businesses are generally subject to less federal regulations than larger businesses and do not require some of the more complex permitting services like PSD permits, it is anticipated that this proposal avoids putting any additional burden on small businesses to cover the cost of services that are requested by other businesses and streamlines the fee structure to be more specific to what the companies are requesting wherever possible.

Impact on Local Governments

Pursuant to T.C.A. §§ 4-5-220 and 4-5-228, “On any rule and regulation proposed to be promulgated, the proposing agency shall state in a simple declarative sentence, without additional comments on the merits or the policy of the rule or regulation, whether the rule or regulation may have a projected financial impact on local governments. The statement shall describe the financial impact in terms of increase in expenditures or decrease in revenues.”

The Department anticipates that these amended rules will have a financial impact on local governments with a Title V permit.

Additional Information Required by Joint Government Operations Committee

All agencies, upon filing a rule, must also submit the following pursuant to T.C.A. § 4-5-226(i)(1).

(A) A brief summary of the rule and a description of all relevant changes in previous regulations effectuated by such rule;

The rule amendments achieve three different purposes: (1) diversify the Title V fee structure to establish a stable revenue stream to adequately fund the Title V program, (2) establish fees for categories of general permits that currently exist or are under development, and (3) make miscellaneous changes to clarify or streamline the fee process.

Title V Program Fee Diversification:

The Title V program was added to the Clean Air Act (CAA) with the 1990 amendments and is a self-funded[1] federal permitting program for which states seek delegation from EPA to implement for major sources of air emissions in the state. This rule reflects the Board's partnership with stakeholders to develop a long-term funding solution ensuring the state of Tennessee continues to meet the CAA requirement that each state's Title V program fees cover the cost of administering the program. Cost recovery is also a goal of the state's Environmental Protection Fund statute. The proposed rule establishes a more stable and diverse fee structure resulting in a long-term funding solution. Projections for the Title V program show a $16.8 million deficit from FY24 to FY30 without the proposed rule change, due to projected emission reductions resulting from TVA plant closures and conversions and the general downward trend in emissions from non-EGUs. These amendments are projected to fund $13.5 million of this gap, with the balance covered by reserves.

Tennessee's Title V program is primarily funded through emissions-based fees. Although the regulated community in Tennessee is continuing to make major strides in limiting emission of pollutants, program workload has not decreased (technical reviews continue to increase in complexity as federal rules are added or change), and the Title V program has become increasingly underfunded. The Division worked with stakeholders to explore a more diverse fee structure with a goal of avoiding the frequently recurring need to request emission-fee rate increases.

These amendments retain Tennessee's competitive advantage when recruiting businesses to Tennessee. The Division relies on the ability to hire and retain highly qualified technical employees to conduct the work. The Division consistently receives positive feedback from regulated entities regarding the high level of personalized service they receive and how important this service is to their success in Tennessee. The Division's timely and competent processing of permit applications for new and modified facilities, compliance assistance, and response to information requests enables Tennessee to attract and retain large businesses.

The current Title V fee system is based on the federal model that was promulgated over 30 years ago. The model, based on emissions, assumes the cost of a Title V program is proportionally related to emissions (i.e., fee = tons emitted times dollars per ton). This model has proven to be short-sighted as the state's work to meet federal requirements does not decrease proportionally with the reduction in emissions in the Title V program. In fact, as the federal regulatory structure has grown, so has the program's workload.

Cleaner air in Tennessee can be attributed to a decrease of about 70% of the emissions from Title V facilities over the past 20 years. A significant share of the decreasing emissions has occurred at electric utility units as TVA has made changes to its power generation fleet. This decrease is expected to continue as TVA completes the conversion of its generation fleet from coal to cleaner fuels over the next few years. Other large industrial sources have also moved to power their facilities with cleaner, less emitting fuels, causing emissions to decline over time. Because the Title V program has been predominately funded on a dollar/ton emission fee, The Board has had to continually raise that fee to ensure the program continues to comply with federal law as a self-funded program. However, as emissions continue to decline as more facilities move to lesser emitting fuels to power their operations, more fee increases would be needed to fund the program and comply with federal law. During the same 20-year time frame, the Title V workload, and the level of technical complexity associated with such, has increased. The number of federal air quality rules implemented by the Division has nearly doubled from 136 to 264. The number of Title V facilities is remaining steady at between 210 and 220; however, the need for

[1] The CAA requires that a minimum element of the Title V program administered by a state include that the owner or operator of all sources subject to the requirement to obtain a permit pay an annual fee, or the equivalent over some other period, sufficient to cover all reasonable direct and indirect costs required to develop and administer the program. 502(b)(3)(A).

Division support of these facilities has grown. For example, the number of major new source permits increased from an average of two per year in FY2012 through FY2021 to eight in FY2022. The Division is now challenged with meeting current workload needs to support this program.

This proposed rulemaking is the result of stakeholder meetings, webinars, and surveys to explore options and develop consensus for a funding solution. The Division's and stakeholders' feedback is reflected in the proposed Title V fee structure. This new fee structure relies less on emissions and more on elements that reflect work associated with individual Title V facilities. This structure should be more stable over time and reduce the need for frequent fee rule changes. The elements added to the fee structure are related to workload pertaining to individual sources and the services they receive from the Division.

The proposed amendments will add several elements that are based on actual workload associated with each fee element:

- Establish a new construction permit application fee structure for Title V sources.
- Establish new application fees for major new source review (NSR) permits, plantwide applicability limit (PAL) permits, and permits for facilities that "opt out" of the Title V program. NSR, PAL, and "opt-out" permits are the most complex permits issued by the Division.
- Establish regulatory deadlines for issuing PAL and opt out permits (as required by the Environmental Protection Fund Act, Tenn. Code Ann. Title 68, Chapter 203)
- Establish new fees for Title V modifications ($2,800 for minor permit modifications and $5,000 for significant permit modifications).
- Replace the existing $6,000 base fee and $10,000 minimum fee with a base fee that ranges from $10,000 to $75,000 per year based on the number of federal air quality standards that a source is subject to.

The dollar-per-ton fee rates remains unchanged.

<u>General Permit Fee (Non-Title V program):</u>

In response to stakeholders' requests for a streamlined alternative to traditional air quality construction and operating permits, which were issued on an individual basis, the Division has developed a general permit program. General permits are utilized in other divisions within the Department and reduce the amount of work and the length of time required by regulated entities to obtain permits. They also reduce the amount of work for the Division to issue coverage under those permits while maintaining the same level of environmental protection. Coverage under general permits can be issued in much shorter time frames, averaging 25 days (for those that don't require individual public notice, which is the vast majority) since the program began in 2017 compared to 102 days for individual construction permits. To avoid revenue erosion, the proposed amendments remove the fee exemption for general permits and establish annual emission fees that are based on the average fee currently paid by sources in these fee categories.

(B) A citation to and brief description of any federal law or regulation or any state law or regulation mandating promulgation of such rule or establishing guidelines relevant thereto;

Section 502(b)(3)(A) of the federal Clean Air Act (CAA) requires Tennessee, as a state approved by the Environmental Protection Agency ("EPA") to administer a Title V major source operating permit program ("Title V program"), to collect "an annual fee, or the equivalent over some other period, sufficient to cover all reasonable (direct and indirect) costs required to develop and administer the permit program requirements[.]" Tennessee Code Annotated section 68-203-103 authorizes the Board to establish fees under the Tennessee Air Quality Act. Federal air quality rules, at 40 C.F.R. § 70.9 stipulates that states "shall require that the owners or operators of part 70 sources pay annual fees, or the equivalent over some other period, that are sufficient to cover the permit program costs and shall ensure that any fee required by this section will be used solely for permit program costs." The proposed Title V fee diversification rules include some fees that are paid by part 70 sources on an annual basis, and some fees that are paid at the time a permit application is submitted.

(C) Identification of persons, organizations, corporations or governmental entities most directly affected by this rule, and whether those persons, organizations, corporations or governmental entities urge adoption or rejection of this rule;

The proposed changes to the Title V fee rule will affect owners and operators of sources in the state required to have Title V operating permits. Most of these sources are major sources of air pollution. Major sources are made up of large industrial, commercial, and governmental entities that are authorized to emit pollutants in amounts

exceeding 100 tons per year of any criteria pollutant, 10 tons per year of any hazardous air pollutant, and/or 25 tons per year of a combination of hazardous air pollutants. A few categories of sources (e.g., solid waste landfills) with lower emissions are required by the EPA to obtain Title V operating permits. The Division of Air Pollution Control conducted an extensive stakeholder process prior to proposal of the rule. That process began in August 2022, and included meetings with the Tennessee Chamber of Commerce and Industry, two stakeholder webinars, and several individual one-on-one meetings with key stakeholders. Additional stakeholder involvement was held to discuss the proposed rule including another stakeholder webinar and a meeting with the Tennessee Chamber of Comments and Industry. These stakeholders recognize the Title V program to be mandated and established as self-supporting and have participated in the development of the framework in Tennessee. These regulated entities have taken a vested interest in their responsibility to pay for the services they receive from the Division. As explained in detail above, the Division spent over a year with stakeholders discussing the changes proposed changes. The revisions to the current fee rules are necessary to provide stability and diversification of the fee system. The proposed rule included alternatives that were suggested by persons, organizations, corporations, and government entities that participated in the stakeholder process that began in 2022. This rule contains some provisions that are different than originally proposed by the Board based on comments received during the public comment period.

Owners and operators of sources that request coverage under a general permit will be affected by the general permit fees included in this rulemaking. This would include owners and operators of drycleaners, concrete batch plants, portable rock crushers, asphalt plants, and air curtain incinerators. Generally, these sources have supported the Division's efforts to create general permits for their businesses. TDEC's Small Business Ombudsman provided input when developing the regulations.

(D) Identification of any opinions of the attorney general and reporter or any judicial ruling that directly relates to the rule or the necessity to promulgate the rule;

The Board is not aware of any opinions that directly relate to the rulemaking.

(E) An estimate of the probable increase or decrease in state and local government revenues and expenditures, if any, resulting from the promulgation of this rule, and assumptions and reasoning upon which the estimate is based. An agency shall not state that the fiscal impact is minimal if the fiscal impact is more than two percent (2%) of the agency's annual budget or five hundred thousand dollars ($500,000), whichever is less;

This rulemaking will result in increased revenues of approximately $13.5 million over a six year period.

(F) Identification of the appropriate agency representative or representatives, possessing substantial knowledge and understanding of the rule;

James P. Johnston
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, Tennessee 37243
james.johnston@tn.gov

(G) Identification of the appropriate agency representative or representatives who will explain the rule at a scheduled meeting of the committees;

Blair Beaty
Legislative Director
Office of General Counsel

(H) Office address, telephone number, and email address of the agency representative or representatives who will explain the rule at a scheduled meeting of the committees; and

Office of General Counsel
Tennessee Department of Environment and Conservation
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 2nd Floor
Nashville, Tennessee 37243
(615) 253-5339

Blair.Beaty@tn.gov

(l) Any additional information relevant to the rule proposed for continuation that the committee requests.

(1) A description of the action proposed, the purpose of the action, the legal authority for the action and the plan for implementing the action.

Fees for Title V sources: The Title V annual fee rule is revised by eliminating the minimum fee, revising the current base fee of $6000 to one that ranges from $10,000 to $75,000 per year based on the number of federal air quality standards that a facility is subject to, and adding fees for Title V minor modifications ($2800) and significant modifications ($5000) issued. The rule increases the construction application fee from the current rates that range from $100 to $5000 per application to a flat rate of $7000 per application. New fees are added for Prevention of Significant Deterioration and Nonattainment New Source Review applications ($70,000), Plantwide Applicability Limit permit applications ($10,000 per pollutant) and permits for Title V sources which “opt-out” of the Title V program and become Conditional Major sources ($18,000).

General Permits: The fee exemption for general permits is removed. Application fees for general permits that serve as construction permits as follows: drycleaners - $100, concrete batch plants - $100, portable rock crushers - $100, asphalt plants - $250, and air curtain incinerators - $500. Annual non-Title V fees are set for certain sources covered by a general permit: concrete batch plants with emissions ≥ 10 tons/year - $400, portable rock crushers at true minor facilities - $1000, portable rock crushers at conditional major facilities - $1500, and asphalt plants - $1500.

(2) A determination that the action is the least-cost method for achieving the stated purpose.

Title V fees: Because the U.S. Clean Air Act requires that fee payers pay all costs, direct and indirect, to operate the Title V operating permit program, the Division prepares a detailed Workload Analysis each year that must be approved by the Board. This analysis must show that the fees assessed will be adequate to fund the program. The Board has determined that these amendments are necessary to support continuing operation of the Title V permitting program and are the least-costly method of achieving the purposes of these amendments.

General permit fees: The fees for general permits were based on the average fee for a traditional permit for the same facility. Thus, affected facilities should not see a significant change.

(3) A comparison of the cost-benefit relation of the action to nonaction.

Not amending the Title V fee rules to ensure adequate collections to fund the Title V operating permit program would place operation of the program by the State of Tennessee in jeopardy and could result in direct regulation of the affected sources by the U.S. EPA.

(4) A determination that the action represents the most efficient allocation of public and private resources.

The Board, comprised of members that represent both public and private interests, believes that these amendments are an efficient allocation of public and private resources.

(5) A determination of the effect of the action on competition.

No impact on competition is expected.

(6) A determination of the effect of the action on the cost of living in the geographical area in which the action would occur.

These amendments are applied equally across Tennessee and are not anticipated to have a measurable impact on the cost of living.

(7) A determination of the effect of the action on employment in the geographical area in which the action would occur.

These amendments are applied equally across Tennessee and are not anticipated to have a measurable impact on employment.

(8) The source of revenue to be used for the action.

Existing revenues will be used to implement these revisions.

(9) A conclusion as to the economic impact upon all persons substantially affected by the action, including an analysis containing a description as to which persons will bear the costs of the action and which persons will benefit directly and indirectly from the action.

For Title V fees, major sources of air pollution in the state will be affected by this action. The effects of this action will vary based on the number applicable federal air quality regulations and number of permitting and modification applications processed for each source. Ensuring adequate funding for the Division will benefit Title V companies in that regulatory permitting and compliance activities will remain implemented by Tennessee and critical permits like construction permits will be issued by or even before in some cases, regulatory deadlines. Citizens of the state of Tennessee will benefit directly from this action through continued maintenance of the National Ambient Air Quality Standards assured by adequate regulation and oversight of major sources of air pollution by the Department. For the general permit fees, owners and operators of facilities that elect to be covered by a general permit will be affected by this action. They will benefit from a quicker, streamlined permitting process. The impact of the fee should be minimal because (1) the fee is designed to be the same as a typical traditional permit for the source category and (2) coverage under a general permit is voluntary.

Department of Environment & Conservation

NSPS Rules
Incorporation by Reference

NSPS Rules

- Federal NSPS Rules
- 40 CFR Part 60
- New Source Performance Standards (NSPS)
- TDEC proposes to incorporate federal rules by reference into state rules

NSPS Rules

- NSPS are technology-based standards
- NSPS apply to new, modified and reconstructed affected facilities in specific source categories such as manufacturers of glass, cement, and rubber tires
- 90 source categories

NSPS Rules

- In June 2022, Board passed NESHAP rule revision
- National Emission Standards for Hazardous Air Pollutants (NESHAP)
  - 40 CFR Parts 61 & 63
- Federal NESHAP rules were incorporated by reference into state rules
- NSPS rule revision is similar to NESHAP rule revision

NSPS Rules

- Currently, some federal NSPS rules are in state rules
  - Chapters 6, 16, and 39
- Mostly word-for-word basis
- Difficult to keep up-to-date if federal rule is amended

NSPS Rules

- Most state rules started out as an exact word-for-word copy of federal rules
- Federal rules have been amended over time while state rules have not been kept up-to-date
- Some state rules are now less stringent than federal rule; some are more stringent

NSPS Rules

- In some cases, EPA has lost a NSPS court case
- The original federal standard has been replaced by a less stringent standard
- State rule was never updated to reflect less stringent standard
- Thus, state standard is now more stringent than federal standard
- TDEC never intended to have more stringent standards

NSPS Rules

- Currently, the requirements of a NSPS that are not reproduced through the current regulations must be placed in a permit before they can be enforced

- By adopting federal NSPS rules by reference, the Board will be able to keep the state regulations in line with the federal regulations and will be able to enforce the federal regulations directly

NSPS Rules

- TDEC proposes to repeal current NSPS rules that are in state rules
- TDEC proposes to adopt by reference all Part 60 rules, except emission guidelines, which are not appropriate to adopt by reference since they require the submission of state plans
- Adopt July 1, 2022, version of 40 CFR Part 60

Schedule

Event	Date
Finalized OGC review	October 2022
Governor's Office approval	November 2022
Pre-Draft of Rule sent to EPA	November 2022
Received comments from EPA	December 2022
Public Notice (45-day comment period)	May 3, 2023
Public Hearing	June 27, 2023
APC Board Vote	October 2023
Governor's Office & Attorney General Approval	Nov./Dec. 2024
File rule with Secretary of State	January 2024
Rule becomes State effective	April 2024
Submit final rule to EPA	April 2024

Questions

Mark A. Reynolds

Environmental Consultant

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For Department of State Use Only

Sequence Number: _____
Rule ID(s): _____
File Date: _____
Effective Date: _____

Rulemaking Hearing Rule(s) Filing Form

Rulemaking Hearing Rules are rules filed after and as a result of a rulemaking hearing (Tenn. Code Ann. § 4-5-205).

Pursuant to Tenn. Code Ann. § 4-5-229, any new fee or fee increase promulgated by state agency rule shall take effect on July 1, following the expiration of the ninety (90) day period as provided in § 4-5-207. This section shall not apply to rules that implement new fees or fee increases that are promulgated as emergency rules pursuant to § 4-5-208(a) and to subsequent rules that make permanent such emergency rules, as amended during the rulemaking process. In addition, this section shall not apply to state agencies that did not, during the preceding two (2) fiscal years, collect fees in an amount sufficient to pay the cost of operating the board, commission, or entity in accordance with § 4-29-121(b).

Agency/Board/Commission:	Air Pollution Control Board
Division:	Air Pollution Control
Contact Person:	Mark A. Reynolds
Address:	William R. Snodgrass Tennessee Tower 312 Rosa L. Parks Avenue, 15th Floor Nashville, Tennessee
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Revision Type (check all that apply):

X Amendment
___ New
X Repeal

___ Content based on previous emergency rule filed on _____
___ Content is identical to the emergency rule

Rule(s) (**ALL** chapters and rules contained in filing must be listed here. If needed, copy and paste additional tables to accommodate multiple chapters. Please make sure that **ALL** new rule and repealed rule numbers are listed in the chart below. Please enter only **ONE** Rule Number/Rule Title per row.)

Chapter Number	**Chapter Title**
0400-30-39	Standards of Performance for New Stationary Sources
Rule Number	**Rule Title**
0400-30-39-.01	Stationary Compression Internal Combustion Engines
0400-30-39-.02	Stationary Spark Ignition Internal Combustion Engines

Chapter Number	**Chapter Title**
1200-03-02	Definitions
Rule Number	**Rule Title**
1200-03-02-.01	General Definitions

Chapter Number	**Chapter Title**
1200-03-05	Visible Emission Regulations
Rule Number	**Rule Title**
1200-03-05-.04	Exemption
1200-03-05-.05	Standard for Certain Existing Sources

Chapter Number	**Chapter Title**

1200-03-06	Non-Process Emission Standards
Rule Number	**Rule Title**
1200-03-06-.06	Commercial and Industrial Solid Waste Incineration Units that Commenced Construction on or before November 30, 1999

Chapter Number	**Chapter Title**
1200-03-09	Construction and Operating Permits
Rule Number	**Rule Title**
1200-03-09-.01	Construction Permits
1200-03-09-.02	Operating Permits
1200-03-09-.04	Exemptions
1200-03-09-.07	Permits-by-Rule

Chapter Number	**Chapter Title**
1200-03-16	New Source Performance Standards
Rule Number	**Rule Title**
1200-03-16-.01	General Provisions
1200-03-16-.02	Fuel Fired Steam Generators for which Construction Is Commenced After April 3, 1972
1200-03-16-.03	Electric Utility Steam Generating Units for which Construction Commenced After September 18, 1978
1200-03-16-.04	Incinerators
1200-03-16-.05	Portland Cement Plants
1200-03-16-.06	Sulfuric Acid Plants
1200-03-16-.07	Nitric Acid Plants
1200-03-16-.08	Hot Mix Asphalt Facilities
1200-03-16-.09	Petroleum Refineries
1200-03-16-.10	Reserved
1200-03-16-.11	Reserved
1200-03-16-.12	Secondary Lead Smelters
1200-03-16-.13	Secondary Brass and Bronze Ingot Production Plants
1200-03-16-.14	Iron and Steel Plants
1200-03-16-.15	Sewage Treatment Plant Incinerators
1200-03-16-.16	Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants
1200-03-16-.17	Phosphate Fertilizer Industry: Super Phosphoric Acid Plants
1200-03-16-.18	Phosphate Fertilizer Industry: Diammonium Phosphate Plants
1200-03-16-.19	Phosphate Fertilizer Industry: Triple Superphosphate Plants
1200-03-16-.20	Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities
1200-03-16-.21	Primary Aluminum Reduction Plants
1200-03-16-.22	Reserved
1200-03-16-.23	Primary Copper Smelters
1200-03-16-.24	Primary Zinc Smelters
1200-03-16-.25	Primary Lead Smelters
1200-03-16-.26	Steel Plants: Electric Arc Furnaces Constructed After February 9, 1977, and On or Before August 17, 1983
1200-03-16-.27	Ferroalloy Production Facilities
1200-03-16-.28	Lime Manufacturing Plants
1200-03-16-.29	Kraft Pulp Mills
1200-03-16-.30	Grain Elevators
1200-03-16-.31	Reserved
1200-03-16-.32	Ammonium Sulfate Manufacture
1200-03-16-.33	Reserved
1200-03-16-.34	Automobile and Light Duty Truck Surface Coating Operations
1200-03-16-.35	Asphalt Processing and Asphalt Roofing Manufacture
1200-03-16-.36	Industrial Surface Coating: Large Appliances
1200-03-16-.37	Surface Coating of Metal Furniture
1200-03-16-.38	Metal Coil Surface Coating
1200-03-16-.39	Graphic Arts Industry: Publication Rotogravure Printing
1200-03-16-.40	Beverage Can Surface Coating
1200-03-16-.41	Metallic Mineral Processing Plants

1200-03-16-.42	Pressure Sensitive Tape and Label Surface Coating Operations
1200-03-16-.43	Reserved
1200-03-16-.44	Bulk-Gasoline Terminals
1200-03-16-.45	Synthetic Fiber Production Facilities
1200-03-16-.46	Lead Acid Battery Manufacturing Plants
1200-03-16-.47	Equipment Leaks of VOC in Petroleum Refineries
1200-03-16-.48	Flexible Vinyl and Urethane Coating and Printing
1200-03-16-.49	Petroleum Dry Cleaners
1200-03-16-.50	Phosphate Rock Plants
1200-03-16-.51	Equipment Leaks of VOC from Onshore Natural Gas Processing Plants
1200-03-16-.52	Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels
1200-03-16-.53	Reserved
1200-03-16-.54	Onshore Natural Gas Processing: SO2 Emissions
1200-03-16-.55	Secondary Emissions from Basic Oxygen Process Steel Making Facilities
1200-03-16-.56	Wool Fiberglass Insulation Manufacturing Plants
1200-03-16-.57	Industrial Surface Coating: Plastic Parts for Business Machines
1200-03-16-.58	Reserved
1200-03-16-.59	Industrial-Commercial-Institutional Steam Generating Units
1200-03-16-.60 through1200-03-16-.73	Reserved
1200-03-16-.74	Standards of Performance for Calciners and Dryers in Mineral Industries
1200-03-16-.75	Reserved
1200-03-16-.76	Reserved
1200-03-16-.77 through 1200-03-16-.99	Reserved

Chapter Number	**Chapter Title**
1200-03-18	Volatile Organic Compounds
Rule Number	**Rule Title**
1200-03-18-.48	Volatile Organic Liquid Storage Tanks

Chapter Number	**Chapter Title**
1200-03-20	Limits on Emissions Due to Malfunctions, Startups, and Shutdowns
Rule Number	**Rule Title**
1200-03-20-.06	Report Required Upon the Issuance of a Notice of Violation

Chapter Number	**Chapter Title**
1200-03-21	General Alternate Emission Standards
Rule Number	**Rule Title**
1200-03-21-.01	General Alternate Emission Standard

Chapter Number	**Chapter Title**
1200-03-22	Lead Emission Standards
Rule Number	**Rule Title**
1200-03-22-.04	Standards for New or Modified Sources of Lead

Chapter Number	**Chapter Title**
1200-03-25	Standards for Infectious Waste Incinerators
Rule Number	**Rule Title**
1200-03-25-.05	Emission Standards

Chapter Number	**Chapter Title**
1200-03-26	Administrative Fees Schedule
Rule Number	**Rule Title**
1200-03-26-.02	Construction and Annual Emission Fees

Place substance of rules and other info here. Please be sure to include a detailed explanation of the changes being made to the listed rule(s). Statutory authority must be given for each rule change. For information on formatting rules go to https://sos.tn.gov/products/division-publications/rulemaking-guidelines.

Chapter 0400-30-39
Standards of Performance for New Stationary Sources

Amendments

Chapter 0400-30-39 Standards of Performance for New Stationary Sources is amended by deleting it in its entirety and substituting instead the following:

Chapter 0400-30-39
Standards of Performance for New Stationary Sources

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0400-30-39-.01 Federal Standards of Performance for New Stationary Sources

(1) The provisions of the subparts and appendices of 40 C.F.R. Part 60 listed in subparagraph (b) of this paragraph are hereby incorporated by reference as published in the July 1, 2022 edition of the Code of Federal Regulations, except as provided in subparagraph (a) of this paragraph.

(a) Any reference contained in 40 C.F.R. Part 60 to the:

1. Administrator shall instead be a reference to the Technical Secretary, except for specific authorities that have not been delegated to the State of Tennessee; and

2. EPA regional office shall instead be a reference to the EPA Region IV office.

(b) List of Federal Regulations under 40 C.F.R. Part 60:

1. 40 C.F.R. Part 60 Subpart A: General provisions;

2. Reserved;

3. Reserved;

4. Reserved;

5. Reserved;

6. Reserved;

7. Reserved;

8. Reserved;

9. Reserved;

10. Reserved;

11. 40 C.F.R. Part 60 Subpart D: Standards of Performance for Fossil-Fuel-Fired Steam Generators;

12. 40 C.F.R. Part 60 Subpart Da: Standards of Performance for Electric Utility Steam Generating Units;

13. 40 C.F.R. Part 60 Subpart Db: Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units;

14. 40 C.F.R. Part 60 Subpart Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units;

15. 40 C.F.R. Part 60 Subpart E: Standards of Performance for Incinerators;

16. 40 C.F.R. Part 60 Subpart Ea: Standards of Performance for Municipal Waste Combustors for Which Construction Is Commenced After December 20, 1989 and On or Before September 20, 1994;

17. 40 C.F.R. Part 60 Subpart Eb: Standards of Performance for Large Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994 or for Which Modification or Reconstruction is Commenced After June 19, 1996;

18. 40 C.F.R. Part 60 Subpart Ec: Standards of Performance for New Stationary Sources: Hospital/Medical/Infectious Waste Incinerators;

19. 40 C.F.R. Part 60 Subpart F: Standards of Performance for Portland Cement Plants;

20. 40 C.F.R. Part 60 Subpart G: Standards of Performance for Nitric Acid Plants;

21. 40 C.F.R. Part 60 Subpart Ga: Standards of Performance for Nitric Acid Plants for Which Construction, Reconstruction, or Modification Commenced After October 14, 2011;

22. 40 C.F.R. Part 60 Subpart H: Standards of Performance for Sulfuric Acid Plants;

23. 40 C.F.R. Part 60 Subpart I: Standards of Performance for Hot Mix Asphalt Facilities;

24. 40 C.F.R. Part 60 Subpart J: Standards of Performance for Petroleum Refineries;

25. 40 C.F.R. Part 60 Subpart Ja: Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007;

26. 40 C.F.R. Part 60 Subpart K: Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978;

27. 40 C.F.R. Part 60 Subpart Ka: Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984;

28. 40 C.F.R. Part 60 Subpart Kb: Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984;

29. 40 C.F.R. Part 60 Subpart L: Standards of Performance for Secondary Lead Smelters;

30. 40 C.F.R. Part 60 Subpart M: Standards of Performance for Secondary Brass and Bronze Production Plants;

31. 40 C.F.R. Part 60 Subpart N: Standards of Performance for Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973;

32. 40 C.F.R. Part 60 Subpart Na: Standards of Performance for Secondary Emissions from Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983;

33. 40 C.F.R. Part 60 Subpart O: Standards of Performance for Sewage Treatment Plants;

34. 40 C.F.R. Part 60 Subpart P: Standards of Performance for Primary Copper Smelters;

35. 40 C.F.R. Part 60 Subpart Q: Standards of Performance for Primary Zinc Smelters;

36. 40 C.F.R. Part 60 Subpart R: Standards of Performance for Primary Lead Smelters;

37. 40 C.F.R. Part 60 Subpart S: Standards of Performance for Primary Aluminum Reduction Plants;

38. 40 C.F.R. Part 60 Subpart T: Standards of Performance for the Phosphate Fertilizer Industry: Wet-Process Phosphoric Acid Plants;

39. 40 C.F.R. Part 60 Subpart U: Standards of Performance for the Phosphate Fertilizer Industry: Superphosphoric Acid Plants;

40. 40 C.F.R. Part 60 Subpart V: Standards of Performance for the Phosphate Fertilizer Industry: Diammonium Phosphate Plants;

41. 40 C.F.R. Part 60 Subpart W: Standards of Performance for the Phosphate Fertilizer Industry: Triple Superphosphate Plants;

42. 40 C.F.R. Part 60 Subpart X: Standards of Performance for the Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities;

43. 40 C.F.R. Part 60 Subpart Y: Standards of Performance for Coal Preparation and Processing Plants;

44. 40 C.F.R. Part 60 Subpart Z: Standards of Performance for Ferroalloy Production Facilities;

45. 40 C.F.R. Part 60 Subpart AA: Standards of Performance for Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974, and On or Before August 17, 1983;

46. 40 C.F.R. Part 60 Subpart AAa: Standards of Performance for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983;

47. Reserved.

48. 40 C.F.R. Part 60 Subpart BB: Standards of Performance for Kraft Pulp Mills;

49. 40 C.F.R. Part 60 Subpart BBa: Standards of Performance for Kraft Pulp Mill Affected Sources for Which Construction, Reconstruction, or Modification Commenced After May 23, 2013;

50. 40 C.F.R. Part 60 Subpart CC: Standards of Performance for Glass Manufacturing Plants;

51. 40 C.F.R. Part 60 Subpart DD: Standards of Performance for Grain Elevators;

52. 40 C.F.R. Part 60 Subpart EE: Standards of Performance for Surface Coating of Metal Furniture;

53. Reserved;

54. 40 C.F.R. Part 60 Subpart GG: Standards of Performance for Stationary Gas Turbines;

55. 40 C.F.R. Part 60 Subpart HH: Standards of Performance for Lime Manufacturing Plants;

56. 40 C.F.R. Part 60 Subpart KK: Standards of Performance for Lead-Acid Battery Manufacturing Plants;

57. 40 C.F.R. Part 60 Subpart LL: Standards of Performance for Metallic Mineral Processing

Plants;

58. 40 C.F.R. Part 60 Subpart MM: Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations;

59. Reserved.

60. 40 C.F.R. Part 60 Subpart NN: Standards of Performance for Phosphate Rock Plants;

61. 40 C.F.R. Part 60 Subpart PP: Standards of Performance for Ammonium Sulfate Manufacture;

62. 40 C.F.R. Part 60 Subpart QQ: Standards of Performance for the Graphic Arts Industry: Publication Rotogravure Printing;

63. 40 C.F.R. Part 60 Subpart RR: Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations;

64. 40 C.F.R. Part 60 Subpart SS: Standards of Performance for Industrial Surface Coating: Large Appliances;

65. 40 C.F.R. Part 60 Subpart TT: Standards of Performance for Metal Coil Surface Coating;

66. 40 C.F.R. Part 60 Subpart UU: Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture;

67. 40 C.F.R. Part 60 Subpart VV: Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006;

68. 40 C.F.R. Part 60 Subpart VVa: Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006;

69. 40 C.F.R. Part 60 Subpart WW: Standards of Performance for the Beverage Can Surface Coating Industry;

70. 40 C.F.R. Part 60 Subpart XX: Standards of Performance for Bulk Gasoline Terminals;

71. Reserved;

72. 40 C.F.R. Part 60 Subpart AAA: Standards of Performance for New Residential Wood Heaters;

73. 40 C.F.R. Part 60 Subpart BBB: Standards of Performance for the Rubber Tire Manufacturing Industry;

74. Reserved;

75. 40 C.F.R. Part 60 Subpart DDD: Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry;

76. Reserved;

77. 40 C.F.R. Part 60 Subpart FFF: Standards of Performance for Flexible Vinyl and Urethane Coating and Printing;

78. 40 C.F.R. Part 60 Subpart GGG: Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After January 4, 1983, and on or Before November 7, 2006;

79. 40 C.F.R. Part 60 Subpart GGGa: Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006;

80. 40 C.F.R. Part 60 Subpart HHH: Standards of Performance for Synthetic Fiber Production Facilities;

81. 40 C.F.R. Part 60 Subpart III: Standards of Performance for Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes;

82. 40 C.F.R. Part 60 Subpart JJJ: Standards of Performance for Petroleum Dry Cleaners;

83. 40 C.F.R. Part 60 Subpart KKK: Standards of Performance for Equipment Leaks of VOC From Onshore Natural Gas Processing Plants for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and on or Before August 23, 2011;

84. 40 C.F.R. Part 60 Subpart LLL: Standards of Performance for SO_2 Emissions From Onshore Natural Gas Processing for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and on or Before August 23, 2011;

85. Reserved;

86. 40 C.F.R. Part 60 Subpart NNN: Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations;

87. 40 C.F.R. Part 60 Subpart OOO: Standards of Performance for Nonmetallic Mineral Processing Plants;

88. 40 C.F.R. Part 60 Subpart PPP: Standard of Performance for Wool Fiberglass Insulation Manufacturing Plants;

89. 40 C.F.R. Part 60 Subpart QQQ: Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater Systems;

90. 40 C.F.R. Part 60 Subpart RRR: Standards of Performance for Volatile Organic Compound Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes;

91. 40 C.F.R. Part 60 Subpart SSS: Standards of Performance for Magnetic Tape Coating Facilities;

92. 40 C.F.R. Part 60 Subpart TTT: Standards of Performance for Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines;

93. Reserved.

94. 40 C.F.R. Part 60 Subpart UUU: Standards of Performance for Calciners and Dryers in Mineral Industries;

95. 40 C.F.R. Part 60 Subpart VVV: Standards of Performance for Polymeric Coating of Supporting Substrates Facilities;

96. 40 C.F.R. Part 60 Subpart WWW: Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification on or After May 30, 1991, but Before July 18, 2014;

97. 40 C.F.R. Part 60 Subpart XXX: Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17,

2014;

98. Reserved;

99. Reserved;

100. 40 C.F.R. Part 60 Subpart AAAA: Standards of Performance for Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001;

101. Reserved;

102. 40 C.F.R. Part 60 Subpart CCCC: Standards of Performance for Commercial and Industrial Solid Waste Incineration Units;

103. Reserved;

104. 40 C.F.R. Part 60 Subpart EEEE: Standards of Performance for Other Solid Waste Incineration Units for Which Construction is Commenced After December 9, 2004, or for Which Modification or Reconstruction is Commenced on or After June 16, 2006;

105. Reserved;

106. Reserved;

107. Reserved;

108. 40 C.F.R. Part 60 Subpart IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines;

109. 40 C.F.R. Part 60 Subpart JJJJ: Standards of Performance for Stationary Spark Ignition Internal Combustion Engines;

110. 40 C.F.R. Part 60 Subpart KKKK: Standards of Performance for Stationary Combustion Turbines;

111. 40 C.F.R. Part 60 Subpart LLLL: Standards of Performance for New Sewage Sludge Incineration Units;

112. Reserved;

113. Reserved;

114. 40 C.F.R. Part 60 Subpart OOOO: Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification, or Reconstruction Commenced After August 23, 2011, and on or Before September 18, 2015;

115. 40 C.F.R. Part 60 Subpart OOOOa: Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification or Reconstruction Commenced After September 18, 2015;

116. Reserved;

117. 40 C.F.R. Part 60 Subpart QQQQ: Standards of Performance for New Residential Hydronic Heaters and Forced-Air Furnaces;

118. 40 C.F.R. Part 60 Subpart TTTT: Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units;

119. Reserved;

120. 40 C.F.R. Part 60 Appendix A-1: Test Methods 1 through 2F;

121. 40 C.F.R. Part 60 Appendix A-2: Test Methods 2G through 3C;

122. 40 C.F.R. Part 60 Appendix A-3: Test Methods 4 through 5I;

123. 40 C.F.R. Part 60 Appendix A-4: Test Methods 6 through 10B;

124. 40 C.F.R. Part 60 Appendix A-5: Test Methods 11 through 15A;

125. 40 C.F.R. Part 60 Appendix A-6: Test Methods 16 through 18;

126. 40 C.F.R. Part 60 Appendix A-7: Test Methods 19 through 25E;

127. 40 C.F.R. Part 60 Appendix A-8: Test Methods 26 through 30B;

128. 40 C.F.R. Part 60 Appendix B: Performance Specifications;

129. 40 C.F.R. Part 60 Appendix C: Determination of Emission Rate Change;

130. 40 C.F.R. Part 60 Appendix D: Required Emission Inventory Information;

131. Reserved;

132. 40 C.F.R. Part 60 Appendix F: Quality Assurance Procedures;

133. 40 C.F.R. Part 60 Appendix G: Provisions for an Alternative Method of Demonstrating Compliance With 40 C.F.R. 60.43 for the Newton Power Station of Central Illinois Public Service Company;

134. Reserved; and

135. 40 C.F.R. Part 60 Appendix I: Owner's Manuals and Temporary Labels for Wood Heaters Subject to Subparts AAA and QQQQ of Part 60.

(2) Reserved.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

0400-30-39-.02 Reserved.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Amendments

Subparagraph (g) of paragraph (1) of Rule 1200-03-02-.01 General Definitions is amended by deleting it in its entirety and substituting instead the following:

(g) “Best available control technology (BACT)” means an emission limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under these rules which would be emitted from any proposed new or modified air contaminant source that the Technical Secretary, on a case-by-case bases, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant that would exceed the emissions allowed by any applicable standard under Chapters 0400-30-38 or 0400-30-39 of these rules. If the Technical Secretary determines that technological or economic limitations on the application of measurement methodology to a particular class of sources would make the imposition of an emission standard infeasible, a design, equipment, work practice, or operational standard, or combination thereof, may be prescribed instead to require the application of best available control technology. Such standard must, to the degree possible, set forth the emission reduction achievable by implementation of such design, equipment, work practice, or operation, and must provide for compliance by means that achieve equivalent results.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Amendments

Paragraph (2) of Rule 1200-03-05-.04 Exemption is amended by deleting it in its entirety and substituting instead the following:

(2) Unless the visible emission standard was set under the authority of paragraph (2), (3), or (4) of Rule 1200-03-05-.01, the visible emission standards of this chapter shall not apply where a source has an applicable visible emissions standard under Chapter 0400-30-39.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Paragraph (3) of Rule 1200-03-05-.04 Exemption is amended by deleting it in its entirety and substituting instead the following:

(3) If the installation of an in-stack opacity monitor is required by a standard contained in Chapter 0400-30-39, then for an identical existing source to obtain the less restrictive opacity standard contained in Chapter 0400-30-39, the installation of an in-stack opacity monitor meeting the specifications contained in part (1)(d)1 of Rule 1200-03-10-.02 shall be required. For situations where the installation of an in-stack opacity monitor would be required to obtain an opacity standard for an existing source equivalent to that set forth for an identical new source subject to Chapter 0400-30-39, it is the responsibility of the source owner or operator to notify the Technical Secretary in writing that this revision to the source's existing opacity standard is requested and that the required in-stack opacity monitor will be installed in accordance with Rule 1200-03-10-.02.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subparagraph (b) of Paragraph (2) of Rule 1200-03-05-.05 Standard for Certain Existing Sources is amended by deleting it in its entirety and substituting instead the following:

(b) The air contaminant source is not regulated under Chapters 0400-30-38, 0400-30-39, 1200-03-25, or paragraph (4) of Rule 1200-03-09-.01.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-06
Non-Process Emission Standards

Amendments

The table of contents to Chapter 1200-03-06 Non-Process Emission Standards is amended by deleting the current title of Rule 1200-03-06-.06 “Commercial and Industrial Solid Waste Incineration Units That Commenced Construction On Or Before November 30, 1999” and substituting instead “Reserved.”

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Rule 1200-03-06-.06 Commercial and Industrial Solid Waste Incineration Units That Commenced Construction On Or Before November 30, 1999 is amended by deleting it in its entirety and substituting instead the following:

1200-03-06-.06 Reserved.

Authority: §§ 68-201-101 et seq. and 4-5-201 et seq.

Amendments

Subparagraph (d) of paragraph (2) of Rule 1200-03-09-.01 Construction Permits is amended by deleting it in its entirety and substituting instead the following:

(d) "Best available control technology (BACT)" means an emission limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under these rules that would be emitted from any proposed new or modified air contaminant source which the Technical Secretary, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant that would exceed the emissions allowed by any applicable standard under Chapters 0400-30-38 or 0400-30-39 of these rules. If the Technical Secretary determines that technological or economic limitations on the application of measurement methodology to a particular class of sources would make the imposition of an emission standard infeasible, a design, equipment, work practice, or operational standard, or combination thereof, may be prescribed instead to require the application of best available control technology. Such standard must, to the degree possible, set forth the emission reduction achievable by implementation of such design, equipment, work practice, or operation, and must provide for compliance by means that achieve equivalent results. This definition does not apply to major sources and major modifications, as defined in subparagraph (4)(b) of this rule, which are subject to the provisions of paragraph (4) of this rule.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subpart (i) of part 1 of subparagraph (d) of paragraph (4) of Rule 1200-03-09-.01 Construction Permits is amended by deleting it in its entirety and substituting instead the following:

(i) The source or modification would be a major stationary source or major modification only if fugitive emissions, to the extent quantifiable, are considered in calculating the potential to emit of the stationary source or modification and such source does not belong to any of the categories listed under subpart (b)1.(i), or any other stationary source category which, as of the (effective date of this rule) is being regulated under Chapters 0400-30-38 and 0400-30-39.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subitem XXVII of item (IV) of subpart (iv) of part 1 of subparagraph (b) of paragraph (5) of Rule 1200-03-09-.01 Construction Permits is amended by deleting it in its entirety and substituting instead the following:

XXVII. Any other stationary source category that is regulated under Chapter 1200-03-16, New Source Performance Standards (as of August 7, 1980), Chapter 1200-03-11, Hazardous Air Contaminants (as of August 7, 1980), Chapter 1200-03-31, Case-by-Case Determinations of Hazardous Air Pollutant Control Requirements (as of September 18, 1994), Chapter 0400-30-38, Emission Standards for Hazardous Air Pollutants (as of December 28, 2022), or Chapter 0400-30-39, Standards of Performance for New Stationary Sources (as of the most recent effective date of this rule).

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Item (XXVII) of subpart (ii) of part 4 of subparagraph (b) of paragraph (8) of Rule 1200-03-09-.01 Construction Permits is amended by deleting it in its entirety and substituting instead the following:

XXVII) Any other stationary source category that is regulated under Chapter 1200-03-16, New Source Performance Standards (as of August 7, 1980), Chapter 1200-03-11, Hazardous Air Contaminants (as of August 7, 1980), Chapter 1200-03-31, Case-by-Case Determinations of Hazardous Air Pollutant Control Requirements (as of September 18, 1994), Chapter 0400-30-38, Emission Standards for Hazardous Air Pollutants (as of December 28, 2022), Chapter 0400-30-39, Standards of Performance for New Stationary Sources (as of the most recent effective date of this rule), or 40 C.F.R. Part 60 and 61 (as of July 1, 1993).

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subpart (ii) of part 1 of subparagraph (c) of paragraph (11) of Rule 1200-03-09-.02 Operating Permits is amended by deleting it in its entirety and substituting instead the following:

(ii) Any source, including an area source, subject to a standard, limitation, or other requirement under section 111 of the Federal Act, paragraph (4) of Rule 1200-03-07-.07, paragraph (5) of Rule 1200-03-07-.07, or Chapter 0400-30-39;

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subpart (i) of part 2 of subparagraph (c) of paragraph (11) of Rule 1200-03-09-.02 Operating Permits is amended by deleting it in its entirety and substituting instead the following:

(i) All non-major sources including those subject to Section 112 of the Federal Clean Air Act, Chapter 0400-30-38, Chapter 1200-03-31, section 111 of the Federal Clean Air Act, or Chapter 0400-30-39. If the Administrator promulgates future regulations that prohibit the exemption of a non-major source from the requirements of this paragraph, such source will be so permitted by the Technical Secretary. Upon the Administrator's written notification to the Technical Secretary that such sources must be permitted according to the provisions of this paragraph, the Technical Secretary must notify the sources that the applications are due within 180 days of the Technical Secretary's written notice. The Technical Secretary shall have up to 90 days to accomplish the notification commencing upon his notification from the Administrator.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Section A of subitem IV of item (I) of subpart (ii) of part 5 of subparagraph (f) of paragraph (11) of Rule 1200-03-09-.02 Operating Permits is amended by deleting it in its entirety and substituting instead the following:

A. A federally enforceable emissions cap assumed to avoid classification as a modification under any provision of Title I of the Federal Clean Air Act. Further, federally enforceable emission caps assumed to avoid classification as a modification under Chapter 0400-30-38, Chapter 0400-30-39, Chapter 1200-03-31, paragraph (4) of Rule 1200-03-09-.01, or paragraph (5) of Rule 1200-03-09-.01 are included in the criteria of this section.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subitem V of Item (I) of Subpart (ii) of Part 5 of Subparagraph (f) of Paragraph (11) of Rule 1200-03-09-.02 Operating Permits is amended by deleting it in its entirety and substituting instead the following:

V. Are not modifications under Title I of the Federal Clean Air Act or the federal regulations promulgated pursuant thereto. Further, the minor permit modification process may be used only for changes that are not modifications under Chapter 0400-30-38, Chapter 0400-30-39, Chapter 1200-03-31, paragraph (4) of Rule 1200-03-09-.01, or paragraph (5) of Rule 1200-03-09-.01; and

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 1 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

1. Unpaved roadways and parking areas unless permits have specific conditions limiting fugitive emissions. This activity is not insignificant if it is subject to new source performance standards for nonmetallic mineral processing plants under Chapter 0400-30-39 or under 40 C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 2 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

2. Paved roadways and parking areas unless permits have specific conditions limiting fugitive emissions. This activity is not insignificant if it is subject to new source performance standards for nonmetallic mineral processing plants under Chapter 0400-30-39 or under 40 C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 3 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

3. Equipment used on farms for soil preparation, tending or harvesting of crops, or for preparation of feed to be used on the farm where prepared. This activity is not insignificant if it is subject to new source performance standards under Chapter 0400-30-39 or under 40 C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 8 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

8. Sewer vents. This activity is not insignificant if it is subject to the new source performance standards for petroleum refinery wastewater systems under Chapter 0400-30-39 or under 40 C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 9 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

9. Natural gas mixing and treatment operations including sampling and testing. This activity is not insignificant if it is subject to the new source performance standards for onshore natural gas processing plants under Chapter 0400-30-39 or under 40 C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 16 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

16. Equipment used exclusively to store, hold, or distribute natural gas. This activity is not insignificant if it is subject to the new source performance standards for onshore natural gas processing plants under Chapter 0400-30-39 or under 40 C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 17 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its

entirety and substituting instead the following:

17. Gasoline, diesel fuel, and fuel oil handling facilities, equipment, and storage tanks, except those subject to new source performance standards and those subject to standards in Chapter 1200-03-18. However, facilities, equipment, and storage tanks which are subject only to Chapter 1200-03-18 requirements for submerged fill and for maintenance of records documenting quantities of gasoline, diesel fuel, and fuel oil dispensed are entitled to the exemption provided by this paragraph, despite the qualification of exemption specified in the first sentence of this subparagraph. This activity is not insignificant if it is subject to the new source performance standards for bulk gasoline terminals under Chapter 0400-30-39 or under 40 C.F.R. part 60 and the Stage I gasoline distribution MACT standard under Chapter 1200-03-31.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 29 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

29. Sewage treatment facilities (excluding combustion or incineration equipment, land farms, storage silos for dry material, or grease trap waste handling or treatment facilities). This activity is not insignificant if it is subject to new source performance standards for volatile organic compounds emissions under Chapter 0400-30-39 or under 40 C.F.R. part 60, MACT standard under Chapter 1200-03-31, and hazardous organic NESHAP under 40 C.F.R. part 63 (2022).

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 43 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

43. Pressurized vessels designed to operate in excess of 30 psig storing a petroleum fuel. This activity is not insignificant if it is subject to new source performance standards for petroleum liquid storage vessels under Chapter 0400-30-39 or under 40 C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 52 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

52. Grain, metal or mineral extrusion process. This activity is not insignificant if it is subject to new source performance standards for metallic mineral processing plants under Chapter 0400-30-39 or under 40 C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 55 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

55. Equipment used exclusively for sintering of ceramics, glass or metals, but not exempting equipment used for sintering metal-bearing ores, metal scale, clay, fly ash, or metal compounds. This activity is not insignificant if it is subject to new source performance standards for primary zinc smelters and glass manufacturing operations under Chapter 0400-30-39 or under 40 C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 56 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

56. Equipment for the mining and screening of uncrushed native sand and gravel. This activity is not insignificant if it is subject to new source performance standards for nonmetallic

mineral processing plants under Chapter 0400-30-39 or under 40 C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 58 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

58. Pulp and paper industry, and cellulosic fiber industry insignificant activities: Any of the following activities is not insignificant if it is subject to new source performance standards for kraft pulp mills under Chapter 0400-30-39 or under 40 C.F.R. part 60, and MACT standard under Chapter 1200-03-31.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 69 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

69. Equipment used to transport or store process wastewater streams to a wastewater treatment facility (i.e. floor drains, sumps, drain headers, manhole covers). This activity is not insignificant if it is subject to the new source performance standards for petroleum refinery wastewater systems under Chapter 0400-30-39 or under 40 C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 70 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

70. Drum melter operations for low-volatility solid and semi-solid materials using steam or electrical heating. This activity is not insignificant if it is subject to the new source performance standards for electric arc furnaces under Chapter 0400-30-39 or under 40 C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 86 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

86. Industrial-Commercial-Institutional Steam Generating Facility exemptions are as follows: Any of the following activities is not insignificant if it is subject to new source performance standards for steam-generating facilities under Chapter 0400-30-39 or under 40 C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 87 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

87. Sulfuric acid tanks. This activity is not insignificant if it is subject to new source performance standards for sulfuric acid plants under Chapter 0400-30-39 or under 40 C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 88 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

88. Soil “borrow” pits. This activity is not insignificant if it is subject to new source performance standards for nonmetallic mineral processing plants under Chapter 0400-30-39 or under 40 C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 89 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

89. Phosphoric acid tanks. This activity is not insignificant if it is subject to new source performance standards for phosphate fertilizer industry under Chapter 0400-30-39 or under 40 C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subparagraph (c) of paragraph (5) of Rule 1200-03-09-.07 Permits-By-Rule is amended by deleting it in its entirety and substituting instead the following:

(c) Emergency stationary compression ignition internal combustion engines subject to the provisions of part (1)(b)108 of Rule 0400-30-39-.01.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subparagraph (d) of paragraph (5) of Rule 1200-03-09-.07 Permits-By-Rule is amended by deleting it in its entirety and substituting instead the following:

(d) Emergency stationary spark ignition internal combustion engines subject to the provisions of part (1)(b)109 of Rule 0400-30-39-.01.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-16
New Source Performance Standards

Repeal

Chapter 1200-03-16 New Source Performance Standards is Repealed.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Amendments

Subparagraph (c) of paragraph (2) of Rule 1200-03-18-.48 Volatile Organic Liquid Storage Tanks is amended by deleting it in its entirety and substituting instead the following:

(c) Any definition in 40 C.F.R part 60, subparts K, Ka, and Kb. The provisions of 40 C.F.R. part 60, subparts K, Ka, and Kb are hereby incorporated by reference as published in the July 1, 2022, edition of the Code of Federal Regulations.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Amendments

Paragraph (5) of Rule 1200-03-20-.06 Report Required Upon the Issuance of a Notice of Violation is amended by deleting it in its entirety and substituting instead the following:

(5) Where the violations are determined from properly certified and operated continuous emission monitors, no notice of violation(s) will be automatically issued unless the specified de minimis levels are exceeded:

	Source Type	De Minimis Pollutant Monitored	De Minimis Level
(a)	Fuel Burning Installations subject to Rule 1200-03-05-.01 or Rule 1200-03-05-.05 and having fuel burning equipment of input capacity greater then 600 x 106 Btu/hr.	Opacity	Two percent of the time during calendar quarter (Excluding periods of permitted startup or shutdown and excused malfunctions) so long as no more than one 24-hour exceedance per calendar year takes place.
		Sulfur Dioxide	One 24-hour exceedance per calendar year.
(b)	Fuel Burning Installations subject to Rule 1200-03-05-.05, Rule 1200-03-05-.10, or Rule 1200-30-06-.05.	Opacity	One percent of the time during a calendar quarter (Excluding period of permitted startup or shutdown and excused malfunctions) as long as no more than one 24-hour exceedance per calendar year takes place.
(c)	Fuel Burning Equipment subject to part (1)(b)11 of Rule 0400-30-39-.01 or part (1)(b)13 of Rule 0400-30-39-.01.	Opacity	One percent of the time during a calendar quarter (Excluding periods of permitted startup or shutdown and excused malfunctions) as long as no more than one 24-hour exceedance per calendar year takes place.
		Sulfur Dioxide	One 3-hour exceedance per year and/or one 24-hour exceedance per year (applicable to sources having three-hour standard only).
(d)	Kraft Recovery Furnaces subject to either Rule 1200-03-05-.09 or part (1)(b)48 of Rule 0400-30-39-.01.	Opacity	Six percent of the time (Excluding periods of permitted startup or shutdown and excused malfunctions) so long as no more than one 24-hour exceedance per calendar year takes place.
(e)	Kraft Recovery Furnaces subject to either Rule 1200-03-07-.07, part (1)(b)48 of Rule 0400-30-39-.01 or part (1)(b)49 of Rule 0400-30-39-.01.	Total Reduced Sulfur	One percent of the time during a calendar quarter (Excluding periods of permitted startup or shutdown and excused malfunctions).
(f)	Lime Kilns subject to	Total Reduced Sulfur	Two percent of the time during a

	paragraph (4) of Rule 1200-03-07-.07.		calendar quarter (Excluding periods of permitted startup or shutdown and excused malfunctions).
(g)	Sulfuric Acid Plants subject to part (1)(b)22 of Rule 0400-30-39-.01 and Liquid Sulfur Dioxide Plants subject to Rule 1200-03-19-.19.	Sulfur Dioxide	One exceedance greater than three hours duration per year (Excluding periods of excused malfunctions).
(h)	Primary Zinc Smelters subject to part (1)(b)35 of Rule 0400-30-39-.01.	Sulfur Dioxide	One exceedance of greater than three hours duration but less than 24-hour duration per calendar year and/or one 24-hour exceedance per year (Excluding periods of startup, shutdown, or excused malfunction).
(i)	Electric Arc Furnaces subject to part (1)(b)45 of Rule 0400-30-39-.01 or part (1)(b)46 of Rule 0400-30-39-.01.	Opacity	One percent of the time during a calendar quarter (Excluding time periods of startup, shutdown, or excused malfunction) so long as no more than one 24-hour exceedance per calendar year takes place.
(j)	Sulfur Dioxide Abatement System Serving Facilities Producing Organophosphate Compounds.	Sulfur Dioxide	One exceedance of greater than three hours duration per calendar year (Excluding periods of excused malfunctions).
(k)	Secondary Lead Furnaces subject to part (1)(b)29 of Rule 0400-30-39-.01.	Opacity	One half percent of the time during a calendar quarter (Excluding time periods of startup, shutdown, or excused malfunction).
(l)	Any source type utilizing a thirty day rolling average.	Nitrogen Oxides	None. (Excluding periods of startup, shutdown, or excused malfunction.)

For purposes of this paragraph, the term 24-hour exceedance means a continuous exceedance of an emission standard having a total duration of greater than 24 hours (midnight to midnight).

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-21
General Alternate Emission Standards

Amendment

Subparagraph (d) of paragraph (2) of Rule 1200-03-21-.01 General Alternate Emission Standard is amended by deleting it in its entirety and substituting instead the following:

(d) The pollutants involved in the alternate emission standard must be comparable emissions, and no interpollutant trades are allowed. Air contaminant sources subject to the standards in Chapter 0400-30-38 cannot apply the alternate emission standard to hazardous air contaminants. Air contaminant sources subject to emission standards in Chapter 0400-30-39 or paragraph (4) of Rule 1200-03-09-.01 or subparagraph (5)(b) of Rule 1200-03-09-.01 cannot use an alternate emission standard, except for reductions in actual emissions below the level required in these rules. Such reduction may be used as credit for existing source. However, all applicable standards and requirements established under paragraph (4) of Rule 1200-03-09-.01, under Chapters 0400-30-38 and 0400-30-39, and according to a lowest-achievement-emission-rate (LAER) determination under paragraph (5) of Rule 1200-03-09-.01 must be complied with and are not superseded or replaced by the alternate emission standard.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-22
Lead Emission Standards

Amendment

Paragraph (4) of Rule 1200-03-22-.04 Standards for New or Modified Sources of Lead is amended by deleting it in its entirety and substituting instead the following:

(4) Additional requirements for certain new or modified sources of lead are given in paragraph (4) of Rule 1200-03-09-.01 and in Chapter 0400-30-39.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-25

Standards for Infectious Waste Incinerators

Amendments

Subparagraph (b) of paragraph (3) of Rule 1200-03-25-.05 Emission Standards is amended by deleting it in its entirety and substituting instead the following:

(b) Visible determination of opacity of emissions shall be determined by Method 9 as specified in the Federal Register, Vol. 39, No. 219, November 12, 1974.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-26

Administrative Fees Schedule

Amendments

Part 2 of subparagraph (i) of paragraph (2) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

2. Each regulated pollutant from a source subject to the provisions of chapter 0400-30-39 Standards of Performance for New Stationary Sources.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

* If a roll-call vote was necessary, the vote by the Agency on these rulemaking hearing rules was as follows:

Board Member	Aye	No	Abstain	Absent	Signature (if required)
Dr. Ronné Adkins Commissioner's Designee, Dept. of Environment and Conservation					
Dr. John Benitez Licensed Physician with experience in health effects of air pollutants					
Dr. Joshua Fu Involved with Institution of Higher Learning on air pollution evaluation and control					
Mike Haverstick Working in management in Private Manufacturing					
Dr. Shawn A. Hawkins Working in field related to Agriculture or Conservation					
Richard Holland Working for Industry with technical experience					
Caitlin Roberts Jennings Small Generator of Air Pollution representing Automotive Interests					
Dr. Chunrong Jia Environmental Interests					
Ken Moore Working in Municipal Government					
Stephen Moore Working for Industry with technical experience					
Nicholas Ramos Conservation Interest					
Amy Spann, PE Registered Professional Engineer					
Larry Waters County Mayor					
Jimmy West Commissioner's Designee, Dept. of Economic and Community Development					

I certify that this is an accurate and complete copy of rulemaking hearing rules, lawfully promulgated and adopted by the Air Pollution Control Board on 10/11/2023, and is in compliance with the provisions of T.C.A. § 4-5-222.

I further certify the following:

Notice of Rulemaking Hearing filed with the Department of State on: 05/01/2023

Rulemaking Hearing(s) Conducted on: (add more dates). 06/27/2023

Date:

Signature:

Name of Officer: Michelle W. Owenby

Title of Officer: Technical Secretary

Agency/Board/Commission: Air Pollution Control Board

Rule Chapter Number(s): 0400-30-39, 1200-03-02, 1200-03-05, 1200-03-06, 1200-03-09, 1200-03-16, 1200-03-18, 1200-03-20, 1200-03-21, 1200-03-22, 1200-03-25, 1200-03-26

All rulemaking hearing rules provided for herein have been examined by the Attorney General and Reporter of the State of Tennessee and are approved as to legality pursuant to the provisions of the Administrative Procedures Act, Tennessee Code Annotated, Title 4, Chapter 5.

_____
Jonathan Skrmetti
Attorney General and Reporter

_____
Date

Department of State Use Only

Filed with the Department of State on:

Effective on:

_____
Tre Hargett
Secretary of State

Public Hearing Comments

One copy of a document that satisfies T.C.A. § 4-5-222 must accompany the filing.

The Board did not receive any comments during the public comment period.

Regulatory Flexibility Addendum

Pursuant to T.C.A. §§ 4-5-401 through 4-5-404, prior to initiating the rule making process, all agencies shall conduct a review of whether a proposed rule or rule affects small business.

(1) The type or types of small business and an identification and estimate of the number of small businesses subject to the proposed rule that would bear the cost of, or directly benefit from the proposed rule.

Small businesses are already subject to the federal New Source Performance Standards (NSPS) that the Board is incorporating by reference. It is estimated that less than 250 small businesses per year are subject to the current NSPS and likewise subject to this rulemaking.

(2) The projected reporting, recordkeeping, and other administrative costs required for compliance with the proposed rule, including the type of professional skills necessary for preparation of the report or record.

This rulemaking does not add any additional reporting, recordkeeping, or other administrative costs. The NSPS already require reporting and recordkeeping. There is some skill necessary for preparing reports and records. An employee at a small business with a degree in engineering or environmental studies would generally prepare the reports or records; however, a college degree is not necessary.

(3) A statement of the probable effect on impacted small businesses and consumers.

This rulemaking will not impose any additional requirements on small businesses currently subject to the NSPS.

(4) A description of any less burdensome, less intrusive, or less costly alternative methods of achieving the purpose and objectives of the proposed rule that may exist, and to what extent the alternative means might be less burdensome to small business.

The Division of Air Pollution Control on behalf of the Board evaluated how the other states in EPA Region IV were enforcing NSPS. All states in EPA Region IV other than Tennessee have incorporated the NSPS regulations by reference. Also, the EPA has recommended adoption by reference.

(5) A comparison of the proposed rule with any federal or state counterparts.

The other seven states in EPA Region IV have adopted NSPS regulations by reference. This rulemaking will have no impact on attracting or detracting economic activity in Tennessee.

(6) Analysis of the effect of the possible exemption of small businesses from all or any part of the requirements contained in the proposed rule.

Under applicable federal law, there is no exemption available for small businesses from the requirements of the NSPS since these regulations are based on the type and amount of air pollutants emitted from a source. The only way for a small business to no longer be subject to the requirements of the NSPS would be to eliminate the emission of air pollutants from the source.

Impact on Local Governments

Pursuant to T.C.A. §§ 4-5-220 and 4-5-228, “On any rule and regulation proposed to be promulgated, the proposing agency shall state in a simple declarative sentence, without additional comments on the merits or the policy of the rule or regulation, whether the rule or regulation may have a projected financial impact on local governments. The statement shall describe the financial impact in terms of increase in expenditures or decrease in revenues.”

The Board anticipates that this rule will not result in an increase in expenditures or a decrease in revenues for local governments.

Additional Information Required by Joint Government Operations Committee

All agencies, upon filing a rule, must also submit the following pursuant to T.C.A. § 4-5-226(i)(1).

(A) A brief summary of the rule and a description of all relevant changes in previous regulations effectuated by such rule;

The proposed amendments to Chapter 0400-30-39 will incorporate by reference all New Source Performance Standards (NSPS) from 40 C.F.R. Part 60, except the emission guidelines. Currently, the requirements of a NSPS must be placed in a permit before the State of Tennessee can enforce them. The Tennessee Air Pollution Control Board (Board) proposes to repeal all of Chapter 1200-03-16 and one rule in Chapter 1200-03-06, which currently reproduce some, but not all, of the NSPS regulations. The proposed rule will incorporate by reference the federal NSPS regulations and allow the Technical Secretary of the Board to enforce these federal regulations directly. In addition, current references in other rules to Chapter 1200-03-16 will be revised to reference to Chapter 0400-30-39. The proposed amendments will also remove the permit-by-rule provisions of paragraphs 0400-30-39-.01(1) and 0400-30-39-.02(1) because they are no longer necessary.

(B) A citation to and brief description of any federal law or regulation or any state law or regulation mandating promulgation of such rule or establishing guidelines relevant thereto;

Pursuant to Clean Air Act section 111, Tennessee is required to enforce the NSPS as part of its federally authorized air program and incorporating the NSPS into Chapter 0400-30-39 will streamline permitting and compliance-related evaluations. According to Tennessee Code Annotated section 68-201-103 the intent and purpose of Tennessee Code Annotated Title 68, Chapter 201, Part 1 is to maintain purity of the air resources of the state consistent with the protection of normal health, general welfare, and physical property of the people, maximum employment and the full industrial development of the state and for the Board to do so through the prevention, abatement, and control of air pollution by all practical and economically feasible methods.

(C) Identification of persons, organizations, corporations or governmental entities most directly affected by this rule, and whether those persons, organizations, corporations or governmental entities urge adoption or rejection of this rule;

Persons, organizations, corporations, or governmental entities most directly affected by this rule are regulated facilities that are subject to the NSPS. As no comments were submitted in response to the rulemaking hearing notice, the Air Pollution Control Board has not received any indication opposition to this rulemaking. The U.S. Environmental Protection Agency is a proponent of this rulemaking.

(D) Identification of any opinions of the attorney general and reporter or any judicial ruling that directly relates to the rule or the necessity to promulgate the rule;

The Board is not aware of any opinions of the Attorney General and Reporter or any judicial ruling that directly relates to the rule or the necessity to promulgate the rule.

(E) An estimate of the probable increase or decrease in state and local government revenues and expenditures, if any, resulting from the promulgation of this rule, and assumptions and reasoning upon which the estimate is based. An agency shall not state that the fiscal impact is minimal if the fiscal impact is more than two percent (2%) of the agency's annual budget or five hundred thousand dollars ($500,000), whichever is less;

The Board anticipates that this rule will not result in an increase in expenditures or a decrease in revenues for state or local governments.

(F) Identification of the appropriate agency representative or representatives, possessing substantial knowledge and understanding of the rule;

Mark A. Reynolds
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, Tennessee 37243
mark.a.reynolds@tn.gov

(G) Identification of the appropriate agency representative or representatives who will explain the rule at a scheduled meeting of the committees;

Blair Beaty
Legislative Director
Office of General Counsel

(H) Office address, telephone number, and email address of the agency representative or representatives who will explain the rule at a scheduled meeting of the committees; and

Office of General Counsel
Tennessee Department of Environment and Conservation
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 2nd Floor
Nashville, Tennessee 37243
(615) 253-5339
Blair.Beaty@tn.gov

(I) Any additional information relevant to the rule proposed for continuation that the committee requests.

(1) A description of the action proposed, the purpose of the action, the legal authority for the action and the plan for implementing the action.

The action proposed is to incorporate by reference all New Source Performance Standards (NSPS) from 40 C.F.R. Part 60, except the emission guidelines. The proposed rule will incorporate by reference the NSPS regulations and allow the Technical Secretary of the Board to enforce these federal regulations directly instead of including them in individual permits. The statutory authority for this rulemaking is Tennessee Code Annotated Title 68, Chapter 201, Part 1. The NSPS regulations protect public health by limiting the emissions of air pollution. These rules effectuate the intent of Tennessee Code Annotated section 68-201-103 “to maintain purity of the air resources of the state consistent with the protection of normal health, general welfare and physical property of the people, maximum employment and the full industrial development of the state” and for the board to do so “through the prevention, abatement and control of air pollution by all practical and economically feasible methods.”

(2) A determination that the action is the least-cost method for achieving the stated purpose.

This rulemaking is believed to be the least-cost method for the State to enforce the NSPS regulations. The Division of Air Pollution Control (Division) evaluated how the other states in EPA Region IV were enforcing the NSPS regulations. The other seven states in EPA Region IV have incorporated the NSPS regulations by reference. Also, the EPA has recommended adoption by reference.

(3) A comparison of the cost-benefit relation of the action to nonaction.

This rulemaking incorporates by reference all federal NSPS and authorizes the Technical Secretary to enforce these regulations directly. There will be no additional costs associated with the proposed rule. Regulated facilities are already required to comply with the most current version of the NSPS regardless of whether they are incorporated in a permit, because EPA has authority under Clean Air Act section 111 to enforce the federal NSPS regulations in states. If the rules are not promulgated, the Technical Secretary will not be able to enforce the NSPS directly in the event that a permit for a regulated source has not yet been issued or must be revised to incorporate the relevant NSPS provisions. Based on this comparison, the benefits of moving forward with this rulemaking outweigh the costs.”

(4) A determination that the action represents the most efficient allocation of public and private resources.

This action represents the most efficient allocation of public and private resources. The NSPS regulations help protect public health by limiting the emissions of air pollution. By making these changes, the Board will fully incorporate the federal regulations so that they can be directly enforced by the Technical Secretary.

(5) A determination of the effect of the action on competition.

This rulemaking will not affect competition.

(6) A determination of the effect of the action on the cost of living in the geographical area in which the action would occur.

Cost of living in the geographical area in which the action would occur will not be affected.

(7) A determination of the effect of the action on employment in the geographical area in which the action would occur.

It is not anticipated that the action will affect employment.

(8) The source of revenue to be used for the action.

The action can be accommodated with existing resources.

(9) A conclusion as to the economic impact upon all persons substantially affected by the action, including an analysis containing a description as to which persons will bear the costs of the action and which persons will benefit directly and indirectly from the action.

There will be no additional costs associated with this rulemaking. Regulated facilities are already required to comply with the most current version of the NSPS regulations regardless of whether they are incorporated in a permit, because EPA has authority under Clean Air Act section 111 to enforce the NSPS regulations in states. However, this rule will allow the Technical Secretary to enforce the most current version of the federal requirements even if the provisions of the current version have not been incorporated into a permit.

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For Department of State Use Only

Sequence Number: _____
Rule ID(s): _____
File Date: _____
Effective Date: _____

Rulemaking Hearing Rule(s) Filing Form

Rulemaking Hearing Rules are rules filed after and as a result of a rulemaking hearing (Tenn. Code Ann. § 4-5-205).

Pursuant to Tenn. Code Ann. § 4-5-229, any new fee or fee increase promulgated by state agency rule shall take effect on July 1, following the expiration of the ninety (90) day period as provided in § 4-5-207. This section shall not apply to rules that implement new fees or fee increases that are promulgated as emergency rules pursuant to § 4-5-208(a) and to subsequent rules that make permanent such emergency rules, as amended during the rulemaking process. In addition, this section shall not apply to state agencies that did not, during the preceding two (2) fiscal years, collect fees in an amount sufficient to pay the cost of operating the board, commission, or entity in accordance with § 4-29-121(b).

Agency/Board/Commission:	Air Pollution Control Board
Division:	Air Pollution Control
Contact Person:	Mark A. Reynolds
Address:	William R. Snodgrass Tennessee Tower 312 Rosa L. Parks Avenue, 15th Floor Nashville, Tennessee
Zip:	37243
Phone:	(615) 532-0559
Email:	mark.a.reynolds@tn.gov

Revision Type (check all that apply):

X Amendment
___ New
X Repeal

___ Content based on previous emergency rule filed on _____
___ Content is identical to the emergency rule

Rule(s) (**ALL** chapters and rules contained in filing must be listed here. If needed, copy and paste additional tables to accommodate multiple chapters. Please make sure that **ALL** new rule and repealed rule numbers are listed in the chart below. Please enter only **ONE** Rule Number/Rule Title per row.)

Chapter Number	**Chapter Title**
0400-30-39	Standards of Performance for New Stationary Sources
Rule Number	**Rule Title**
0400-30-39-.01	~~Stationary Compression Internal Combustion Engines~~ Federal Standards of Performance for New Stationary Sources
0400-30-39-.02	~~Stationary Spark Ignition Internal Combustion Engines~~ Reserved

Chapter Number	**Chapter Title**
1200-03-02	Definitions
Rule Number	**Rule Title**
1200-03-02-.01	General Definitions

Chapter Number	**Chapter Title**
1200-03-05	Visible Emission Regulations
Rule Number	**Rule Title**
1200-03-05-.04	Exemption
1200-03-05-.05	Standard for Certain Existing Sources

Chapter Number	Chapter Title
1200-03-06	Non-Process Emission Standards
Rule Number	**Rule Title**
1200-03-06-.06	~~Commercial and Industrial Solid Waste Incineration Units that Commenced Construction on or before November 30, 1999~~ Reserved

Chapter Number	Chapter Title
1200-03-09	Construction and Operating Permits
Rule Number	**Rule Title**
1200-03-09-.01	Construction Permits
1200-03-09-.02	Operating Permits
1200-03-09-.04	Exemptions
1200-03-09-.07	Permits-by-Rule

Chapter Number	Chapter Title
1200-03-16	~~New Source Performance Standards~~ Repealed
Rule Number	**Rule Title**
~~1200-03-16-.01~~	~~General Provisions~~
~~1200-03-16-.02~~	~~Fuel Fired Steam Generators for which Construction Is Commenced After April 3, 1972~~
~~1200-03-16-.03~~	~~Electric Utility Steam Generating Units for which Construction Commenced After September 18, 1978~~
~~1200-03-16-.04~~	~~Incinerators~~
~~1200-03-16-.05~~	~~Portland Cement Plants~~
~~1200-03-16-.06~~	~~Sulfuric Acid Plants~~
~~1200-03-16-.07~~	~~Nitric Acid Plants~~
~~1200-03-16-.08~~	~~Hot Mix Asphalt Facilities~~
~~1200-03-16-.09~~	~~Petroleum Refineries~~
~~1200-03-16-.10~~	~~Reserved~~
~~1200-03-16-.11~~	~~Reserved~~
~~1200-03-16-.12~~	~~Secondary Lead Smelters~~
~~1200-03-16-.13~~	~~Secondary Brass and Bronze Ingot Production Plants~~
~~1200-03-16-.14~~	~~Iron and Steel Plants~~
~~1200-03-16-.15~~	~~Sewage Treatment Plant Incinerators~~
~~1200-03-16-.16~~	~~Phosphate Fertilizer Industry: Wet Process Phosphoric Acid Plants~~
~~1200-03-16-.17~~	~~Phosphate Fertilizer Industry: Super Phosphoric Acid Plants~~
~~1200-03-16-.18~~	~~Phosphate Fertilizer Industry: Diammonium Phosphate Plants~~
~~1200-03-16-.19~~	~~Phosphate Fertilizer Industry: Triple Superphosphate Plants~~
~~1200-03-16-.20~~	~~Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities~~
~~1200-03-16-.21~~	~~Primary Aluminum Reduction Plants~~
~~1200-03-16-.22~~	~~Reserved~~
~~1200-03-16-.23~~	~~Primary Copper Smelters~~
~~1200-03-16-.24~~	~~Primary Zinc Smelters~~
~~1200-03-16-.25~~	~~Primary Lead Smelters~~
~~1200-03-16-.26~~	~~Steel Plants: Electric Arc Furnaces Constructed After February 9, 1977, and On or Before August 17, 1983~~
~~1200-03-16-.27~~	~~Ferroalloy Production Facilities~~
~~1200-03-16-.28~~	~~Lime Manufacturing Plants~~
~~1200-03-16-.29~~	~~Kraft Pulp Mills~~
~~1200-03-16-.30~~	~~Grain Elevators~~
~~1200-03-16-.31~~	~~Reserved~~
~~1200-03-16-.32~~	~~Ammonium Sulfate Manufacture~~
~~1200-03-16-.33~~	~~Reserved~~
~~1200-03-16-.34~~	~~Automobile and Light Duty Truck Surface Coating Operations~~
~~1200-03-16-.35~~	~~Asphalt Processing and Asphalt Roofing Manufacture~~
~~1200-03-16-.36~~	~~Industrial Surface Coating: Large Appliances~~
~~1200-03-16-.37~~	~~Surface Coating of Metal Furniture~~
~~1200-03-16-.38~~	~~Metal Coil Surface Coating~~
~~1200-03-16-.39~~	~~Graphic Arts Industry: Publication Rotogravure Printing~~

~~1200-03-16-.40~~	~~Beverage Can Surface Coating~~
~~1200-03-16-.41~~	~~Metallic Mineral Processing Plants~~
~~1200-03-16-.42~~	~~Pressure Sensitive Tape and Label Surface Coating Operations~~
~~1200-03-16-.43~~	~~Reserved~~
~~1200-03-16-.44~~	~~Bulk Gasoline Terminals~~
~~1200-03-16-.45~~	~~Synthetic Fiber Production Facilities~~
~~1200-03-16-.46~~	~~Lead Acid Battery Manufacturing Plants~~
~~1200-03-16-.47~~	~~Equipment Leaks of VOC in Petroleum Refineries~~
~~1200-03-16-.48~~	~~Flexible Vinyl and Urethane Coating and Printing~~
~~1200-03-16-.49~~	~~Petroleum Dry Cleaners~~
~~1200-03-16-.50~~	~~Phosphate Rock Plants~~
~~1200-03-16-.51~~	~~Equipment Leaks of VOC from Onshore Natural Gas Processing Plants~~
~~1200-03-16-.52~~	~~Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels~~
~~1200-03-16-.53~~	~~Reserved~~
~~1200-03-16-.54~~	~~Onshore Natural Gas Processing: SO2 Emissions~~
~~1200-03-16-.55~~	~~Secondary Emissions from Basic Oxygen Process Steel Making Facilities~~
~~1200-03-16-.56~~	~~Wool Fiberglass Insulation Manufacturing Plants~~
~~1200-03-16-.57~~	~~Industrial Surface Coating: Plastic Parts for Business Machines~~
~~1200-03-16-.58~~	~~Reserved~~
~~1200-03-16-.59~~	~~Industrial-Commercial-Institutional Steam Generating Units~~
~~1200-03-16-.60 through1200-03-16-.73~~	~~Reserved~~
~~1200-03-16-.74~~	~~Standards of Performance for Calciners and Dryers in Mineral Industries~~
~~1200-03-16-.75~~	~~Reserved~~
~~1200-03-16-.76~~	~~Reserved~~
~~1200-03-16-.77 through 1200-03-16-.99~~	~~Reserved~~

Chapter Number	**Chapter Title**
1200-03-18	Volatile Organic Compounds
Rule Number	**Rule Title**
1200-03-18-.48	Volatile Organic Liquid Storage Tanks

Chapter Number	**Chapter Title**
1200-03-20	Limits on Emissions Due to Malfunctions, Startups, and Shutdowns
Rule Number	**Rule Title**
1200-03-20-.06	Report Required Upon the Issuance of a Notice of Violation

Chapter Number	**Chapter Title**
1200-03-21	General Alternate Emission Standards
Rule Number	**Rule Title**
1200-03-21-.01	General Alternate Emission Standard

Chapter Number	**Chapter Title**
1200-03-22	Lead Emission Standards
Rule Number	**Rule Title**
1200-03-22-.04	Standards for New or Modified Sources of Lead

Chapter Number	**Chapter Title**
1200-03-25	Standards for Infectious Waste Incinerators
Rule Number	**Rule Title**
1200-03-25-.05	Emission Standards

Chapter Number	**Chapter Title**
1200-03-26	Administrative Fees Schedule
Rule Number	**Rule Title**

1200-03-26-.02	Construction and Annual Emission Fees

Place substance of rules and other info here. Please be sure to include a detailed explanation of the changes being made to the listed rule(s). Statutory authority must be given for each rule change. For information on formatting rules go to https://sos.tn.gov/products/division-publications/rulemaking-guidelines.

Chapter 0400-30-39
Standards of Performance for New Stationary Sources

Amendments

Chapter 0400-30-39 Standards of Performance for New Stationary Sources is amended by deleting it in its entirety and substituting instead the following:

Chapter 0400-30-39
Standards of Performance for New Stationary Sources

Table of Contents

0400-30-39-.01 ~~Stationary Compression Ignition Internal Combustion Engines~~ Federal Standards of Performance for New Stationary Sources

(1) ~~Emergency stationary compression ignition internal combustion engines subject to the provisions of this rule may qualify for a permit-by-rule as specified in Rule 1200-03-09-.07.~~ The provisions of the subparts and appendices of 40 C.F.R. Part 60 listed in subparagraph (b) of this paragraph are hereby incorporated by reference as published in the July 1, 2022 edition of the Code of Federal Regulations, except as provided in subparagraph (a) of this paragraph.

(a) Any reference contained in 40 C.F.R. Part 60 to the:

1. Administrator shall instead be a reference to the Technical Secretary, except for specific authorities that have not been delegated to the State of Tennessee; and

2. EPA regional office shall instead be a reference to the EPA Region IV office.

(b) List of Federal Regulations under 40 C.F.R. Part 60:

1. 40 C.F.R. Part 60 Subpart A: General provisions;

2. Reserved;

3. Reserved;

4. Reserved;

5. Reserved;

6. Reserved;

7. Reserved;

8. Reserved;

9. Reserved;

10. Reserved;

11. 40 C.F.R. Part 60 Subpart D: Standards of Performance for Fossil-Fuel-Fired Steam

Generators;

12. 40 C.F.R. Part 60 Subpart Da: Standards of Performance for Electric Utility Steam Generating Units;

13. 40 C.F.R. Part 60 Subpart Db: Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units;

14. 40 C.F.R. Part 60 Subpart Dc: Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units;

15. 40 C.F.R. Part 60 Subpart E: Standards of Performance for Incinerators;

16. 40 C.F.R. Part 60 Subpart Ea: Standards of Performance for Municipal Waste Combustors for Which Construction Is Commenced After December 20, 1989 and On or Before September 20, 1994;

17. 40 C.F.R. Part 60 Subpart Eb: Standards of Performance for Large Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994 or for Which Modification or Reconstruction is Commenced After June 19, 1996;

18. 40 C.F.R. Part 60 Subpart Ec: Standards of Performance for New Stationary Sources: Hospital/Medical/Infectious Waste Incinerators;

19. 40 C.F.R. Part 60 Subpart F: Standards of Performance for Portland Cement Plants;

20. 40 C.F.R. Part 60 Subpart G: Standards of Performance for Nitric Acid Plants;

21. 40 C.F.R. Part 60 Subpart Ga: Standards of Performance for Nitric Acid Plants for Which Construction, Reconstruction, or Modification Commenced After October 14, 2011;

22. 40 C.F.R. Part 60 Subpart H: Standards of Performance for Sulfuric Acid Plants;

23. 40 C.F.R. Part 60 Subpart I: Standards of Performance for Hot Mix Asphalt Facilities;

24. 40 C.F.R. Part 60 Subpart J: Standards of Performance for Petroleum Refineries;

25. 40 C.F.R. Part 60 Subpart Ja: Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007;

26. 40 C.F.R. Part 60 Subpart K: Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978;

27. 40 C.F.R. Part 60 Subpart Ka: Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984;

28. 40 C.F.R. Part 60 Subpart Kb: Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984;

29. 40 C.F.R. Part 60 Subpart L: Standards of Performance for Secondary Lead Smelters;

30. 40 C.F.R. Part 60 Subpart M: Standards of Performance for Secondary Brass and Bronze Production Plants;

31. 40 C.F.R. Part 60 Subpart N: Standards of Performance for Primary Emissions from Basic Oxygen Process Furnaces for Which Construction is Commenced After June 11, 1973;

32. 40 C.F.R. Part 60 Subpart Na: Standards of Performance for Secondary Emissions from

Basic Oxygen Process Steelmaking Facilities for Which Construction is Commenced After January 20, 1983;

33. 40 C.F.R. Part 60 Subpart O: Standards of Performance for Sewage Treatment Plants;

34. 40 C.F.R. Part 60 Subpart P: Standards of Performance for Primary Copper Smelters;

35. 40 C.F.R. Part 60 Subpart Q: Standards of Performance for Primary Zinc Smelters;

36. 40 C.F.R. Part 60 Subpart R: Standards of Performance for Primary Lead Smelters;

37. 40 C.F.R. Part 60 Subpart S: Standards of Performance for Primary Aluminum Reduction Plants;

38. 40 C.F.R. Part 60 Subpart T: Standards of Performance for the Phosphate Fertilizer Industry: Wet-Process Phosphoric Acid Plants;

39. 40 C.F.R. Part 60 Subpart U: Standards of Performance for the Phosphate Fertilizer Industry: Superphosphoric Acid Plants;

40. 40 C.F.R. Part 60 Subpart V: Standards of Performance for the Phosphate Fertilizer Industry: Diammonium Phosphate Plants;

41. 40 C.F.R. Part 60 Subpart W: Standards of Performance for the Phosphate Fertilizer Industry: Triple Superphosphate Plants;

42. 40 C.F.R. Part 60 Subpart X: Standards of Performance for the Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities;

43. 40 C.F.R. Part 60 Subpart Y: Standards of Performance for Coal Preparation and Processing Plants;

44. 40 C.F.R. Part 60 Subpart Z: Standards of Performance for Ferroalloy Production Facilities;

45. 40 C.F.R. Part 60 Subpart AA: Standards of Performance for Steel Plants: Electric Arc Furnaces Constructed After October 21, 1974, and On or Before August 17, 1983;

46. 40 C.F.R. Part 60 Subpart AAa: Standards of Performance for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983;

47. Reserved.

48. 40 C.F.R. Part 60 Subpart BB: Standards of Performance for Kraft Pulp Mills;

49. 40 C.F.R. Part 60 Subpart BBa: Standards of Performance for Kraft Pulp Mill Affected Sources for Which Construction, Reconstruction, or Modification Commenced After May 23, 2013;

50. 40 C.F.R. Part 60 Subpart CC: Standards of Performance for Glass Manufacturing Plants;

51. 40 C.F.R. Part 60 Subpart DD: Standards of Performance for Grain Elevators;

52. 40 C.F.R. Part 60 Subpart EE: Standards of Performance for Surface Coating of Metal Furniture;

53. Reserved;

54. 40 C.F.R. Part 60 Subpart GG: Standards of Performance for Stationary Gas Turbines;

55. 40 C.F.R. Part 60 Subpart HH: Standards of Performance for Lime Manufacturing Plants;

56. 40 C.F.R. Part 60 Subpart KK: Standards of Performance for Lead-Acid Battery Manufacturing Plants;

57. 40 C.F.R. Part 60 Subpart LL: Standards of Performance for Metallic Mineral Processing Plants;

58. 40 C.F.R. Part 60 Subpart MM: Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations;

59. Reserved.

60. 40 C.F.R. Part 60 Subpart NN: Standards of Performance for Phosphate Rock Plants;

61. 40 C.F.R. Part 60 Subpart PP: Standards of Performance for Ammonium Sulfate Manufacture;

62. 40 C.F.R. Part 60 Subpart QQ: Standards of Performance for the Graphic Arts Industry: Publication Rotogravure Printing;

63. 40 C.F.R. Part 60 Subpart RR: Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations;

64. 40 C.F.R. Part 60 Subpart SS: Standards of Performance for Industrial Surface Coating: Large Appliances;

65. 40 C.F.R. Part 60 Subpart TT: Standards of Performance for Metal Coil Surface Coating;

66. 40 C.F.R. Part 60 Subpart UU: Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture;

67. 40 C.F.R. Part 60 Subpart VV: Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006;

68. 40 C.F.R. Part 60 Subpart VVa: Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006;

69. 40 C.F.R. Part 60 Subpart WW: Standards of Performance for the Beverage Can Surface Coating Industry;

70. 40 C.F.R. Part 60 Subpart XX: Standards of Performance for Bulk Gasoline Terminals;

71. Reserved;

72. 40 C.F.R. Part 60 Subpart AAA: Standards of Performance for New Residential Wood Heaters;

73. 40 C.F.R. Part 60 Subpart BBB: Standards of Performance for the Rubber Tire Manufacturing Industry;

74. Reserved;

75. 40 C.F.R. Part 60 Subpart DDD: Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Polymer Manufacturing Industry;

76. Reserved;

77. 40 C.F.R. Part 60 Subpart FFF: Standards of Performance for Flexible Vinyl and Urethane Coating and Printing;

78. 40 C.F.R. Part 60 Subpart GGG: Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced After January 4, 1983, and on or Before November 7, 2006;

79. 40 C.F.R. Part 60 Subpart GGGa: Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006;

80. 40 C.F.R. Part 60 Subpart HHH: Standards of Performance for Synthetic Fiber Production Facilities;

81. 40 C.F.R. Part 60 Subpart III: Standards of Performance for Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes;

82. 40 C.F.R. Part 60 Subpart JJJ: Standards of Performance for Petroleum Dry Cleaners;

83. 40 C.F.R. Part 60 Subpart KKK: Standards of Performance for Equipment Leaks of VOC From Onshore Natural Gas Processing Plants for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and on or Before August 23, 2011;

84. 40 C.F.R. Part 60 Subpart LLL: Standards of Performance for SO_2 Emissions From Onshore Natural Gas Processing for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and on or Before August 23, 2011;

85. Reserved;

86. 40 C.F.R. Part 60 Subpart NNN: Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations;

87. 40 C.F.R. Part 60 Subpart OOO: Standards of Performance for Nonmetallic Mineral Processing Plants;

88. 40 C.F.R. Part 60 Subpart PPP: Standard of Performance for Wool Fiberglass Insulation Manufacturing Plants;

89. 40 C.F.R. Part 60 Subpart QQQ: Standards of Performance for VOC Emissions From Petroleum Refinery Wastewater Systems;

90. 40 C.F.R. Part 60 Subpart RRR: Standards of Performance for Volatile Organic Compound Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes;

91. 40 C.F.R. Part 60 Subpart SSS: Standards of Performance for Magnetic Tape Coating Facilities;

92. 40 C.F.R. Part 60 Subpart TTT: Standards of Performance for Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines;

93. Reserved.

94. 40 C.F.R. Part 60 Subpart UUU: Standards of Performance for Calciners and Dryers in Mineral Industries;

95. 40 C.F.R. Part 60 Subpart VVV: Standards of Performance for Polymeric Coating of Supporting Substrates Facilities;

96. 40 C.F.R. Part 60 Subpart WWW: Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification on or After May

30, 1991, but Before July 18, 2014;

97. 40 C.F.R. Part 60 Subpart XXX: Standards of Performance for Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014;

98. Reserved;

99. Reserved;

100. 40 C.F.R. Part 60 Subpart AAAA: Standards of Performance for Small Municipal Waste Combustion Units for Which Construction is Commenced After August 30, 1999 or for Which Modification or Reconstruction is Commenced After June 6, 2001;

101. Reserved;

102. 40 C.F.R. Part 60 Subpart CCCC: Standards of Performance for Commercial and Industrial Solid Waste Incineration Units;

103. Reserved;

104. 40 C.F.R. Part 60 Subpart EEEE: Standards of Performance for Other Solid Waste Incineration Units for Which Construction is Commenced After December 9, 2004, or for Which Modification or Reconstruction is Commenced on or After June 16, 2006;

105. Reserved;

106. Reserved;

107. Reserved;

108. 40 C.F.R. Part 60 Subpart IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines;

109. 40 C.F.R. Part 60 Subpart JJJJ: Standards of Performance for Stationary Spark Ignition Internal Combustion Engines;

110. 40 C.F.R. Part 60 Subpart KKKK: Standards of Performance for Stationary Combustion Turbines;

111. 40 C.F.R. Part 60 Subpart LLLL: Standards of Performance for New Sewage Sludge Incineration Units;

112. Reserved;

113. Reserved;

114. 40 C.F.R. Part 60 Subpart OOOO: Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification, or Reconstruction Commenced After August 23, 2011, and on or Before September 18, 2015;

115. 40 C.F.R. Part 60 Subpart OOOOa: Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification or Reconstruction Commenced After September 18, 2015;

116. Reserved;

117. 40 C.F.R. Part 60 Subpart QQQQ: Standards of Performance for New Residential Hydronic Heaters and Forced-Air Furnaces;

118. 40 C.F.R. Part 60 Subpart TTTT: Standards of Performance for Greenhouse Gas

Emissions for Electric Generating Units;

119. Reserved;

120. 40 C.F.R. Part 60 Appendix A-1: Test Methods 1 through 2F;

121. 40 C.F.R. Part 60 Appendix A-2: Test Methods 2G through 3C;

122. 40 C.F.R. Part 60 Appendix A-3: Test Methods 4 through 5I;

123. 40 C.F.R. Part 60 Appendix A-4: Test Methods 6 through 10B;

124. 40 C.F.R. Part 60 Appendix A-5: Test Methods 11 through 15A;

125. 40 C.F.R. Part 60 Appendix A-6: Test Methods 16 through 18;

126. 40 C.F.R. Part 60 Appendix A-7: Test Methods 19 through 25E;

127. 40 C.F.R. Part 60 Appendix A-8: Test Methods 26 through 30B;

128. 40 C.F.R. Part 60 Appendix B: Performance Specifications;

129. 40 C.F.R. Part 60 Appendix C: Determination of Emission Rate Change;

130. 40 C.F.R. Part 60 Appendix D: Required Emission Inventory Information;

131. Reserved;

132. 40 C.F.R. Part 60 Appendix F: Quality Assurance Procedures;

133. 40 C.F.R. Part 60 Appendix G: Provisions for an Alternative Method of Demonstrating Compliance With 40 C.F.R. 60.43 for the Newton Power Station of Central Illinois Public Service Company;

134. Reserved; and

135. 40 C.F.R. Part 60 Appendix I: Owner's Manuals and Temporary Labels for Wood Heaters Subject to Subparts AAA and QQQQ of Part 60.

(2) Reserved. ~~The provisions of 40 CFR 60 Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines) are hereby adopted by reference as published in the July 1, 2017, edition of the Code of Federal Regulations (CFR), except as provided in subparagraph (a) of this paragraph.~~

~~(a) Any reference contained in 40 CFR 60 Subpart IIII to the:~~

~~1. Administrator shall instead be a reference to the Technical Secretary; and~~

~~2. Applicable EPA regional office for the State of Tennessee shall instead be a reference to the EPA Region IV office.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

0400-30-39-.02 ~~Stationary Spark Ignition Internal Combustion Engines~~ Reserved.

~~(1) Emergency stationary spark ignition internal combustion engines subject to the provisions of this rule may qualify for a permit by rule as specified in Rule 1200-03-09-.07.~~

~~(2) The provisions of 40 CFR 60 Subpart JJJJ (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines) are hereby adopted by reference as published in the July 1, 2017, edition of the Code of Federal Regulations (CFR), except as provided in subparagraph (a) of this paragraph.~~

~~(a) Any reference contained in 40 CFR 60 Subpart JJJJ to the:~~

~~1. Administrator shall instead be a reference to the Technical Secretary; and~~

~~2. Applicable EPA regional office for the State of Tennessee shall instead be a reference to the EPA Region IV office.~~

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Amendments

Subparagraph (g) of paragraph (1) of Rule 1200-03-02-.01 General Definitions is amended by deleting it in its entirety and substituting instead the following:

(g) "Best available control technology (BACT)" means an emission limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under these rules which would be emitted from any proposed new or modified air contaminant source ~~which~~ that the Technical Secretary, on a case-by-case bases, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant ~~which~~ that would exceed the emissions allowed by any applicable standard under Chapters 0400-30-38 ~~and 1200-03-16~~ or 0400-30-39 of these rules. If the Technical Secretary determines that technological or economic limitations on the application of measurement methodology to a particular class of sources would make the imposition of an emission standard infeasible, a design, equipment, work practice, or operational standard, or combination thereof, may be prescribed instead to require the application of best available control technology. Such standard ~~shall~~ must, to the degree possible, set forth the emission reduction achievable by implementation of such design, equipment, work practice, or operation, and ~~shall~~ must provide for compliance by means ~~which~~ that achieve equivalent results.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-05
Visible Emission Regulations

Amendments

Paragraph (2) of Rule 1200-03-05-.04 Exemption is amended by deleting it in its entirety and substituting instead the following:

(2) Unless the visible emission standard was set under the authority of paragraph (2), (3), or (4) of Rule 1200-03-05-.01~~(2), (3), or (4)~~, the visible emission standards of this chapter shall not apply where a source has an applicable visible emissions standard under ~~chapter 1200-03-16~~ Chapter 0400-30-39.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Paragraph (3) of Rule 1200-03-05-.04 Exemption is amended by deleting it in its entirety and substituting instead the following:

(3) If the installation of an in-stack opacity monitor is required by a standard contained in ~~chapter 1200-03-16~~ Chapter 0400-30-39, then for an identical existing source to obtain the less restrictive opacity standard contained in ~~chapter 1200-03-16~~ Chapter 0400-30-39, the installation of an in-stack opacity monitor meeting the specifications contained in ~~rule~~ part (1)(d)1 of Rule 1200-03-10-.02~~(1)(d)1.~~ shall be required. For situations where the installation of an in-stack opacity monitor would be required to obtain an opacity standard for an existing source equivalent to that set forth for an identical new source subject to ~~chapter 1200-03-16~~ Chapter 0400-30-39, it is the responsibility of the source owner or operator to notify the Technical Secretary in writing that this revision to the source's existing opacity standard is requested and that the required in-stack opacity monitor will be installed in accordance with ~~rule~~ Rule 1200-03-10-.02.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subparagraph (b) of Paragraph (2) of Rule 1200-03-05-.05 Standard for Certain Existing Sources is amended by deleting it in its entirety and substituting instead the following:

(b) The air contaminant source is not regulated under ~~the rules contained in Chapter~~ Chapters 0400-30-38, ~~Chapter 1200-03-16~~ 0400-30-39, ~~Chapter~~ 1200-03-25, or paragraph (4) of Rule 1200-03-09-.01.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-06
Non-Process Emission Standards

Amendments

The table of contents to Chapter 1200-03-06 Non-Process Emission Standards is amended by deleting the current title of Rule 1200-03-06-.06 “Commercial and Industrial Solid Waste Incineration Units That Commenced Construction On Or Before November 30, 1999” and substituting instead “Reserved.”

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Rule 1200-03-06-.06 Commercial and Industrial Solid Waste Incineration Units That Commenced Construction On Or Before November 30, 1999 is amended by deleting it in its entirety and substituting instead the following:

1200-03-06-.06 Reserved. ~~Commercial and Industrial Solid Waste Incineration Units That Commenced Construction On Or Before November 30, 1999~~

~~(1) The owner or operator of each commercial and industrial solid waste incineration (CISWI) unit, as specified in 40 CFR 60.2550 for addressing in a state plan, must satisfy for that unit the standards and requirements specified for such units in 40 CFR 60 subpart DDDD. This includes, but is not necessarily limited to, compliance with the following:~~

~~(a) The increments of progress as specified in sections 60.2575 through 60.2615, with dates in Table 1 as follow:~~

~~1. Increment 1 Submit final control plan (One year after rule effective date)~~

~~2. Increment 2-Final compliance December 1, 2005.~~

~~(b) The requirements for preparation and submittal to the technical secretary of a waste management plan as specified in sections 60.2620 through 60.2630.~~

~~(c) The requirements for insuring operator training and qualification as specified in sections 60.2635 through 60.2665.~~

~~(d) The emission limitations and operating limits specified in sections 60.2670 through 60.2685.~~

~~(e) The performance testing specified in sections 60.2690 and 60.2695.~~

~~(f) The initial and continuous compliance demonstration requirements specified in sections 60.2700 through 60.2725.~~

~~(g) The monitoring requirements specified in sections 60.2730 and 2735.~~

~~(h) The requirements for recordkeeping and reporting specified in sections 60.2740 through 60.2800.~~

~~(i) The requirement specified in section 60.2805 to apply for a major stationary source operating permit (according to the requirements of Paragraph 1200-03-09-.02(11)).~~

~~(2) Notwithstanding any provisions in subpart DDDD specifying applicability, the provisions of this Rule 1200-03-06-.06 shall not apply to the burning of wood or wood waste, as defined in Paragraph 1200-03-06-.05(3) and Rule 1200-03-04-.02, respectively, solely for the disposition of such wood waste.~~

~~(3) For the purpose of this rule, the term “Administrator” means the technical secretary. Other terms shall have the meanings specified in section 60.2875 except with respect to the applicability statement in Paragraph (2) above. Remaining terms shall have the meanings specified in this Division 1200-3.~~

~~(4) Subpart DDDD-Emission Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incinerations Units that Commenced Construction on or Before November 30, 1999, published in the Federal Register/Vol. 65, No. 232/ Friday, December 1, 2000, as an addition to 40 CFR 60, is incorporated verbatim into Tennessee regulations as follows:~~

Subpart DDDD--Emissions Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units that Commenced Construction On or Before November 30, 1999

Sec.

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Introduction

Sec. 60.2500 What is the purpose of this subpart?

This subpart establishes emission guidelines and compliance schedules for the control of emissions from commercial and industrial solid waste incineration (CISWI) units. The pollutants addressed by these emission guidelines are listed in Table 2 of this subpart. These emission guidelines are developed in accordance with sections 111(d) and 129 of the Clean Air Act and subpart B of this part.

Sec. 60.2505 Am I affected by this subpart?

(a) If you are the Administrator of an air quality program in a State or United States protectorate with one or more existing CISWI units that commenced construction on or before November 30, 1999, you must submit a State plan to U.S. Environmental Protection Agency (EPA) that implements the emission guidelines contained in this subpart.

(b) You must submit the State plan to EPA by December 3, 2001.

Sec. 60.2510 Is a State plan required for all States?

No. You are not required to submit a State plan if there are no existing CISWI units in your State, and you submit a negative declaration letter in place of the State plan.

Sec. 60.2515 What must I include in my State plan?

(a) You must include the nine items described in paragraphs (a)(1) through (9) of this section in your State plan.

(1) Inventory of affected CISWI units, including those that have ceased operation but have not been dismantled.

(2) Inventory of emissions from affected CISWI units in your State.

(3) Compliance schedules for each affected CISWI unit.

(4) Emission limitations, operator training and qualification requirements, a waste management plan, and operating limits for affected CISWI units that are at least as protective as the emission guidelines contained in this subpart.

(5) Performance testing, recordkeeping, and reporting requirements.

(6) Certification that the hearing on the State plan was held, a list of witnesses and their organizational affiliations, if any, appearing at the hearing, and a brief written summary of each presentation or written submission.

(7) Provision for State progress reports to EPA.

(8) Identification of enforceable State mechanisms that you selected for implementing the emission guidelines of this subpart.

(9) Demonstration of your State's legal authority to carry out the sections 111(d) and 129 State plan.

(b) Your State plan may deviate from the format and content of the emission guidelines contained in this subpart. However, if your State plan does deviate in content, you must demonstrate that your State plan is at least as protective as the emission guidelines contained in this subpart. Your State plan must address regulatory applicability, increments of progress for retrofit, operator training and qualification, a waste management plan, emission limitations, performance testing, operating limits, monitoring, recordkeeping and reporting, and air curtain incinerator requirements.

(c) You must follow the requirements of subpart B of this part (Adoption and Submittal of State Plans for Designated Facilities) in your State plan.

Sec. 60.2520 Is there an approval process for my State plan?

Yes. The EPA will review your State plan according to Sec. 60.27.

Sec. 60.2525 What if my State plan is not approvable?

If you do not submit an approvable State plan (or a negative declaration letter) by December 2, 2002, EPA will develop a Federal plan according to Sec. 60.27 to implement the emission guidelines contained in this subpart. Owners and operators of CISWI units not covered by an approved State plan must comply with the Federal plan. The Federal plan is an interim action and will be automatically withdrawn when your State plan is approved.

Sec. 60.2530 Is there an approval process for a negative declaration letter?

No. The EPA has no formal review process for negative declaration letters. Once your negative declaration letter has been received, EPA will place a copy in the public docket and publish a notice in the Federal Register. If, at a later date, an existing CISWI unit is found in your State, the Federal plan implementing the emission guidelines contained in this subpart would automatically apply to that CISWI unit until your State plan is approved.

Sec. 60.2535 What compliance schedule must I include in my State plan?

(a) Your State plan must include compliance schedules that require CISWI units to achieve final compliance as expeditiously as practicable after approval of the State plan but not later than the earlier of the two dates specified in paragraphs (a)(1) and (2) of this section.

(1) December 1, 2005.

(2) Three years after the effective date of State plan approval.

(b) For compliance schedules more than 1 year following the effective date of State plan approval, State plans must include dates for enforceable increments of progress as specified in Sec. 60.2580.

Sec. 60.2540 Are there any State plan requirements for this subpart that apply instead of the requirements specified in subpart B?

Yes. Subpart B establishes general requirements for developing and processing section 111(d) plans. This subpart applies instead of the requirements in subpart B of this part for paragraphs (a) and (b) of this section:

(a) State plans developed to implement this subpart must be as protective as the emission guidelines contained in this subpart. State plans must require all CISWI units to comply by December 1, 2005 or 3 years after the effective date of State plan approval, whichever is sooner. This applies instead of the option for case-by-case less stringent emission standards and longer compliance schedules in Sec. 60.24(f).

(b) State plans developed to implement this subpart are required to include two increments of progress for the affected CISWI units. These two minimum increments are the final control plan submittal date and final

compliance date in Sec. 60.21(h)(1) and (5). This applies instead of the requirement of Sec. 60.24(e)(1) that would require a State plan to include all five increments of progress for all CISWI units.

Sec. 60.2545 Does this subpart directly affect CISWI unit owners and operators in my State?

(a) No. This subpart does not directly affect CISWI unit owners and operators in your State. However, CISWI unit owners and operators must comply with the State plan you develop to implement the emission guidelines contained in this subpart. States may choose to incorporate the model rule text directly in their State plan.

(b) If you do not submit an approvable plan to implement and enforce the guidelines contained in this subpart by December 2, 2002, the EPA will implement and enforce a Federal plan, as provided in Sec. 60.2525, to ensure that each unit within your State reaches compliance with all the provisions of this subpart by December 1, 2005.

Applicability of State Plans

Sec. 60.2550 What CISWI units must I address in my State plan?

(a) Your State plan must address incineration units that meet all three criteria described in paragraphs (a)(1) through (3) of this section.

(1) Incineration units in your State that commenced construction on or before November 30, 1999.

(2) Incineration units that meet the definition of a CISWI unit as defined in Sec. 60.2875.

(3) Incineration units not exempt under Sec. 60.2555.

(b) If the owner or operator of a CISWI unit makes changes that meet the definition of modification or reconstruction on or after June 1, 2001, the CISWI unit becomes subject to subpart CCCC of this part and the State plan no longer applies to that unit.

(c) If the owner or operator of a CISWI unit makes physical or operational changes to an existing CISWI unit primarily to comply with your State plan, subpart CCCC of this part does not apply to that unit. Such changes do not qualify as modifications or reconstructions under subpart CCCC of this part.

Sec. 60.2555 What combustion units are exempt from my State plan?

This subpart exempts fifteen types of units described in paragraphs (a) through (o) of this section.

(a) Pathological waste incineration units. Incineration units burning 90 percent or more by weight (on a calendar quarter basis and excluding the weight of auxiliary fuel and combustion air) of pathological waste, low-level radioactive waste, and/or chemotherapeutic waste as defined in Sec. 60.2875 are not subject to this subpart if you meet the two requirements specified in paragraphs (a)(1) and (2) of this section.

(1) Notify the Administrator that the unit meets these criteria.

(2) Keep records on a calendar quarter basis of the weight of pathological waste, low-level radioactive waste, and/or chemotherapeutic waste burned, and the weight of all other fuels and wastes burned in the unit.

(b) Agricultural waste incineration units. Incineration units burning 90 percent or more by weight (on a calendar quarter basis and excluding the weight of auxiliary fuel and combustion air) of agricultural wastes as defined in Sec. 60.2875 are not subject to this subpart if you meet the two requirements specified in paragraphs (b)(1) and (2) of this section.

(1) Notify the Administrator that the unit meets these criteria.

(2) Keep records on a calendar quarter basis of the weight of agricultural waste burned, and the weight of all other fuels and wastes burned in the unit.

(c) Municipal waste combustion units. Incineration units that meet either of the two criteria specified in paragraphs (c)(1) or (2) of this section.

(1) Are regulated under subpart Ea of this part (Standards of Performance for Municipal Waste Combustors); subpart Eb of this part (Standards of Performance for Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994); subpart Cb of this part (Emission Guidelines and Compliance Time for Large Municipal Combustors that are Constructed on or Before September 20, 1994); subpart AAAA of this part (Standards of Performance for New Stationary Sources: Small Municipal Waste Combustion Units); or subpart BBBB of this part (Emission Guidelines for Existing Stationary Sources: Small Municipal Waste Combustion Units).

(2) Burn greater than 30 percent municipal solid waste or refuse-derived fuel, as defined in subpart Ea, subpart Eb, subpart AAAA, and subpart BBBB, and that have the capacity to burn less than 35 tons (32 megagrams) per day of municipal solid waste or refuse-derived fuel, if you meet the two requirements in paragraphs (c)(2)(i) and (ii) of this section.

(i) Notify the Administrator that the unit meets these criteria.

(ii) Keep records on a calendar quarter basis of the weight of municipal solid waste burned, and the weight of all other fuels and wastes burned in the unit.

(d) Medical waste incineration units. Incineration units regulated under subpart Ec of this part (Standards of Performance for Hospital/ Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996) or subpart Ca of this part (Emission Guidelines and Compliance Times for Hospital/Medical/Infectious Waste Incinerators).

(e) Small power production facilities. Units that meet the three requirements specified in paragraphs (e)(1) through (3) of this section.

(1) The unit qualifies as a small power production facility under section 3(17)(C) of the Federal Power Act (16 U.S.C. 796(17)(C)).

(2) The unit burns homogeneous waste (not including refuse-derived fuel) to produce electricity.

(3) You notify the Administrator that the unit meets all of these criteria.

(f) Cogeneration facilities. Units that meet the three requirements specified in paragraphs (f)(1) through (3) of this section.

(1) The unit qualifies as a cogeneration facility under section 3(18)(B) of the Federal Power Act (16 U.S.C. 796(18)(B)).

(2) The unit burns homogeneous waste (not including refuse-derived fuel) to produce electricity and steam or other forms of energy used for industrial, commercial, heating, or cooling purposes.

(3) You notify the Administrator that the unit meets all of these criteria.

(g) Hazardous waste combustion units. Units that meet either of the two criteria specified in paragraph (g)(1) or (2) of this section.

(1) Units for which you are required to get a permit under section 3005 of the Solid Waste Disposal Act.

(2) Units regulated under subpart EEE of 40 CFR part 63 (National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors).

(h) Materials recovery units. Units that combust waste for the primary purpose of recovering metals, such as primary and secondary smelters.

(i) Air curtain incinerators. Air curtain incinerators that burn only the materials listed in paragraphs (i)(1) through (3) of this section are only required to meet the requirements under ``Air Curtain Incinerators'' (Secs. 60.2810 through 60.2870).

(1) 100 percent wood waste.

(2) 100 percent clean lumber.

(3) 100 percent mixture of only wood waste, clean lumber, and/or yard waste.

(j) Cyclonic barrel burners. (See Sec. 60.2875)

(k) Rack, part, and drum reclamation units. (See Sec. 60.2875)

(l) Cement kilns. Kilns regulated under subpart LLL of part 63 of this chapter (National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry).

(m) Sewage sludge incinerators. Incineration units regulated under subpart O of this part (Standards of Performance for Sewage Treatment Plants).

(n) Chemical recovery units. Combustion units burning materials to recover chemical constituents or to produce chemical compounds where there is an existing commercial market for such recovered chemical constituents or compounds. The seven types of units described in paragraphs (n)(1) through (7) of this section are considered chemical recovery units.

(1) Units burning only pulping liquors (i.e., black liquor) that are reclaimed in a pulping liquor recovery process and reused in the pulping process.

(2) Units burning only spent sulfuric acid used to produce virgin sulfuric acid.

(3) Units burning only wood or coal feedstock for the production of charcoal.

(4) Units burning only manufacturing byproduct streams/residues containing catalyst metals which are reclaimed and reused as catalysts or used to produce commercial grade catalysts.

(5) Units burning only coke to produce purified carbon monoxide that is used as an intermediate in the production of other chemical compounds.

(6) Units burning only hydrocarbon liquids or solids to produce hydrogen, carbon monoxide, synthesis gas, or other gases for use in other manufacturing processes.

(7) Units burning only photographic film to recover silver.

(o) Laboratory analysis units. Units that burn samples of materials for the purpose of chemical or physical analysis.

Sec. 60.2558 What if a chemical recovery unit is not listed in Sec. 60.2555(n)?

(a) If a chemical recovery unit is not listed in Sec. 60.2555(n), the owner or operator of the unit can petition the Administrator to add the unit to the list. The petition must contain the six items in paragraphs (a)(1) through (6) of this section.

(1) A description of the source of the materials being burned.

(2) A description of the composition of the materials being burned, highlighting the chemical constituents in these materials that are recovered.

(3) A description (including a process flow diagram) of the process in which the materials are burned, highlighting the type, design, and operation of the equipment used in this process.

(4) A description (including a process flow diagram) of the chemical constituent recovery process, highlighting the type, design, and operation of the equipment used in this process.

(5) A description of the commercial markets for the recovered chemical constituents and their use.

(6) The composition of the recovered chemical constituents and the composition of these chemical constituents as they are bought and sold in commercial markets.

(b) Until the Administrator approves the petition, the incineration unit is covered by this subpart.

(c) If a petition is approved, the Administrator will amend Sec. 60.2555(n) to add the unit to the list of chemical recovery units.

Use of Model Rule

Sec. 60.2560 What is the "model rule" in this subpart?

(a) The model rule is the portion of these emission guidelines (Secs. 60.2575 through 60.2875) that addresses the regulatory requirements applicable to CISWI units. The model rule provides these requirements in regulation format. You must develop a State plan that is at least as protective as the model rule. You may use the model rule language as part of your State plan. Alternative language may be used in your State plan if you demonstrate that the alternative language is at least as protective as the model rule contained in this subpart.

(b) In the model rule of Secs. 60.2575 to 60.2875, ``you'' means the owner or operator of a CISWI unit.

Sec. 60.2565 How does the model rule relate to the required elements of my State plan?

Use the model rule to satisfy the State plan requirements specified in Sec. 60.2515(a)(4) and (5).

Sec. 60.2570 What are the principal components of the model rule?

The model rule contains the eleven major components listed in paragraphs (a) through (k) of this section.

(a) Increments of progress toward compliance.

(b) Waste management plan.

(c) Operator training and qualification.

(d) Emission limitations and operating limits.

(e) Performance testing.

(f) Initial compliance requirements.

(g) Continuous compliance requirements.

(h) Monitoring.

(i) Recordkeeping and reporting.

(j) Definitions.

(k) Tables.

Model Rule--Increments of Progress

Sec. 60.2575 What are my requirements for meeting increments of progress and achieving final compliance?

~~If you plan to achieve compliance more than 1 year following the effective date of State plan approval, you must meet the two increments of progress specified in paragraphs (a) and (b) of this section.~~

~~(a) Submit a final control plan.~~

~~(b) Achieve final compliance.~~

~~Sec. 60.2580 When must I complete each increment of progress?~~

~~Table 1 of this subpart specifies compliance dates for each of the increments of progress.~~

~~Sec. 60.2585 What must I include in the notifications of achievement of increments of progress?~~

~~Your notification of achievement of increments of progress must include the three items specified in paragraphs (a) through (c) of this section.~~

~~(a) Notification that the increment of progress has been achieved.~~

~~(b) Any items required to be submitted with each increment of progress.~~

~~(c) Signature of the owner or operator of the CISWI unit.~~

~~Sec. 60.2590 When must I submit the notifications of achievement of increments of progress?~~

~~Notifications for achieving increments of progress must be postmarked no later than 10 business days after the compliance date for the increment.~~

~~Sec. 60.2595 What if I do not meet an increment of progress?~~

~~If you fail to meet an increment of progress, you must submit a notification to the Administrator postmarked within 10 business days after the date for that increment of progress in Table 1 of this subpart. You must inform the Administrator that you did not meet the increment, and you must continue to submit reports each subsequent calendar month until the increment of progress is met.~~

~~Sec. 60.2600 How do I comply with the increment of progress for submittal of a control plan?~~

~~For your control plan increment of progress, you must satisfy the two requirements specified in paragraphs (a) and (b) of this section.~~

~~(a) Submit the final control plan that includes the five items described in paragraphs (a)(1) through (5) of this section.~~

~~(1) A description of the devices for air pollution control and process changes that you will use to comply with the emission limitations and other requirements of this subpart.~~

~~(2) The type(s) of waste to be burned.~~

~~(3) The maximum design waste burning capacity.~~

~~(4) The anticipated maximum charge rate.~~

~~(5) If applicable, the petition for site-specific operating limits under Sec. 60.2680.~~

~~(b) Maintain an onsite copy of the final control plan.~~

~~Sec. 60.2605 How do I comply with the increment of progress for achieving final compliance?~~

~~For the final compliance increment of progress, you must complete all process changes and retrofit construction of control devices, as specified in the final control plan, so that, if the affected CISWI unit is brought online, all necessary process changes and air pollution control devices would operate as designed.~~

Sec. 60.2610 What must I do if I close my CISWI unit and then restart it?

(a) If you close your CISWI unit but will restart it prior to the final compliance date in your State plan, you must meet the increments of progress specified in Sec. 60.2575.

(b) If you close your CISWI unit but will restart it after your final compliance date, you must complete emission control retrofits and meet the emission limitations and operating limits on the date your unit restarts operation.

Sec. 60.2615 What must I do if I plan to permanently close my CISWI unit and not restart it?

If you plan to close your CISWI unit rather than comply with the State plan, submit a closure notification, including the date of closure, to the Administrator by the date your final control plan is due.

Model Rule--Waste Management Plan

Sec. 60.2620 What is a waste management plan?

A waste management plan is a written plan that identifies both the feasibility and the methods used to reduce or separate certain components of solid waste from the waste stream in order to reduce or eliminate toxic emissions from incinerated waste.

Sec. 60.2625 When must I submit my waste management plan?

You must submit a waste management plan no later than the date specified in Table 1 of this subpart for submittal of the final control plan.

Sec. 60.2630 What should I include in my waste management plan?

A waste management plan must include consideration of the reduction or separation of waste stream elements such as paper, cardboard, plastics, glass, batteries, or metals; or the use of recyclable materials. The plan must identify any additional waste management measures, and the source must implement those measures considered practical and feasible, based on the effectiveness of waste management measures already in place, the costs of additional measures, the emissions reductions expected to be achieved, and any other environmental or energy impacts they might have.

Model Rule--Operator Training and Qualification

Sec. 60.2635 What are the operator training and qualification requirements?

(a) No CISWI unit can be operated unless a fully trained and qualified CISWI unit operator is accessible, either at the facility or can be at the facility within 1 hour. The trained and qualified CISWI unit operator may operate the CISWI unit directly or be the direct supervisor of one or more other plant personnel who operate the unit. If all qualified CISWI unit operators are temporarily not accessible, you must follow the procedures in Sec. 60.2665.

(b) Operator training and qualification must be obtained through a State-approved program or by completing the requirements included in paragraph (c) of this section.

(c) Training must be obtained by completing an incinerator operator training course that includes, at a minimum, the three elements described in paragraphs (c)(1) through (3) of this section.

(1) Training on the eleven subjects listed in paragraphs (c)(1)(i) through (xi) of this section.

(i) Environmental concerns, including types of emissions.

(ii) Basic combustion principles, including products of combustion.

(iii) Operation of the specific type of incinerator to be used by the operator, including proper startup, waste charging, and shutdown procedures.

(iv) Combustion controls and monitoring.

(v) Operation of air pollution control equipment and factors affecting performance (if applicable).

(vi) Inspection and maintenance of the incinerator and air pollution control devices.

(vii) Actions to correct malfunctions or conditions that may lead to malfunction.

(viii) Bottom and fly ash characteristics and handling procedures.

(ix) Applicable Federal, State, and local regulations, including Occupational Safety and Health Administration workplace standards.

(x) Pollution prevention.

(xi) Waste management practices.

(2) An examination designed and administered by the instructor.

(3) Written material covering the training course topics that can serve as reference material following completion of the course.

Sec. 60.2640 When must the operator training course be completed?

The operator training course must be completed by the later of the three dates specified in paragraphs (a) through (c) of this section.

(a) The final compliance date (Increment 2).

(b) Six months after CISWI unit startup.

(c) Six months after an employee assumes responsibility for operating the CISWI unit or assumes responsibility for supervising the operation of the CISWI unit.

Sec. 60.2645 How do I obtain my operator qualification?

(a) You must obtain operator qualification by completing a training course that satisfies the criteria under Sec. 60.2635(b).

(b) Qualification is valid from the date on which the training course is completed and the operator successfully passes the examination required under Sec. 60.2635(c)(2).

Sec. 60.2650 How do I maintain my operator qualification?

To maintain qualification, you must complete an annual review or refresher course covering, at a minimum, the five topics described in paragraphs (a) through (e) of this section.

(a) Update of regulations.

(b) Incinerator operation, including startup and shutdown procedures, waste charging and ash handling.

(c) Inspection and maintenance.

(d) Responses to malfunctions or conditions that may lead to malfunction.

(e) Discussion of operating problems encountered by attendees.

Sec. 60.2655 How do I renew my lapsed operator qualification?

You must renew a lapsed operator qualification by one of the two methods specified in paragraphs (a) and (b) of this section.

(a) For a lapse of less than 3 years, you must complete a standard annual refresher course described in Sec. 60.2650.

(b) For a lapse of 3 years or more, you must repeat the initial qualification requirements in Sec. 60.2645(a).

Sec. 60.2660 What site-specific documentation is required?

(a) Documentation must be available at the facility and readily accessible for all CISWI unit operators that addresses the ten topics described in paragraphs (a)(1) through (10) of this section. You must maintain this information and the training records required by paragraph (c) of this section in a manner that they can be readily accessed and are suitable for inspection upon request.

(1) Summary of the applicable standards under this subpart.

(2) Procedures for receiving, handling, and charging waste.

(3) Incinerator startup, shutdown, and malfunction procedures.

(4) Procedures for maintaining proper combustion air supply levels.

(5) Procedures for operating the incinerator and associated air pollution control systems within the standards established under this subpart.

(6) Monitoring procedures for demonstrating compliance with the incinerator operating limits.

(7) Reporting and recordkeeping procedures.

(8) The waste management plan required under Secs. 60.2620 through 60.2630.

(9) Procedures for handling ash.

(10) A list of the wastes burned during the performance test.

(b) You must establish a program for reviewing the information listed in paragraph (a) of this section with each incinerator operator.

(1) The initial review of the information listed in paragraph (a) of this section must be conducted by the later of the three dates specified in paragraphs (b)(1)(i) through (iii) of this section.

(i) The final compliance date (Increment 2).

(ii) Six months after CISWI unit startup.

(iii) Six months after being assigned to operate the CISWI unit.

(2) Subsequent annual reviews of the information listed in paragraph (a) of this section must be conducted no later than 12 months following the previous review.

(c) You must also maintain the information specified in paragraphs (c)(1) through (3) of this section.

(1) Records showing the names of CISWI unit operators who have completed review of the information in Sec. 60.2660(a) as required by Sec. 60.2660(b), including the date of the initial review and all subsequent annual reviews.

(2) Records showing the names of the CISWI operators who have completed the operator training requirements under Sec. 60.2635, met the criteria for qualification under Sec. 60.2645, and maintained or renewed their qualification under Sec. 60.2650 or Sec. 60.2655. Records must

include documentation of training, the dates of the initial refresher training, and the dates of their qualification and all subsequent renewals of such qualifications.

(3) For each qualified operator, the phone and/or pager number at which they can be reached during operating hours.

Sec. 60.2665 What if all the qualified operators are temporarily not accessible?

If all qualified operators are temporarily not accessible (i.e., not at the facility and not able to be at the facility within 1 hour), you must meet one of the two criteria specified in paragraphs (a) and (b) of this section, depending on the length of time that a qualified operator is not accessible.

(a) When all qualified operators are not accessible for more than 8 hours, but less than 2 weeks, the CISWI unit may be operated by other plant personnel familiar with the operation of the CISWI unit who have completed a review of the information specified in Sec. 60.2660(a) within the past 12 months. However, you must record the period when all qualified operators were not accessible and include this deviation in the annual report as specified under Sec. 60.2770.

(b) When all qualified operators are not accessible for 2 weeks or more, you must take the two actions that are described in paragraphs (b)(1) and (2) of this section.

(1) Notify the Administrator of this deviation in writing within 10 days. In the notice, state what caused this deviation, what you are doing to ensure that a qualified operator is accessible, and when you anticipate that a qualified operator will be accessible.

(2) Submit a status report to the Administrator every 4 weeks outlining what you are doing to ensure that a qualified operator is accessible, stating when you anticipate that a qualified operator will be accessible and requesting approval from the Administrator to continue operation of the CISWI unit. You must submit the first status report 4 weeks after you notify the Administrator of the deviation under paragraph (b)(1) of this section. If the Administrator notifies you that your request to continue operation of the CISWI unit is disapproved, the CISWI unit may continue operation for 90 days, then must cease operation. Operation of the unit may resume if you meet the two requirements in paragraphs (b)(2)(i) and (ii) of this section.

(i) A qualified operator is accessible as required under Sec. 60.2635(a).

(ii) You notify the Administrator that a qualified operator is accessible and that you are resuming operation.

Model Rule--Emission Limitations and Operating Limits

Sec. 60.2670 What emission limitations must I meet and by when?

You must meet the emission limitations specified in Table 2 of this subpart on the date the initial performance test is required or completed (whichever is earlier).

Sec. 60.2675 What operating limits must I meet and by when?

(a) If you use a wet scrubber to comply with the emission limitations, you must establish operating limits for four operating parameters (as specified in Table 3 of this subpart) as described in paragraphs (a)(1) through (4) of this section during the initial performance test.

(1) Maximum charge rate, calculated using one of the two different procedures in paragraph (a)(1)(i) or (ii), as appropriate.

(i) For continuous and intermittent units, maximum charge rate is 110 percent of the average charge rate measured during the most recent performance test demonstrating compliance with all applicable emission limitations.

(ii) For batch units, maximum charge rate is 110 percent of the daily charge rate measured during the most recent performance test demonstrating compliance with all applicable emission limitations.

(2) Minimum pressure drop across the wet scrubber, which is calculated as 90 percent of the average pressure drop across the wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter emission limitations; or minimum amperage to the wet scrubber, which is calculated as 90 percent of the average amperage to the wet scrubber measured during the most recent performance test demonstrating compliance with the particulate matter emission limitations.

(3) Minimum scrubber liquor flow rate, which is calculated as 90 percent of the average liquor flow rate at the inlet to the wet scrubber measured during the most recent performance test demonstrating compliance with all applicable emission limitations.

(4) Minimum scrubber liquor pH, which is calculated as 90 percent of the average liquor pH at the inlet to the wet scrubber measured during the most recent performance test demonstrating compliance with the HCl emission limitation.

(b) You must meet the operating limits established during the initial performance test on the date the initial performance test is required or completed (whichever is earlier).

(c) If you use a fabric filter to comply with the emission limitations, you must operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month period. In calculating this operating time percentage, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If you take longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by you to initiate corrective action.

Sec. 60.2680 What if I do not use a wet scrubber to comply with the emission limitations?

If you use an air pollution control device other than a wet scrubber, or limit emissions in some other manner, to comply with the emission limitations under Sec. 60.2670, you must petition the Administrator for specific operating limits to be established during the initial performance test and continuously monitored thereafter. You must not conduct the initial performance test until after the petition has been approved by the Administrator. Your petition must include the five items listed in paragraphs (a) through (e) of this section.

(a) Identification of the specific parameters you propose to use as additional operating limits.

(b) A discussion of the relationship between these parameters and regulated pollutants change with changes in these parameters, and how limits on these parameters will serve to limit emissions of regulated pollutants.

(c) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the operating limits on these parameters.

(d) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments.

(e) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

Sec. 60.2685 What happens during periods of startup, shutdown, and malfunction?

(a) The emission limitations and operating limits apply at all times except during CISWI unit startups, shutdowns, or malfunctions.

(b) Each malfunction must last no longer than 3 hours.

Model Rule--Performance Testing

Sec. 60.2690 How do I conduct the initial and annual performance test?

(a) All performance tests must consist of a minimum of three test runs conducted under conditions representative of normal operations.

(b) You must document that the waste burned during the performance test is representative of the waste burned under normal operating conditions by maintaining a log of the quantity of waste burned (as required in Sec. 60.2740(b)(1)) and the types of waste burned during the performance test.

(c) All performance tests must be conducted using the minimum run duration specified in Table 2 of this subpart.

(d) Method 1 of appendix A of this part must be used to select the sampling location and number of traverse points.

(e) Method 3A or 3B of appendix A of this part must be used for gas composition analysis, including measurement of oxygen concentration. Method 3A or 3B of appendix A of this part must be used simultaneously with each method.

(f) All pollutant concentrations, except for opacity, must be adjusted to 7 percent oxygen using Equation 1 of this section:

Cadj = Cmeas (20.9 7)/(20.9 $\%O_2$) (Eq. 1)

Where:

Cadj = pollutant concentration adjusted to 7 percent oxygen;

Cmeas = pollutant concentration measured on a dry basis;

(20.9-7) = 20.9 percent oxygen-7 percent oxygen (defined oxygen correction basis);

20.9 = oxygen concentration in air, percent; and

$\%O_2$ = oxygen concentration measured on a dry basis, percent.

(g) You must determine dioxins/furans toxic equivalency by following the procedures in paragraphs (g)(1) through (3) of this section.

(1) Measure the concentration of each dioxin/furan tetra- through octa-congener emitted using EPA Method 23.

(2) For each dioxin/furan congener measured in accordance with paragraph (g)(1) of this section, multiply the congener concentration by its corresponding toxic equivalency factor specified in Table 4 of this subpart.

(3) Sum the products calculated in accordance with paragraph (g)(2) of this section to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.

Sec. 60.2695 How are the performance test data used?

You use results of performance tests to demonstrate compliance with the emission limitations in Table 2 of this subpart.

Model Rule--Initial Compliance Requirements

Sec. 60.2700 How do I demonstrate initial compliance with the emission limitations and establish the operating limits?

You must conduct an initial performance test, as required under Sec. 60.8, to determine compliance with the emission limitations in Table 2 of this subpart and to establish operating limits using the procedure in Sec. 60.2675

~~or Sec. 60.2680. The initial performance test must be conducted using the test methods listed in Table 2 of this subpart and the procedures in Sec. 60.2690.~~

~~Sec. 60.2705 By what date must I conduct the initial performance test?~~

~~The initial performance test must be conducted no later than 180 days after your final compliance date. Your final compliance date is specified in Table 1 of this subpart.~~

~~Model Rule--Continuous Compliance Requirements~~

~~Sec. 60.2710 How do I demonstrate continuous compliance with the emission limitations and the operating limits?~~

~~(a) You must conduct an annual performance test for particulate matter, hydrogen chloride, and opacity for each CISWI unit as required under Sec. 60.8 to determine compliance with the emission limitations. The annual performance test must be conducted using the test methods listed in Table 2 of this subpart and the procedures in Sec. 60.2690.~~

~~(b) You must continuously monitor the operating parameters specified in Sec. 60.2675 or established under Sec. 60.2680. Operation above the established maximum or below the established minimum operating limits constitutes a deviation from the established operating limits. Three hour rolling average values are used to determine compliance (except for baghouse leak detection system alarms) unless a different averaging period is established under Sec. 60.2680. Operating limits do not apply during performance tests.~~

~~(c) You must only burn the same types of waste used to establish operating limits during the performance test.~~

~~Sec. 60.2715 By what date must I conduct the annual performance test?~~

~~You must conduct annual performance tests for particulate matter, hydrogen chloride, and opacity within 12 months following the initial performance test. Conduct subsequent annual performance tests within 12 months following the previous one.~~

~~Sec. 60.2720 May I conduct performance testing less often?~~

~~(a) You can test less often for a given pollutant if you have test data for at least 3 years, and all performance tests for the pollutant (particulate matter, hydrogen chloride, or opacity) over 3 consecutive years show that you comply with the emission limitation. In this case, you do not have to conduct a performance test for that pollutant for the next 2 years. You must conduct a performance test during the third year and no more than 36 months following the previous performance test.~~

~~(b) If your CISWI unit continues to meet the emission limitation for particulate matter, hydrogen chloride, or opacity, you may choose to conduct performance tests for these pollutants every third year, but each test must be within 36 months of the previous performance test.~~

~~(c) If a performance test shows a deviation from an emission limitation for particulate matter, hydrogen chloride, or opacity, you must conduct annual performance tests for that pollutant until all performance tests over a 3-year period show compliance.~~

~~Sec. 60.2725 May I conduct a repeat performance test to establish new operating limits?~~

~~(a) Yes. You may conduct a repeat performance test at any time to establish new values for the operating limits. The Administrator may request a repeat performance test at any time.~~

~~(b) You must repeat the performance test if your feed stream is different than the feed streams used during any performance test used to demonstrate compliance.~~

~~Model Rule--Monitoring~~

~~Sec. 60.2730 What monitoring equipment must I install and what parameters must I monitor?~~

~~(a) If you are using a wet scrubber to comply with the emission limitation under Sec. 60.2670, you must install, calibrate (to manufacturers' specifications), maintain, and operate devices (or establish methods) for~~

monitoring the value of the operating parameters used to determine compliance with the operating limits listed in Table 3 of this subpart. These devices (or methods) must measure and record the values for these operating parameters at the frequencies indicated in Table 3 of this subpart at all times except as specified in Sec. 60.2735(a).

(b) If you use a fabric filter to comply with the requirements of this subpart, you must install, calibrate, maintain, and continuously operate a bag leak detection system as specified in paragraphs (b)(1) through (8) of this section.

(1) You must install and operate a bag leak detection system for each exhaust stack of the fabric filter.

(2) Each bag leak detection system must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.

(3) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligrams per actual cubic meter or less.

(4) The bag leak detection system sensor must provide output of elative or absolute particulate matter loadings.

(5) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor.

(6) The bag leak detection system must be equipped with an alarm system that will sound automatically when an increase in relative particulate matter emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel.

(7) For positive pressure fabric filter systems, a bag leak detection system must be installed in each baghouse compartment or cell. For negative pressure or induced air fabric filters, the bag leak detector must be installed downstream of the fabric filter.

(8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(c) If you are using something other than a wet scrubber to comply with the emission limitations under Sec. 60.2670, you must install, calibrate (to the manufacturers' specifications), maintain, and operate the equipment necessary to monitor compliance with the site-specific operating limits established using the procedures in Sec. 60.2680.

Sec. 60.2735 Is there a minimum amount of monitoring data I must obtain?

(a) Except for monitoring malfunctions, associated repairs, and required quality assurance or quality control activities (including, as applicable, calibration checks and required zero and span adjustments of the monitoring system), you must conduct monitoring at all times the CISWI unit is operating.

(b) Do not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or quality control activities for meeting the requirements of this subpart, including data averages and calculations. You must use all the data collected during all other periods in assessing compliance with the operating limits.

Model Rule--Recordkeeping and Reporting

Sec. 60.2740 What records must I keep?

You must maintain the 13 items (as applicable) as specified in paragraphs (a) through (m) of this section for a period of at least 5 years:

(a) Calendar date of each record.

(b) Records of the data described in paragraphs (b)(1) through (6) of this section:

(1) The CISWI unit charge dates, times, weights, and hourly charge rates.

(2) Liquor flow rate to the wet scrubber inlet every 15 minutes of operation, as applicable.

(3) Pressure drop across the wet scrubber system every 15 minutes of operation or amperage to the wet scrubber every 15 minutes of operation, as applicable.

(4) Liquor pH as introduced to the wet scrubber every 15 minutes of operation, as applicable.

(5) For affected CISWI units that establish operating limits for controls other than wet scrubbers under Sec. 60.2680, you must maintain data collected for all operating parameters used to determine compliance with the operating limits.

(6) If a fabric filter is used to comply with the emission limitations, you must record the date, time, and duration of each alarm and the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action taken. You must also record the percent of operating time during each 6-month period that the alarm sounds, calculated as specified in Sec. 60.2675(c).

(c) Identification of calendar dates and times for which monitoring systems used to monitor operating limits were inoperative, inactive, malfunctioning, or out of control (except for downtime associated with zero and span and other routine calibration checks). Identify the operating parameters not measured, the duration, reasons for not obtaining the data, and a description of corrective actions taken.

(d) Identification of calendar dates, times, and durations of malfunctions, and a description of the malfunction and the corrective action taken.

(e) Identification of calendar dates and times for which data show a deviation from the operating limits in Table 3 of this subpart or a deviation from other operating limits established under Sec. 60.2680 with a description of the deviations, reasons for such deviations, and a description of corrective actions taken.

(f) The results of the initial, annual, and any subsequent performance tests conducted to determine compliance with the emission limits and/or to establish operating limits, as applicable. Retain a copy of the complete test report including calculations.

(g) Records showing the names of CISWI unit operators who have completed review of the information in Sec. 60.2660(a) as required by Sec. 60.2660(b), including the date of the initial review and all subsequent annual reviews.

(h) Records showing the names of the CISWI operators who have completed the operator training requirements under Sec. 60.2635, met the criteria for qualification under Sec. 60.2645, and maintained or renewed their qualification under Sec. 60.2650 or Sec. 60.2655. Records must include documentation of training, the dates of the initial and refresher training, and the dates of their qualification and all subsequent renewals of such qualifications.

(i) For each qualified operator, the phone and/or pager number at which they can be reached during operating hours.

(j) Records of calibration of any monitoring devices as required under Sec. 60.2730.

(k) Equipment vendor specifications and related operation and maintenance requirements for the incinerator, emission controls, and monitoring equipment.

(l) The information listed in Sec. 60.2660(a).

(m) On a daily basis, keep a log of the quantity of waste burned and the types of waste burned (always required).

Sec. 60.2745 Where and in what format must I keep my records?

All records must be available onsite in either paper copy or computer-readable format that can be printed upon request, unless an alternative format is approved by the Administrator.

Sec. 60.2750 What reports must I submit?

See Table 5 of this subpart for a summary of the reporting requirements.

Sec. 60.2755 When must I submit my waste management plan?

You must submit the waste management plan no later than the date specified in Table 1 of this subpart for submittal of the final control plan.

Sec. 60.2760 What information must I submit following my initial performance test?

You must submit the information specified in paragraphs (a) through (c) of this section no later than 60 days following the initial performance test. All reports must be signed by the facilities manager.

(a) The complete test report for the initial performance test results obtained under Sec. 60.2700, as applicable.

(b) The values for the site-specific operating limits established in Sec. 60.2675 or Sec. 60.2680.

(c) If you are using a fabric filter to comply with the emission limitations, documentation that a bag leak detection system has been installed and is being operated, calibrated, and maintained as required by Sec. 60.2730(b).

Sec. 60.2765 When must I submit my annual report?

You must submit an annual report no later than 12 months following the submission of the information in Sec. 60.2760. You must submit subsequent reports no more than 12 months following the previous report. (If the unit is subject to permitting requirements under title V of the Clean Air Act, you may be required by the permit to submit these reports more frequently.)

Sec. 60.2770 What information must I include in my annual report?

The annual report required under Sec. 60.2765 must include the ten items listed in paragraphs (a) through (j) of this section. If you have a deviation from the operating limits or the emission limitations, you must also submit deviation reports as specified in Secs. 60.2775, 60.2780, and 60.2785.

(a) Company name and address.

(b) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(c) Date of report and beginning and ending dates of the reporting period.

(d) The values for the operating limits established pursuant to Sec. 60.2675 or Sec. 60.2680.

(e) If no deviation from any emission limitation or operating limit that applies to you has been reported, a statement that there was no deviation from the emission limitations or operating limits during the reporting period, and that no monitoring system used to determine compliance with the operating limits was inoperative, inactive, malfunctioning or out of control.

(f) The highest recorded 3-hour average and the lowest recorded 3-hour average, as applicable, for each operating parameter recorded for the calendar year being reported.

(g) Information recorded under Sec. 60.2740(b)(6) and (c) through (e) for the calendar year being reported.

(h) If a performance test was conducted during the reporting period, the results of that test.

(i) If you met the requirements of Sec. 60.2720(a) or (b), and did not conduct a performance test during the reporting period, you must state that you met the requirements of Sec. 60.2720(a) or (b), and, therefore, you were not required to conduct a performance test during the reporting period.

(j) Documentation of periods when all qualified CISWI unit operators were unavailable for more than 8 hours, but less than 2 weeks.

Sec. 60.2775 What else must I report if I have a deviation from the operating limits or the emission limitations?

(a) You must submit a deviation report if any recorded 3-hour average parameter level is above the maximum operating limit or below the minimum operating limit established under this subpart, if the bag leak detection system alarm sounds for more than 5 percent of the operating time for the 6-month reporting period, or if a performance test was conducted that deviated from any emission limitation.

(b) The deviation report must be submitted by August 1 of that year for data collected during the first half of the calendar year (January 1 to June 30), and by February 1 of the following year for data you collected during the second half of the calendar year (July 1 to December 31).

Sec. 60.2780 What must I include in the deviation report?

In each report required under Sec. 60.2775, for any pollutant or parameter that deviated from the emission limitations or operating limits specified in this subpart, include the six items described in paragraphs (a) through (f) of this section.

(a) The calendar dates and times your unit deviated from the emission limitations or operating limit requirements.

(b) The averaged and recorded data for those dates.

(c) Duration and causes of each deviation from the emission limitations or operating limits and your corrective actions.

(d) A copy of the operating limit monitoring data during each deviation and any test report that documents the emission levels.

(e) The dates, times, number, duration, and causes for monitoring downtime incidents (other than downtime associated with zero, span, and other routine calibration checks).

(f) Whether each deviation occurred during a period of startup, shutdown, or malfunction, or during another period.

Sec. 60.2785 What else must I report if I have a deviation from the requirement to have a qualified operator accessible?

(a) If all qualified operators are not accessible for 2 weeks or more, you must take the two actions in paragraphs (a)(1) and (2) of this section.

(1) Submit a notification of the deviation within 10 days that includes the three items in paragraphs (a)(1)(i) through (iii) of this section.

(i) A statement of what caused the deviation.

(ii) A description of what you are doing to ensure that a qualified operator is accessible.

(iii) The date when you anticipate that a qualified operator will be available.

(2) Submit a status report to the Administrator every 4 weeks that includes the three items in paragraphs (a)(2)(i) through (iii) of this section.

(i) A description of what you are doing to ensure that a qualified operator is accessible.

(ii) The date when you anticipate that a qualified operator will be accessible.

(iii) Request approval from the Administrator to continue operation of the CISWI unit.

(b) If your unit was shut down by the Administrator, under the provisions of Sec. 60.2665(b)(2), due to a failure to provide an accessible qualified operator, you must notify the Administrator that you are resuming operation once a qualified operator is accessible.

Sec. 60.2790 Are there any other notifications or reports that I must submit?

Yes. You must submit notifications as provided by Sec. 60.7.

Sec. 60.2795 In what form can I submit my reports?

Submit initial, annual, and deviation reports electronically or in paper format, postmarked on or before the submittal due dates.

Sec. 60.2800 Can reporting dates be changed?

If the Administrator agrees, you may change the semiannual or annual reporting dates. See Sec. 60.19(c) for procedures to seek approval to change your reporting date.

Model Rule--Title V Operating Permits

Sec. 60.2805 Am I required to apply for and obtain a title V operating permit for my unit?

Yes. Each CISWI unit must operate pursuant to a permit issued under section 129(e) and title V of the Clean Air Act by the later of the two dates in paragraphs (a) and (b) of this section.

(a) Thirty six months after December 1, 2000.

(b) The effective date of the title V permit program to which your unit is subject. If your unit is subject to title V as a result of some triggering requirement(s) other than this subpart (for example, being a major source), then your unit may be required to apply for and obtain a title V permit prior to the deadlines noted above. If more than one requirement triggers the requirement to apply for a title V permit, the 12-month timeframe for filing a title V application is triggered by the requirement which first causes the source to be subject to title V.

Model Rule--Air Curtain Incinerators

Sec. 60.2810 What is an air curtain incinerator?

(a) An air curtain incinerator operates by forcefully projecting a curtain of air across an open chamber or open pit in which combustion occurs. Incinerators of this type can be constructed above or below ground and with or without refractory walls and floor. (Air curtain incinerators are not to be confused with conventional combustion devices with enclosed fireboxes and controlled air technology such as mass burn, modular, and fluidized bed combustors.)

(b) Air curtain incinerators that burn only the materials listed in paragraphs (b)(1) through (3) of this section are only required to meet the requirements under ``Air Curtain Incinerators'' (Secs. 60.2810 through 60.2870).

(1) 100 percent wood waste.

(2) 100 percent clean lumber.

(3) 100 percent mixture of only wood waste, clean lumber, and/or yard waste.

Sec. 60.2815 What are my requirements for meeting increments of progress and achieving final compliance?

If you plan to achieve compliance more than 1 year following the effective date of State plan approval, you must meet the two increments of progress specified in paragraphs (a) and (b) of this section.

(a) Submit a final control plan.

(b) Achieve final compliance.

~~Sec. 60.2820 When must I complete each increment of progress?~~

~~Table 1 of this subpart specifies compliance dates for each of the increments of progress.~~

~~Sec. 60.2825 What must I include in the notifications of achievement of increments of progress?~~

~~Your notification of achievement of increments of progress must include the three items described in paragraphs (a) through (c) of this section.~~

~~(a) Notification that the increment of progress has been achieved.~~

~~(b) Any items required to be submitted with each increment of progress (see Sec. 60.2840).~~

~~(c) Signature of the owner or operator of the incinerator.~~

~~Sec. 60.2830 When must I submit the notifications of achievement of increments of progress?~~

~~Notifications for achieving increments of progress must be postmarked no later than 10 business days after the compliance date for the increment.~~

~~Sec. 60.2835 What if I do not meet an increment of progress?~~

~~If you fail to meet an increment of progress, you must submit a notification to the Administrator postmarked within 10 business days after the date for that increment of progress in Table 1 of this subpart. You must inform the Administrator that you did not meet the increment, and you must continue to submit reports each subsequent calendar month until the increment of progress is met.~~

~~Sec. 60.2840 How do I comply with the increment of progress for submittal of a control plan?~~

~~For your control plan increment of progress, you must satisfy the two requirements specified in paragraphs (a) and (b) of this section.~~

~~(a) Submit the final control plan, including a description of any devices for air pollution control and any process changes that you will use to comply with the emission limitations and other requirements of this subpart.~~

~~(b) Maintain an onsite copy of the final control plan.~~

~~Sec. 60.2845 How do I comply with the increment of progress for achieving final compliance?~~

~~For the final compliance increment of progress, you must complete all process changes and retrofit construction of control devices, as specified in the final control plan, so that, if the affected incinerator is brought online, all necessary process changes and air pollution control devices would operate as designed.~~

~~Sec. 60.2850 What must I do if I close my air curtain incinerator and then restart it?~~

~~(a) If you close your incinerator but will reopen it prior to the final compliance date in your State plan, you must meet the increments of progress specified in Sec. 60.2815.~~

~~(b) If you close your incinerator but will restart it after your final compliance date, you must complete emission control retrofits and meet the emission limitations on the date your incinerator restarts operation.~~

~~Sec. 60.2855 What must I do if I plan to permanently close my air curtain incinerator and not restart it?~~

~~If you plan to close your incinerator rather than comply with the State plan, submit a closure notification, including the date of closure, to the Administrator by the date your final control plan is due.~~

~~Sec. 60.2860 What are the emission limitations for air curtain incinerators?~~

~~(a) After the date the initial stack test is required or completed (whichever is earlier), you must meet the limitations in paragraphs (a)(1) and (2) of this section.~~

(1) The opacity limitation is 10 percent (6-minute average), except as described in paragraph (a)(2) of this section.

(2) The opacity limitation is 35 percent (6-minute average) during the startup period that is within the first 30 minutes of operation.

(b) Except during malfunctions, the requirements of this subpart apply at all times, and each malfunction must not exceed 3 hours.

Sec. 60.2865 How must I monitor opacity for air curtain incinerators?

(a) Use Method 9 of appendix A of this part to determine compliance with the opacity limitation.

(b) Conduct an initial test for opacity as specified in Sec. 60.8 no later than 180 days after your final compliance date.

(c) After the initial test for opacity, conduct annual tests no more than 12 calendar months following the date of your previous test.

Sec. 60.2870 What are the recordkeeping and reporting requirements for air curtain incinerators?

(a) Keep records of results of all initial and annual opacity tests onsite in either paper copy or electronic format, unless the Administrator approves another format, for at least 5 years.

(b) Make all records available for submittal to the Administrator or for an inspector's onsite review.

(c) Submit an initial report no later than 60 days following the initial opacity test that includes the information specified in paragraphs (c) (1) and (2) of this section.

(1) The types of materials you plan to combust in your air curtain incinerator.

(2) The results (each 6-minute average) of the initial opacity tests.

(d) Submit annual opacity test results within 12 months following the previous report.

(e) Submit initial and annual opacity test reports as electronic or paper copy on or before the applicable submittal date and keep a copy onsite for a period of 5 years.

Model Rule—Definitions

Sec. 60.2875 What definitions must I know?

Terms used but not defined in this subpart are defined in the Clean Air Act and subparts A and B of this part.

Administrator means the Administrator of the U.S. Environmental Protection Agency or his/her authorized representative or Administrator of a State Air Pollution Control Agency.

Agricultural waste means vegetative agricultural materials such as nut and grain hulls and chaff (e.g., almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings, corn stalks, coffee bean hulls and grounds, and other vegetative waste materials generated as a result of agricultural operations.

Air curtain incinerator means an incinerator that operates by forcefully projecting a curtain of air across an open chamber or pit in which combustion occurs. Incinerators of this type can be constructed above or below ground and with or without refractory walls and floor. (Air curtain incinerators are not to be confused with conventional combustion devices with enclosed fireboxes and controlled air technology such as mass burn, modular, and fluidized bed combustors.)

Auxiliary fuel means natural gas, liquified petroleum gas, fuel oil, or diesel fuel.

~~Bag leak detection system means an instrument that is capable of monitoring particulate matter loadings in the exhaust of a fabric filter (i.e., baghouse) in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, light scattering, light transmittance, or other principle to monitor relative particulate matter loadings.~~

~~Calendar quarter means three consecutive months (nonoverlapping) beginning on: January 1, April 1, July 1, or October 1.~~

~~Calendar year means 365 consecutive days starting on January 1 and ending on December 31.~~

~~Chemotherapeutic waste means waste material resulting from the production or use of antineoplastic agents used for the purpose of stopping or reversing the growth of malignant cells.~~

~~Clean lumber means wood or wood products that have been cut or shaped and include wet, air-dried, and kiln-dried wood products. Clean lumber does not include wood products that have been painted, pigment-stained, or pressure-treated by compounds such as chromate copper arsenate, pentachlorophenol, and creosote.~~

~~Commercial and industrial solid waste incineration (CISWI) unit means any combustion device that combusts commercial and industrial waste, as defined in this subpart. The boundaries of a CISWI unit are defined as, but not limited to, the commercial or industrial solid waste fuel feed system, grate system, flue gas system, and bottom ash. The CISWI unit does not include air pollution control equipment or the stack. The CISWI unit boundary starts at the commercial and industrial solid waste hopper (if applicable) and extends through two areas:~~

~~(1) The combustion unit flue gas system, which ends immediately after the last combustion chamber.~~

~~(2) The combustion unit bottom ash system, which ends at the truck loading station or similar equipment that transfers the ash to final disposal. It includes all ash handling systems connected to the bottom ash handling system.~~

~~Commercial and industrial waste means solid waste combusted in an enclosed device using controlled flame combustion without energy recovery that is a distinct operating unit of any commercial or industrial facility (including field-erected, modular, and custom built incineration units operating with starved or excess air), or solid waste combusted in an air curtain incinerator without energy recovery that is a distinct operating unit of any commercial or industrial facility.~~

~~Contained gaseous material means gases that are in a container when that container is combusted.~~

~~Cyclonic barrel burner means a combustion device for waste materials that is attached to a 55-gallon, open-head drum. The device consists of a lid, which fits onto and encloses the drum, and a blower that forces combustion air into the drum in a cyclonic manner to enhance the mixing of waste material and air.~~

~~Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:~~

~~(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation, operating limit, or operator qualification and accessibility requirements;~~

~~(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or~~

~~(3) Fails to meet any emission limitation, operating limit, or operator qualification and accessibility requirement in this subpart during startup, shutdown, or malfunction, regardless or whether or not such failure is permitted by this subpart.~~

~~Dioxins/furans means tetra-through octachlorinated dibenzo-p-dioxins and dibenzofurans.~~

~~Discard means, for purposes of this subpart and 40 CFR part 60, subpart DDDD, only, burned in an incineration unit without energy recovery.~~

~~Drum reclamation unit means a unit that burns residues out of drums (e.g., 55-gallon drums) so that the drums can be reused.~~

Energy recovery means the process of recovering thermal energy from combustion for useful purposes such as steam generation or process heating.

Fabric filter means an add-on air pollution control device used to capture particulate matter by filtering gas streams through filter media, also known as a baghouse.

Low-level radioactive waste means waste material which contains radioactive nuclides emitting primarily beta or gamma radiation, or both, in concentrations or quantities that exceed applicable Federal or State standards for unrestricted release. Low-level radioactive waste is not high-level radioactive waste, spent nuclear fuel, or by-product material as defined by the Atomic Energy Act of 1954 (42 U.S.C. 2014(e)(2)).

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused, in part, by poor maintenance or careless operation are not malfunctions.

Modification or modified CISWI unit means a CISWI unit you have changed later than June 1, 2001 and that meets one of two criteria:

(1) The cumulative cost of the changes over the life of the unit exceeds 50 percent of the original cost of building and installing the CISWI unit (not including the cost of land) updated to current costs (current dollars). To determine what systems are within the boundary of the CISWI unit used to calculate these costs, see the definition of CISWI unit.

(2) Any physical change in the CISWI unit or change in the method of operating it that increases the amount of any air pollutant emitted for which section 129 or section 111 of the Clean Air Act has established standards.

Part reclamation unit means a unit that burns coatings off parts (e.g., tools, equipment) so that the parts can be reconditioned and reused.

Particulate matter means total particulate matter emitted from CISWI units as measured by Method 5 or Method 29 of appendix A of this part.

Pathological waste means waste material consisting of only human or animal remains, anatomical parts, and/or tissue, the bags/containers used to collect and transport the waste material, and animal bedding (if applicable).

Rack reclamation unit means a unit that burns the coatings off racks used to hold small items for application of a coating. The unit burns the coating overspray off the rack so the rack can be reused.

Reconstruction means rebuilding a CISWI unit and meeting two criteria:

(1) The reconstruction begins on or after June 1, 2001.

(2) The cumulative cost of the construction over the life of the incineration unit exceeds 50 percent of the original cost of building and installing the CISWI unit (not including land) updated to current costs (current dollars). To determine what systems are within the boundary of the CISWI unit used to calculate these costs, see the definition of CISWI unit.

Refuse-derived fuel means a type of municipal solid waste produced by processing municipal solid waste through shredding and size classification. This includes all classes of refuse-derived fuel including two fuels:

(1) Low-density fluff refuse-derived fuel through densified refuse-derived fuel.

(2) Pelletized refuse-derived fuel.

Shutdown means the period of time after all waste has been combusted in the primary chamber.

Solid waste means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, agricultural operations, and from community activities, but

does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1342), or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended (42 U.S.C. 2014). For purposes of this subpart and subpart CCCC, only, solid waste does not include the waste burned in the fifteen types of units described in Sec. 60.2555.

Standard conditions, when referring to units of measure, means a temperature of 68 deg.F (20 deg.C) and a pressure of 1 atmosphere (101.3 kilopascals).

Startup period means the period of time between the activation of the system and the first charge to the unit.

Wet scrubber means an add-on air pollution control device that utilizes an aqueous or alkaline scrubbing liquor to collect particulate matter (including nonvaporous metals and condensed organics) and/or to absorb and neutralize acid gases.

Wood waste means untreated wood and untreated wood products, including tree stumps (whole or chipped), trees, tree limbs (whole or chipped), bark, sawdust, chips, scraps, slabs, millings, and shavings. Wood waste does not include:

(1) Grass, grass clippings, bushes, shrubs, and clippings from bushes and shrubs from residential, commercial/retail, institutional, or industrial sources as part of maintaining yards or other private or public lands.

(2) Construction, renovation, or demolition wastes.

(3) Clean lumber.

Table 1 to Subpart DDDD--Model Rule--Increments of Progress and Compliance Schedules

Comply with these increments of progress	By these dates \a\
Increment 1--Submit final control plan	(Dates to be specified in State plan)
Increment 2--Final compliance	(Dates to be specified in State plan) \b\

\a\ Site-specific schedules can be used at the discretion of the State.
\b\ The date can be no later than 3 years after the effective date of State plan approval or December 1, 2005.

Table 2 to Subpart DDDD--Model Rule--Emission Limitations

For the air pollutant	You must meet this emission limitation \a\	Using this averaging time	And determining compliance using this method
Cadmium	0.004 milligrams per dry standard cubic meter	3-run average (1 hour minimum sample time per run)	Performance test (Method 29 of appendix A of this part)
Carbon monoxide	157 parts per million by dry volume	3-run average (1 hour minimum sample time per run)	Performance test (Method 10, 10A, or 10B, of appendix A of this part)
Dioxins/furans (toxic equivalency basis)	0.41 nanograms per dry standard cubic meter	3-run average (1 hour minimum sample time per run)	Performance test (Method 23 of appendix A of this part)

Hydrogen chloride	62 parts per million by dry volume	3-run average (1 hour minimum sample time per run)	Performance test (Method 26A of appendix A of this part)
Lead	0.04 milligrams per dry standard cubic meter	3-run average (1 hour minimum sample time per run)	Performance test (Method 29 of appendix A of this part)
Mercury	0.47 milligrams per dry standard cubic meter	3-run average (1 hour minimum sample time per run)	Performance test (Method 29 of appendix A of this part)
Opacity	10 percent	6-minute averages	Performance test (Method 9 of appendix A of this part)
Oxides of nitrogen	388 parts per million by dry volume	3-run average (1 hour minimum sample time per run)	Performance test (Methods 7, 7A, 7C, 7D, or 7E of appendix A of this part)
Particulate matter	70 milligrams per dry standard cubic meter	3-run average (1 hour minimum sample time per run)	Performance test (Method 5 or 29 of appendix A of this part)
Sulfur dioxide	20 parts per million by dry volume	3-run average (1 hour minimum sample time per run)	Performance test (Method 6 or 6c of appendix A of this part)

\a\ All emission limitations (except for opacity) are measured at 7 percent oxygen, dry basis at standard conditions.

Table 3 to Subpart DDDD—Model Rule—Operating Limits for Wet Scrubbers

For these operating parameters	You must establish these operating limits	And monitor using these minimum frequencies		
		Data measurement	Data recording	Averaging time
Charge rate	Maximum charge rate	Continuous	Every hour	Daily (batch units) 3-hour rolling (continuous and intermittent units) \a\
Pressure drop across the wet scrubber or amperage to wet scrubber	Minimum pressure drop or amperage	Continuous	Every 15 minutes	3 hour rolling \a\
Scrubber liquor flow rate	Minimum flow rate	Continuous	Every 15 minutes	3 hour rolling \a\
Scrubber liquor pH	Minimum pH	Continuous	Every 15 minutes	3-hour rolling \a\

\a\ Calculated each hour as the average of the previous 3 operating hours.

Table 4 to Subpart DDDD - Model Rule - Toxic Equivalency Factors

Dioxin/furan congener	Toxic equivalency factor
2,3,7,8 tetrachlorinated dibenzo p dioxin	1
1,2,3,7,8-pentachlorinated dibenzo-p-dioxin	0.5
1,2,3,4,7,8 hexachlorinated dibenzo p dioxin	0.1
1,2,3,7,8,9-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,6,7,8-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,4,6,7,8 heptachlorinated dibenzo p dioxin	0.01
octachlorinated dibenzo p dioxin	0.001
2,3,7,8-tetrachlorinated dibenzofuran	0.1
2,3,4,7,8 pentachlorinated dibenzofuran	0.5
1,2,3,7,8-pentachlorinated dibenzofuran	0.05
1,2,3,4,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,6,7,8 hexachlorinated dibenzofuran	0.1
1,2,3,7,8,9 hexachlorinated dibenzofuran	0.1
2,3,4,6,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,4,6,7,8 heptachlorinated dibenzofuran	0.01
1,2,3,4,7,8,9-heptachlorinated dibenzofuran	0.01
octachlorinated dibenzofuran	0.001

Table 5 to Subpart DDDD - Model Rule - Summary of Reporting Requirements a

Report	Due date	Contents	Reference
Waste Management Plan	No later than the date specified in table 1 for submittal of the final control plan.	Waste management plan.	Sec. 60.2755.
Initial Test Report	No later than 60 days following the initial performance test	Complete test report for the initial performance test. The values for the site- specific operating limits. Installation of bag leak detection systems for fabric filters.	Sec. 60.2760.
Annual Report	No later than 12 months following the submission of the initial test report. Subsequent reports are to be submitted no more than 12 months following the previous report.	Name and address. Statement and signature by responsible official. Date of report. Values for the operating limits. If no deviations or malfunctions were reported, a statement that no deviations occurred during the reporting period. Highest recorded 3-hour average and the lowest 3-hour average, as applicable, for each operating parameter recorded for the calendar year being reported. Information for deviations or malfunctions recorded under Sec. 60.2740(b)(6) and(c) through (e). If a performance test was conducted during the reporting period, the results of the test. If a performance test was not conducted during the reporting period, a statement	Secs. 60.2765 and 60.2770

		that the requirements of Sec. 60.2155(a) or (b) were met. Documentation of periods when all qualified CISWI unit operators were unavailable for more than 8 hours but less than 2 weeks.	
Emission Limitation or Operating Limit Deviation Report	By August 1 of that year for data collected during the first half of the calendar year. By February 1 of the following year for data collected during the second half of the calendar year.	Dates and times of deviations. Averaged and recorded data for these dates. Duration and causes for each deviation and the corrective actions taken. Copy of operating limit monitoring data and any test reports. Dates, times, and causes for monitor downtime incidents. Whether each deviation occurred during a period of startup, shutdown, or malfunction.	Secs. 60.2775 and 60.2780
Qualified Operator Deviation Notification	Within 10 days of deviation	Statement of cause of deviation. Description of efforts to have an accessible qualified operator. The date a qualified operator will be accessible.	Sec. 60.2785(a)(1)
Qualified Operator Deviation Status Report	Every 4 weeks following deviation	Description of efforts to have an accessible qualified operator. The date a qualified operator will be accessible. Request for approval to continue operation.	Sec. 60.2785(a)(2)
Qualified Operator Deviation And Notification of Resumed Operation	Prior to resuming operation	Notification that you are resuming operation	Sec. 60.2785(b)

\a\ This table is only a summary, see the referenced sections of the rule for the complete requirements.

Authority: §§ 68-201-101 et seq. and 4-5-201 et seq.

Amendments

Subparagraph (d) of paragraph (2) of Rule 1200-03-09-.01 Construction Permits is amended by deleting it in its entirety and substituting instead the following:

(d) "Best available control technology (BACT)" means an emission limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under these rules ~~which~~ that would be emitted from any proposed new or modified air contaminant source which the Technical Secretary, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant ~~which~~ that would exceed the emissions allowed by any applicable standard under Chapters 0400-30-38 ~~and 1200-03-16~~ or 0400-30-39 of these rules. If the Technical Secretary determines that technological or economic limitations on the application of measurement methodology to a particular class of sources would make the imposition of an emission standard infeasible, a design, equipment, work practice, or operational standard, or combination thereof, may be prescribed instead to require the application of best available control technology. Such standard ~~shall~~ must, to the degree possible, set forth the emission reduction achievable by implementation of such design, equipment, work practice, or operation, and ~~shall~~ must provide for compliance by means ~~which~~ that achieve equivalent results. This definition does not apply to major sources and major modifications, as defined in subparagraph (4)(b) of this rule, which are subject to the provisions of paragraph (4) of this rule.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subpart (i) of part 1 of subparagraph (d) of paragraph (4) of Rule 1200-03-09-.01 Construction Permits is amended by deleting it in its entirety and substituting instead the following:

(i) The source or modification would be a major stationary source or major modification only if fugitive emissions, to the extent quantifiable, are considered in calculating the potential to emit of the stationary source or modification and such source does not belong to any of the categories listed under subpart (b)1~~.~~(i), or any other stationary source category which, as of the (effective date of this rule) is being regulated under Chapters 0400-30-38 and ~~1200-03-16~~ 0400-30-39.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subitem XXVII of item (IV) of subpart (iv) of part 1 of subparagraph (b) of paragraph (5) of Rule 1200-03-09-.01 Construction Permits is amended by deleting it in its entirety and substituting instead the following:

XXVII. Any other stationary source category that is regulated under Chapter 1200-03-16, New Source Performance Standards (as of August 7, 1980), Chapter 1200-03-11, Hazardous Air Contaminants (as of August 7, 1980), Chapter 1200-03-31, Case-by-Case Determinations of Hazardous Air Pollutant Control Requirements (as of September 18, 1994), ~~or~~ Chapter 0400-30-38, Emission Standards for Hazardous Air Pollutants (as of ~~the most recent effective date of this rule~~ December 28, 2022), or Chapter 0400-30-39, Standards of Performance for New Stationary Sources (as of the most recent effective date of this rule).

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Item (XXVII) of subpart (ii) of part 4 of subparagraph (b) of paragraph (8) of Rule 1200-03-09-.01 Construction Permits is amended by deleting it in its entirety and substituting instead the following:

XXVII) Any other stationary source category that is regulated under Chapter 1200-03-16, New Source Performance Standards (as of August 7, 1980), Chapter 1200-03-11, Hazardous Air Contaminants (as of August 7, 1980), Chapter 1200-03-31, Case-by-Case Determinations of Hazardous Air Pollutant Control Requirements (as of September 18, 1994), Chapter 0400-30-38, Emission Standards for Hazardous Air Pollutants (as of ~~the most recent effective date of this rule~~ December 28, 2022), Chapter 0400-30-39, Standards of Performance for New Stationary Sources (as of the most recent effective date of this rule), or 40 C.F.R. Part 60 and 61 (as of July 1, 1993).

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subpart (ii) of part 1 of subparagraph (c) of paragraph (11) of Rule 1200-03-09-.02 Operating Permits is amended by deleting it in its entirety and substituting instead the following:

(ii) Any source, including an area source, subject to a standard, limitation, or other requirement under section 111 of the Federal Act, ~~part~~ paragraph (4) of Rule 1200-03-07-.07~~(4)~~, ~~part~~ paragraph (5) of Rule 1200-03-07-.07~~(5),~~ or Chapter ~~1200-03-16~~ 0400-30-39;

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subpart (i) of part 2 of subparagraph (c) of paragraph (11) of Rule 1200-03-09-.02 Operating Permits is amended by deleting it in its entirety and substituting instead the following:

(i) All non-major sources including those subject to Section 112 of the Federal Clean Air Act, Chapter 0400-30-38, Chapter 1200-03-31, section 111 of the Federal Clean Air Act, or Chapter ~~1200-03-16~~ 0400-30-39. If the Administrator promulgates future regulations ~~which~~ that prohibit the exemption of a non-major source from the requirements of this paragraph, such source will be so permitted by the Technical Secretary. Upon the Administrator's written notification to the Technical Secretary that such sources must be permitted according to the provisions of this paragraph, the Technical Secretary ~~shall~~ must notify the sources that the applications are due within 180 days of ~~his~~ the Technical Secretary's written notice. The Technical Secretary shall have up to 90 days to accomplish the notification commencing upon his notification from the Administrator.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Section A of subitem IV of item (I) of subpart (ii) of part 5 of subparagraph (f) of paragraph (11) of Rule 1200-03-09-.02 Operating Permits is amended by deleting it in its entirety and substituting instead the following:

A. A federally enforceable emissions cap assumed to avoid classification as a modification under any provision of Title I of the Federal Clean Air Act. Further, federally enforceable emission caps assumed to avoid classification as a modification under Chapter 0400-30-38, Chapter ~~1200-30-16~~ 0400-30-39, Chapter 1200-03-31, paragraph (4) of Rule 1200-03-09-.01, or paragraph (5) of Rule 1200-03-09-.01 are included in the criteria of this section.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subitem V of Item (I) of Subpart (ii) of Part 5 of Subparagraph (f) of Paragraph (11) of Rule 1200-03-09-.02 Operating Permits is amended by deleting it in its entirety and substituting instead the following:

V. Are not modifications under Title I of the Federal Clean Air Act or the federal regulations promulgated pursuant thereto. Further, the

minor permit modification process may be used only for changes that are not modifications under Chapter 0400-30-38, Chapter 0400-30-39, Chapter 1200-03-31, ~~Chapter 1200-03-16,~~ paragraph (4) of Rule 1200-03- 09-.01, or paragraph (5) of Rule 1200-03-09-.01; and

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 1 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

1. Unpaved roadways and parking areas unless permits have specific conditions limiting fugitive emissions. This activity is not insignificant if it is subject to new source performance standards for nonmetallic mineral processing plants under Chapter ~~1200-03-16~~ 0400-30-39 or under 40 ~~CFR~~ C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 2 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

2. Paved roadways and parking areas unless permits have specific conditions limiting fugitive emissions. This activity is not insignificant if it is subject to new source performance standards for nonmetallic mineral processing plants under Chapter ~~1200-03-16~~ 0400-30-39 or under 40 ~~CFR~~ C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 3 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

3. Equipment used on farms for soil preparation, tending or harvesting of crops, or for preparation of feed to be used on the farm where prepared. This activity is not insignificant if it is subject to new source performance standards under Chapter ~~1200-03-16~~ 0400-30-39 or under 40 ~~CFR~~ C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 8 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

8. Sewer vents. This activity is not insignificant if it is subject to the new source performance standards for petroleum refinery wastewater systems under Chapter ~~1200-03-16~~ 0400-30-39 or under 40 ~~CFR~~ C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 9 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

9. Natural gas mixing and treatment operations including sampling and testing. This activity is not insignificant if it is subject to the new source performance standards for onshore natural gas processing plants under Chapter ~~1200-03-16~~ 0400-30-39 or under 40 ~~CFR~~ C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 16 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

16. Equipment used exclusively to store, hold, or distribute natural gas. This activity is not

insignificant if it is subject to the new source performance standards for onshore natural gas processing plants under Chapter ~~1200-03-16~~ 0400-30-39 or under 40 ~~CFR~~ C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 17 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

17. Gasoline, diesel fuel, and fuel oil handling facilities, equipment, and storage tanks, except those subject to new source performance standards and those subject to standards in Chapter 1200-03-18. However, facilities, equipment, and storage tanks which are subject only to Chapter 1200-03-18 requirements for submerged fill and for maintenance of records documenting quantities of gasoline, diesel fuel, and fuel oil dispensed are entitled to the exemption provided by this paragraph, despite the qualification of exemption specified in the first sentence of this subparagraph. This activity is not insignificant if it is subject to the new source performance standards for bulk gasoline terminals under Chapter ~~1200-03-16~~ 0400-30-39 or under 40 ~~CFR~~ C.F.R. part 60 and the Stage I gasoline distribution MACT standard under Chapter 1200-03-31.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 29 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

29. Sewage treatment facilities (excluding combustion or incineration equipment, land farms, storage silos for dry material, or grease trap waste handling or treatment facilities). This activity is not insignificant if it is subject to new source performance standards for volatile organic compounds emissions under Chapter ~~1200-03-16~~ 0400-30-39 or under 40 ~~CFR~~ C.F.R. part 60, MACT standard under Chapter 1200-03-31, and hazardous organic NESHAP under 40 ~~CFR~~ C.F.R. part 63 (2022).

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 43 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

43. Pressurized vessels designed to operate in excess of 30 psig storing a petroleum fuel. This activity is not insignificant if it is subject to new source performance standards for petroleum liquid storage vessels under Chapter ~~1200-03-16~~ 0400-30-39 or under 40 ~~CFR~~ C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 52 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

52. Grain, metal or mineral extrusion process. This activity is not insignificant if it is subject to new source performance standards for metallic mineral processing plants under Chapter ~~1200-03-16~~ 0400-30-39 or under 40 ~~CFR~~ C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 55 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

55. Equipment used exclusively for sintering of ceramics, glass or metals, but not exempting equipment used for sintering metal-bearing ores, metal scale, clay, fly ash, or metal compounds. This activity is not insignificant if it is subject to new source performance standards for primary zinc smelters and glass manufacturing operations under Chapter ~~1200-03-16~~ 0400-30-39 or under 40 ~~CFR~~ C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 56 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

56. Equipment for the mining and screening of uncrushed native sand and gravel. This activity is not insignificant if it is subject to new source performance standards for nonmetallic mineral processing plants under Chapter ~~1200-03-16~~ 0400-30-39 or under 40 ~~CFR~~ C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 58 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

58. Pulp and paper industry, and cellulosic fiber industry insignificant activities: Any of the following activities is not insignificant if it is subject to new source performance standards for kraft pulp mills under Chapter ~~1200-03-16~~ 0400-30-39 or under 40 ~~CFR~~ C.F.R. part 60, and MACT standard under Chapter 1200-03-31.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 69 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

69. Equipment used to transport or store process wastewater streams to a wastewater treatment facility (i.e. floor drains, sumps, drain headers, manhole covers). This activity is not insignificant if it is subject to the new source performance standards for petroleum refinery wastewater systems under Chapter ~~1200-03-16~~ 0400-30-39 or under 40 ~~CFR~~ C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 70 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

70. Drum melter operations for low-volatility solid and semi-solid materials using steam or electrical heating. This activity is not insignificant if it is subject to the new source performance standards for electric arc furnaces under Chapter ~~1200-03-16~~ 0400-30-39 or under 40 ~~CFR~~ C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 86 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

86. Industrial-Commercial-Institutional Steam Generating Facility exemptions are as follows: Any of the following activities is not insignificant if it is subject to new source performance standards for steam-generating facilities under Chapter ~~1200-03-16~~ 0400-30-39 or under 40 ~~CFR~~ C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 87 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

87. Sulfuric acid tanks. This activity is not insignificant if it is subject to new source performance standards for sulfuric acid plants under Chapter ~~1200-03-16~~ 0400-30-39 or under 40 ~~CFR~~ C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 88 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

88. Soil “borrow” pits. This activity is not insignificant if it is subject to new source performance standards for nonmetallic mineral processing plants under Chapter ~~1200-03-16~~ 0400-30-39 or under 40 ~~CFR~~ C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Part 89 of subparagraph (f) of paragraph (5) of Rule 1200-03-09-.04 Exemptions is amended by deleting it in its entirety and substituting instead the following:

89. Phosphoric acid tanks. This activity is not insignificant if it is subject to new source performance standards for phosphate fertilizer industry under Chapter ~~1200-03-16~~ 0400-30-39 or under 40 ~~CFR~~ C.F.R. part 60.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subparagraph (c) of paragraph (5) of Rule 1200-03-09-.07 Permits-By-Rule is amended by deleting it in its entirety and substituting instead the following:

(c) Emergency stationary compression ignition internal combustion engines subject to the provisions of part (1)(b)108 of Rule 0400-30-39-.01.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Subparagraph (d) of paragraph (5) of Rule 1200-03-09-.07 Permits-By-Rule is amended by deleting it in its entirety and substituting instead the following:

(d) Emergency stationary spark ignition internal combustion engines subject to the provisions of part (1)(b)109 of Rule ~~0400-30-39-.02~~ 0400-30-39-.01.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-16
New Source Performance Standards

Repeal

Chapter 1200-03-16 New Source Performance Standards is Repealed.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

~~Chapter 1200-03-16~~
~~New Source Performance Standards~~

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1200-03-16-.01 General Provisions

(1) When a standard for visible emissions, particulate matter, sulfur oxides, or any other pollutant is specified for an affected facility in this chapter, it will supersede the standards in any other rule of the regulations. Otherwise, all the provisions of the other regulations, concerning those pollutants shall remain in full effect for all sources regulated under this chapter.

(2) No person shall cause, suffer, allow, or permit emissions in excess of the standards in this chapter.

(3) Applicability

Unless specifically defined in subsequent rules, the provisions of this chapter shall apply to the owner or operator of any source which contains any new or modified affected facility commenced after the date specified in each rule. Regardless of the specific emission standards contained in this chapter, new and/or modified sources in or significantly impacting upon a nonattainment area must comply with the provisions of paragraph 1200-3-9-.01 (5). Regardless of the specific emission standards contained in this chapter, all sources identified in paragraph 1200-3-9-.01 (4) of these regulations shall comply with the standards set pursuant to chapter 1200-3-9.

(4) (a) Definitions

As used in this chapter, all terms not defined herein shall have the meaning given them in chapter 1200-3-2.

1. "Affected facility" means, with reference to a stationary source, any apparatus to which a standard is applicable.

2. "Capital expenditure" means an expenditure for a physical or operational change to an existing facility which exceeds the product of the applicable "annual asset guidelines repair allowance percentage" specified in the latest edition of Internal Revenue Service Publication 534 and the existing facility's basis, as defined by section 1012 of the Internal Revenue Code.

3. "Continuous monitoring system" means the total equipment, required under the emission monitoring paragraphs in applicable rules, used to sample and condition (if applicable), to analyze, and to provide a permanent record of emissions or process parameters.

4. "Existing facility" means, with reference to a stationary source, any apparatus of the type for which a standard is promulgated in this chapter, and the construction or modification of which was commenced before the date specified in a given rule; or any apparatus which could be altered in such a way as to be of that type.

5. "One Hour Period" means any 60 minute period commencing on the hour.

6. "Modification" means any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any pollutant (to which a standard applies) into the atmosphere not previously emitted. The application of this definition is further defined in paragraph (9) of this rule.

7. "Monitoring device" means the total equipment required under the monitoring paragraphs in applicable rules, used to measure and record (if applicable) process parameters.

8. "Nitrogen oxides" means all oxides of nitrogen except nitrous oxide measured by the reference method.

9. "Particulate matter" means any finely divided solid or liquid material, other than uncombined water, as measured by the reference method or an equivalent or alternate method.

10. "Run" means the net period of time during which an emission sample is collected. Unless otherwise specified, a run may be either intermittent or continuous within the limits of good engineering practice.

11. "Six-minute period" means any one of ten equal parts of a one-hour period.

12. "Standard conditions" means a temperature of 20° C (68° F) and a pressure of 760mm of Hg (29.92 in. of Hg).

(b) Each rule in this chapter may contain additional definitions that apply just in that rule only unless specifically referred to in other rules of these regulations.

(5) Performance test

(a) Within sixty (60) days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility and at such other times as may be required by the Technical Secretary, the owner or operator of such facility shall conduct performance test(s) and furnish the Technical Secretary a written report of the results of such performance test(s).

(b) Performance tests shall be conducted and data reduced in accordance with the test methods and procedures specified in subparagraph (g) of this paragraph or in the latter rules of this chapter, unless the Technical Secretary:

1. Specifies or approves the use of a reference method with minor changes in methodology.

2. Approves the use of an equivalent method.

3. Approves the use of an alternative method the results of which it has determined to be adequate for indicating whether a specific source is in compliance.

(c) Peformance tests shall be conducted under such conditions as the Technical Secretary shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Technical Secretary such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startups, shutdown, and malfunctions shall not constitute representative conditions of performance tests unless otherwise specified in the applicable standard.

(d) The owner or operator of an affected facility shall provide the Technical Secretary ten (10) days prior notice of the performance test to afford the Technical Secretary the opportunity to have an observer present.

(e) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

1. Sampling ports adequate for test methods applicable to such facility.

2. Safe sampling platform(s).

3. Safe access to sampling platform(s).

4. Utilities for sampling and testing equipment.

(f) Each performance test shall consist of three (3) separate runs using the applicable test method. Each run shall be conducted for such time and under such conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three (3) runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one (1) of the three (3) runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Technical Secretary's approval, be determined using the arithmetic mean of the results of the two (2) other runs.

(g) The reference methods and procedures to be used for any tests required in this chapter, except as provided in subparagraph (b) of this paragraph, are as follows:

(Note: All references to ASTM in this chapter refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired).

1. Sample and Velocity Traverses for Stationary Sources

Sample and velocity traverses shall be determined by Method 1 outlined in the Federal Register, Vol. 42, No. 160, August 18, 1977, beginning on page 41755, as amended in the Federal Register, Vol. 43, No. 57, March 23, 1978, on page 11984, and as amended in the Federal Register, Vol. 48, No. 191, September 30, 1983, beginning on page 45035, and as amended in the Federal Register, Vol. 51, No. 107, June 4, 1986, beginning on page 20288, and as amended in the Federal Register, Vol. 51, No. 157, August 14, 1986, on page 29104.

2. Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube)

Stack gas velocity and volumetric flow rate shall be determined with a type S pitot tube by Method 2 outlined in the Federal Register, Vol. 42, No. 160, August 18, 1977, beginning on page 41758, and as amended in the Federal Register, Vol. 43, No. 57, March 23, 1978, on page 11984, or by one of the following alternative methods:

(i) Direct Measurement of Gas Volume through Pipes and Small Ducts

Gas volume through pipes and small ducts shall be determined by direct measurement by Method 2A outlined in the Federal Register, Vol. 48, No. 161, August 18, 1983, beginning on page 37592.

(ii) Determination of Exhaust Gas Volume Flow Rate From Gasoline Vapor Incinerators

Exhaust gas volume flow rate from gasoline vapor incinerators shall be determined by Method 2B outlined in the Federal Register, Vol. 48, No. 161, August 18, 1983,

beginning on page 37594.

(iii) Reserved

(iv) Reserved

3. Gas Analysis for Carbon Dioxide, Oxygen, Excess Air, and Dry Molecular Weight Carbon dioxide, oxygen, excess air, and dry molecular weight shall be determined by gas analysis by Method 3 outlined in the Federal Register, Vol. 42, No. 160, August 18, 1977, beginning on page 41768, as amended in the Federal Register, Vol. 43, No. 57, March 23, 1978, on page 11984, and as amended in the Federal Register, Vol. 48, No. 207, October 25, 1983, beginning on page 49459, or by the following alternative method:

(i) Determination of Oxygen and Carbon Dioxide Concentrations in Emissions From Stationary Sources (Instrument Analyzer Procedure)

Oxygen and carbon dioxide concentrations in emissions from stationary sources shall be determined by an instrument analyzer procedure by Method 3A outlined in the Federal Register, Vol. 49, No. 248, December 24, 1984, beginning on page 49964, as amended in the Federal Register, Vol. 51, No. 112, June 11, 1986, beginning on page 21166.

4. Determination of Moisture Content in Stack Gases

Moisture content in stack gases shall be determined by Method 4 outlined in the Federal Register, Vol. 42, No. 160, August 18, 1977, beginning on page 41771, as amended in the Federal Register, Vol. 43, No. 57, March 23, 1978, beginning on page 11984, and as amended in the Federal Register, Vol. 48, No. 241, December 14, 1983, on page 55671.

5. Determination of Particulate Emissions from Stationary Sources

Particulate emissions from stationary sources shall be determined by Method 5 outlined in the Federal Register, Vol. 42, No. 160, August 18, 1977, beginning on page 41776, as amended in the Federal Register, Vol. 43, No. 57, March 23, 1978, on page 11985, as amended in the Federal Register, Vol. 45, No. 196, October 7, 1980, on page 66752, as amended in the Federal Register, Vol. 48, No. 167, August 26, 1983, beginning on page 39011, as amended in the Federal Register, Vol. 48, No. 241, December 14, 1983, on page 55671, and as amended in the Federal Register, Vol. 50, No. 6, January 9, 1985, beginning on page 1165; or by one of the following alternative methods:

(i) Determination of Particulate Emissions from the Asphalt Processing and Asphalt Roofing Industry

Particulate Emissions from the asphalt processing and asphalt roofing industry shall be determined by Method 5A outlined in the Federal Register, Vol. 47, No. 153, August 6, 1982, beginning on page 34145, and as amended in the Federal Register, Vol. 51, No. 177, September 12, 1986 on page 32455.

(ii) Determination of Nonsulfuric Acid Particulate Matter from Stationary Sources.

Particulate matter emissions from Nonsulfuric Acid from stationary sources shall be determined by Method 5B outlined in the Federal Register, Vol. 51, No. 228, November 26, 1986, beginning on page 42842.

(iii) Reserved

(iv) Determination of Particulate Matter Emissions from Positive Pressure Fabric Filters

Particulate matter emissions from positive pressure fabric filters shall be determined by Method 5D outlined in the Federal Register, Vol. 49, No. 212,

October 31, 1984, beginning on page 43847, and as amended in the Federal Register, Vol. 51, No. 177, September 12, 1986, on page 32455.

(v) Determination of Particulate Emission from the Wool Fiberglass Insulation Manufacturing Industry

Particulate emission from the wool fiberglass insulation manufacturing industry shall be determined by Method 5E outlined in the Federal Register, Vol. 50, No. 37, February 25, 1985, beginning on page 7701.

(vi) Determination of Nonsulfate Paraticulate Matter from Stationary Sources.

Non-sulfate particulate matter from stationary sources shall be determined by Method 5F outlined in the Federal Register, Vol. 51, No. 228, November 26, 1986, on page 42842.

6. Determination of Sulfur Dioxide Emissions from Stationary Sources

Sulfur dioxide emissions from stationary sources shall be determined by Method 6 outlined in the Federal Register, Vol. 42, No. 160, August 18, 1977, beginning on page 41783, as amended in the Federal Register, Vol. 43, No. 57, March 23, 1978, on page 11985, as amended in the Federal Register, Vol. 48, No. 167, August 26, 1983, on page 39013, and as amended in the Federal Register, Vol. 49, No. 125, June 27, 1984, on page 26524, or by one of the following alternative methods:

(i) Determination of Sulfur Dioxide, Moisture, and Carbon Dioxide Emissions from Fossil Fuel Combustion Sources

Sulfur dioxide, moisture, and carbon dioxide emissions from fossil fuel combustion sources shall be determined by Method 6A outlined in the Federal Register, Vol. 47, No. 231, December 1, 1982, beginning on page 54079, and as amended in the Federal Register, Vol. 49, No. 51, March 14, 1984, beginning on page 9684, and as amended in the Federal Register, Vol. 51, No. 177, September 12, 1986, on page 32455.

(ii) Determination of Sulfur Dioxide and Carbon Dioxide Daily Average Emissions from Fossil Fuel Combustion Sources

Sulfur dioxide and carbon dioxide daily average emissions from fossil fuel combustion sources shall be determined by Method 6B outlined in the Federal Register, Vol. 47, No. 231, December 1, 1982, beginning on page 54079, and as amended in the Federal Register, Vol. 49, No. 51, March 14, 1984, beginning on page 9685, and as amended in the Federal Register, Vol. 51, No. 177, September 12, 1986, beginning on page 32455.

(iii) Determination of Sulfur Dioxide Emissions from Stationary Sources (Instrumental Analyzer Procedure)

Sulfur dioxide emissions from stationary source shall be determined by an instrumental analyzer procedure by Method 6C outlined in the Federal Register, Vol. 49, No. 248, December 24, 1984, beginning on page 49965, and as amended in the Federal Register, Vol. 51, No. 112, June 11, 1986, beginning on page 21167.

7. Determination of Nitrogen Oxide Emissions from Stationary Sources

Nitrogen oxide emissions from stationary sources shall be determined by Method 7 outline in the Federal Register, Vol. 42, No. 160, August 18, 1977, as amended in the Federal Register, Vol. 43, No. 57, March 23, 1978, beginning on page 11985, and as amended in the Federal Register, Vol. 49, No. 125, June 27, 1984, beginning on page 26524, or by one of the following alternative methods:

(i) Determination of Nitrogen Oxide Emissions from Stationary Sources (Ion Chromatographic Method)

Nitrogen oxide emissions from stationary sources shall be determined by an ion chromatographic method by Method 7A outlined in the Federal Register, Vol. 48, No. 237, December 8, 1983, beginning on page 55073.

(ii) Determination of Nitrogen Oxide Emissions from Stationary Sources (Ultraviolet Spectrophotometric Method).

Nitrogen oxide emissions from stationary sources shall be determined by an ultraviolet spectrophotometric method by Method 7B outlined in the Federal Register, Vol. 50, No. 78, April 23, 1985, beginning on page 15894.

(iii) Determination of Nitrogen Oxide Emissions from Stationary Sources (Alkaline-Permanganate/Colorimetric Method)

Nitrogen oxide emissions from stationary sources shall be determined by an alkaline-permanganate/colormetric method by Method 7C outlined in the Federal Register, Vol. 49, No. 189, September 27, 1984, beginning on page 38234.

(iv) Determination of Nitrogen Oxide Emissions from Stationary Sources (Alkaline-Permanganate/Ion Chromatographic Method)

Nitrogen oxide emissions from stationary sources shall be determined by alkaline-permanganate/ion chromatographic method by Method 7D outlined in the Federal Register, Vol. 49, No. 189, September 27, 1984, beginning on page 38237.

(v) Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure)

Nitrogen oxides emissions from stationary sources shall be determined by an instrumental analyzer procedure by Method 7E outlined in the Federal Register, Vol. 49, No. 248, December 24, 1984, beginning on page 49971, and as amended in the Federal Register, Vol. 51, No. 112, June 11, 1986, beginning on page 21171.

8. Determination of Sulfuric Acid Mist and Sulfur Dioxide Emissions from Stationary Sources.

Sulfuric acid mist and sulfur dioxide emissions from stationary sources shall be determined by Method 8 outlined in the Federal Register, Vol. 42, No. 160, August 18, 1977, beginning on page 41786, and as amended in the Federal Register, Vol. 43, No. 57, March 25, 1978, on page 11986.

9. Visual Determination of the Opacity of Emissions from Stationary Sources

The opacity of emissions from stationary sources shall be determined either visually by Method 9 outlined in the Federal Register, Vol. 39, No. 219, November 12, 1974, beginning on page 39874, or by the following alternative methods:

(i) Determination of the Opacity of Emissions from Stationary Sources Remotely by Lidar.

The opacity of emissions from stationary sources shall be determined remotely by a mobile lidar system (laser radar; Light Detection and Ranging) by Alternate Method 1 to Method 9 outlined in the Federal Register, Vol. 46, No. 208, October 28, 1981, beginning on page 53144, and as amended in the Federal Register, Vol. 47, No. 127, July 1, 1982, beginning on page 28624.

10. Determination of Carbon Monoxide Emissions from Stationary Sources

Carbon monoxide emissions from stationary sources shall be determined by Method 10

~~outlined in the Federal Register, Vol. 39, No. 47, March 8, 1974, beginning on page 9319.~~

~~11. Determination of Hydrogen Sulfide Content of Fuel Gas Streams in Petroleum Refineries~~

~~Hydrogen sulfide content of fuel gas streams in petroleum refineries shall be determined by Method 11 outlined in the Federal Register, Vol. 43, No. 6, January 10, 1978, beginning on page 1494.~~

~~12. Determination of Inorganic Lead Emissions from Stationary Sources~~

~~Inorganic lead emissions from stationary sources shall be determined by Method 12 outlined in the Federal Register, Vol. 47, No. 74, April 16, 1982, beginning on page 16564, as amended in the Federal Register, Vol. 49, No. 166, August 24, 1984, beginning on page 33842, and as amended in the Federal Register, Vol. 49, No. 186, September 24, 1984, on page 37384.~~

~~13. Determination of Total Fluoride Emissions from Stationary Sources~~

~~Total fluoride emissions from stationary sources shall be determined by either one of the following methods:~~

~~(i) Determination of Total Fluoride Emissions from Stationary Sources, SPADNS Zirconium Lake Method~~

~~Total fluoride emissions from stationary sources shall be determined by the SPADNS Zirconium Lake method by Method 13A outlined in the Federal Register, Vol. 45, No. 121, June 20, 1980, beginning on page 41852, and as amended in the Federal Register, Vol. 45, No. 249, December 24, 1980, on page 85016, or~~

~~(ii) Determination of Total Fluoride Emissions from Stationary Sources; Specific Ion Electrode Method~~

~~Total Fluoride emissions from stationary sources shall be determined by the specific ion electrode method by Method 13B outlined in the Federal Register, Vol. 45, No. 121, June 20, 1980, beginning on page 41852, and as amended in the Federal Register, Vol. 45, No. 249, December 24, 1980, on page 85016.~~

~~14. Determination of Fluoride Emissions from Potroom Roof Monitors for Primary Aluminum Plants~~

~~Fluoride emissions from potroom roof monitors for primary aluminum plants shall be determined by Method 14 outlined in the Federal Register, Vol. 45, No. 127, June 30, 1980, beginning on page 44202.~~

~~15. Determination of Hydrogen Sulfide, Carbonyl Sulfide, and Carbon Disulfide Emissions from Stationary Sources~~

~~Hydrogen sulfide, carbonyl sulfide, and carbon disulfide emissions from stationary sources shall be determined by either Method 15 outlined in the Federal Register, Vol. 43, No. 51, March 15, 1978, beginning on page 10866, or by the following alternative method:~~

~~(i) Determination of Total Reduced Sulfur emissions from sulfur recovery plants in petroleum refineries shall be determined by Method 15A outlined in the Federal Register, Vol. 52, No. 104, June 1, 1987, beginning on page 20391.~~

~~Nonsulfate particulate matter emissions from stationary sources shall be determined by Method 5F outlined in the Federal Register, Vol. 51, No. 228, November 26, 1986, beginning on page 42842.~~

~~16. Semicontinuous Determination of Sulfur Emissions from Stationary Sources~~

Sulfur emissions from stationary sources shall be determined by either a semicontinuous procedure by Method 16 outlined in the Federal Register, Vol. 43, No. 37, February 23, 1978 beginning on page 7575, as amended in the Federal Register, Vol. 43, No. 152, August 7, 1978, beginning on page 34785, and as amended in the Federal Register, Vol. 44, No. 9, January 12, 1979, beginning on page 2579, or by the following alternative method:

(i) Determination of Total Reduced Sulfur Emissions from Stationary Sources (Impinger Technique)

Total reduced sulfur emissions from stationary sources shall be determined by an impinger technique by Method 16A outlined in the Federal Register, Vol. 50, No. 46, March 8, 1985, beginning on page 9597.

17. Determination of Particulate Emissions from Stationary Sources (In-Stack Filtration Method)

Particulate emissions from stationary sources shall be determined by an in-stack filtration method by Method 17 outlined in the Federal Register, Vol. 43, No. 37, February 23, 1978, beginning on page 7568.

18. Measurement of Gaseous Organic Compound Emissions by Gas Chromatography

Gaseous organic compound emissions shall be determined by gas chromatography by Method 18 outlined in the Federal Register, Vol. 48, No. 202, October 18, 1983, beginning on page 48344, and as amended in the Federal Register, Vol. 49, No. 105, May 30, 1984, on page 22608, and as amended in the Federal Register, Vol. 52, No. 33, February 19, 1987 beginning on page 5105.

19. Determination of Sulfur Dioxide Removal Efficiency and Particulate, Sulfur Dioxide and Nitrogen Oxides Emissions Rates from Electric Utility Steam Generators

Sulfur dioxide removal efficiency and particulate, sulfur dioxide, and nitrogen oxides emission rates from electric utility steam generators shall be determined by Method 19 outlined in the Federal Register, Vol. 44, No. 113, June 11, 1979, beginning on page 33580, and as amended in the Federal Register, Vol. 48, No. 207, October 25, 1983, on page 49460.

20. Determination of Nitrogen Oxides, Sulfur Dioxide, and Oxygen Emissions From Stationary Gas Turbines

Nitrogen oxides, sulfur dioxide, and oxygen emissions from stationary gas turbines shall be determined by Method 20 outlined in the Federal Register, Vol. 44, No. 176, September 10, 1979, beginning on page 52792, and as amended in the Federal Register, Vol. 47, No. 135, July 14, 1982, beginning on page 30480, and as amended in the Federal Register, Vol. 51, No. 177, September 12, 1986, beginning on page 32456.

21. Determination of Volatile Organic Compound Leaks

Volatile organic compound leaks shall be determined by Method 21 outlined in the Federal Register, Vol. 48, No. 161, August 18, 1983, beginning on page 37600, and as amended in the Federal Register, Vol. 48, No. 247, December 22, 1983, beginning on page 56580.

22. Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares

Fugitive emissions from material sources and smoke emissions from flares shall be determined by Method 22 outlined in the Federal Register, vol. 47, No. 152, August 5, 1982, beginning on page 84146, and as amended in the Federal Register, Vol. 48, No. 202, October 18, 1983, beginning on page 48360.

23. Reserved

24. Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings

Volatile matter content, water content, density, volume solids, and weight solids of surface coatings shall be determined by either Method 24 outlined in the Federal Register, Vol. 45, No. 194, October 3, 1980, beginning on page 65958, or by the following alternative method:

(i) Determination of Volatile Matter Content and Density of Printing Inks and Related Coatings

Volatile matter content and density of printing inks and related coatings shall be determined by Method 24A outlined in the Federal Register, Vol. 47, No. 216, November 8, 1982, on page 50655, and as amended in the Federal Register, Vol. 48, No. 6, January 10, 1983, on page 1056.

25. Determination of Total Gaseous Nonmethane Organic Emissions as Carbon

Total gaseous nonmethane organic emissions shall be determined as carbon by Method 25 outlined in the Federal Register, Vol. 45, No. 194, October 3, 1980, beginning on page 65959, or by one of the following alternative methods:

(i) Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer

Total gaseous organic concentration shall be determined using a flame ionization analyzer by Method 25A outlined in the Federal Register, Vol. 48, No. 161, August 18, 1983, beginning on page 37595.

(ii) Determination of Total Gaseous Organic Concentration Using a Nondispersive Infrared Analyzer

Total gaseous organic concentration shall be determined using a nondispersive infrared analyzer by Method 25B outlined in the Federal Register, Vol. 48, No. 161, August 18, 1983, on page 37597.

26. Reserved

27. Determination of Vapor Vapor tightness of gasoline delivery tank shall be determined using a pressure-vacuum test by Method 27 as outlined in the Federal Register, Vol. 48, No. 161, August 18, 1983, beginning on page 37597.Tightness of Gasoline Delivery Tank Using Pressure-Vacuum Test.

(6) Compliance with standards and maintenance requirements

(a) Compliance with standards in this chapter, other than opacity standards, shall be determined only by performance tests established by paragraph (5) of this rule unless otherwise specified in the applicable standard. Noncompliance may be established by these tests, or by the results of the monitoring (including fuel data) required in accordance with the provisions of these regulations.

(b) Compliance with opacity standards in this chapter shall be determined by conducting observations in accordance with the reference method or by equivalent or alternate methods specified by the Technical Secretary. Noncompliance may be demonstrated by these methods or by monitoring with transmissometers. Opacity readings of portions of plumes which contained condensed, uncombined water vapor shall not be used for purposes of determining compliance with opacity standards. The results of continuous monitoring by transmissometers which indicate that the opacity at the time visual observations were made was not in excess of the standard are probative but not conclusive evidence of the actual opacity of an emission, provided that the source shall meet the burden of proving that the instrument used meets (at the time of the alleged violation), performance specification as required by the Technical Secretary, has been properly maintained

and (at the time of the alleged violation) calibrated, and that the resulting data have not been tampered with in any way.

(c) The opacity standards set forth in this chapter shall apply at all times except during periods of startup, shutdown, malfunction, and as otherwise provided in the applicable standard.

(d) At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Technical Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

(e) 1. An owner or operator of an affected facility may request the Technical Secretary to determine opacity of emissions from the affected facility during the initial performance tests required by paragraph 1200-3-16-.01 (5).

2. Upon receipt from such owner or operator of the written report of the results of the performance test required by paragraph 1200-3-16-.01 (5), the Technical Secretary will make a finding concerning compliance with opacity and other applicable standards. If the Technical Secretary finds that an affected facility is in compliance with all applicable standards for which performance tests are conducted in accordance with paragraph 1200-3-16-.01 (5) but during the time such performance tests are being conducted fails to meet any applicable opacity standards, he shall notify the owner or operator and advise him that he may petition the Technical Secretary within 10 days of receipt of notification to make appropriate adjustment to the opacity standard for the affected facility.

3. The Technical Secretary will grant such a petition upon a demonstration by the owner or operator that the affected facility and associated air pollution control equipment was operated and maintained in a manner to minimize the opacity of emissions during the performance tests; that the performance tests were performed under conditions established by the Technical Secretary; and that the affected facility and associated air pollution control equipment were incapable of being adjusted or operated to meet the applicable opacity standard.

4. The Technical Secretary will establish an opacity standard for the affected facility meeting the above requirements at a level at which the source will be able, as indicated by the performance and opacity tests, to meet the opacity standard at all times during which the source is meeting the mass or concentration emission standard.

(7) Notification and Record Keeping

(a) Any owner or operator subject to the provisions of this chapter shall furnish the Technical Secretary written notification as follows:

1. A notification of the date construction (or reconstruction as defined under subparagraph (9)(b) of this rule) of an affected facility is commenced postmarked no later than 30 days after such date. This requirement shall not apply in the case of mass-produced facilities which are purchased in completed form.

2. A notification of the anticipated date of initial startup of an affected facility postmarked not more than 60 days nor less than 30 days prior to such date.

3. A notification of the actual date of initial startup of an affected facility postmarked within 15 days after such date.

4. A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless the change is specifically exempted under an applicable rule or in part (9)(a)6 of this rule and the exemption is not denied under subpart (9)(a)5(v) of this rule. This notice shall be

postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Technical Secretary may request additional relevant information subsequent to this notice.

5. A notification of the date upon which demonstration of the continuous monitoring system performance commences in accordance with subparagraph (8)(c). Notification shall be postmarked not less than 30 days prior to such date.

(b) Any owner or operator subject to the provisions of this chapter shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

(c) Reserved

(d) Any owner or operator subject to the provisions of this chapter shall maintain a file on all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this chapter recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records.

(8) Monitoring Requirements

(a) All in-stack monitoring systems shall meet the performance specifications referenced by the various parts of this subparagraph unless otherwise specified in the specific rule that required the in-stack monitoring system to be installed.

1. Continuous in-stack monitoring systems for the measurement of opacity shall meet the requirements of Performance Specification 1 outlined in the Federal Register, Volume 48, Number 62, Wednesday, March 30, 1983, beginning on page 13327.

2. Continuous in-stack monitoring systems for the measurements of either sulfur dioxide or nitrogen oxides shall meet the requirements of Performance Specification 2 outlined in the Federal Register, Volume 48, Number 102, Wednesday, May 25, 1983, beginning on page 23611.

3. Continuous in-stack monitoring systems for the measurement of either oxygen or carbon dioxide shall meet the requirements of Performance Specification 3 outlined in the Federal Register, Volume 48, Number 102, Wednesday, May 25, 1983, on page 23616.

4. Continuous in-stack monitoring systems for the measurement of carbon monoxide shall meet the requirements of Performance Specification 4 outlined in the Federal Register, Volume 50, Number 150, Monday, August 5, 1985, beginning on page 31701.

5. Continuous in-stack monitoring systems for the measurement of total reduced sulfur compounds shall meet the requirements of Performance Specification 5 outlined in the Federal Register, Volume 48, Number 140, Wednesday, July 20, 1983, on page 32986.

(b) All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests required by paragraph (5) of this rule. Verification of operational status shall, as a minimum, consist of the following:

1. For continuous monitoring systems referenced in part (d)1 of this paragraph, completion of the conditioning period specified by the applicable performance specification referenced in subparagraph (a) above.

2. For continuous monitoring systems referenced in part (d)2 of this paragraph, completion of

seven days of operation.

3. For monitoring devices referenced in applicable rules, completion of the manufacturer's written requirements or recommendations for checking the operation or calibration of the device.

(c) It shall be demonstrated that the continuous in-stack opacity monitoring system meets the specifications in Performance Specification 1 as referenced in subparagraph (a) above, before the performance test required under paragraph (5) of this rule is conducted. Other continuous emission monitoring systems shall be evaluated during any performance tests required under paragraph (5) of this rule or within 30 days thereafter. The owner or operator of an affected facility shall conduct continuous emission monitoring system performance evaluations at such other times as may be required by the Technical Secretary and shall furnish the Technical Secretary within 60 days thereof two or, upon request, more copies of a written report of the results of all tests referenced in this subparagraph. These continuous monitoring system performance evaluations shall be conducted in accordance with the requirements and procedures contained in the applicable performance specification as referenced in subparagraph (a) above.

(d) Owners or operators of all continuous emission monitoring systems installed in accordance with the provisions of this chapter shall check the zero and span calibration drifts at least once daily in accordance with the method prescribed by the manufacturer of such systems unless the manufacturer recommends adjustments at shorter intervals, in which case such recommendations shall be followed. The zero and span shall, as a minimum, be adjusted whenever the 24-hour zero drift or 24-hour span drift limits of the applicable performance specifications as referenced in subparagraph (a) above are exceeded. For continuous monitoring systems measuring opacity of emissions, the optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero or span drift adjustments except that for systems using automatic zero adjustments, the optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds four percent opacity. Unless otherwise approved by the Technical Secretary, the following procedures, as applicable, shall be followed.

1. For extractive continuous monitoring systems measuring gases, minimum procedures shall include introducing applicable zero and span gas mixtures into the measurement system as near the probe as is practical. Span and zero gases certified by their manufacturer to be traceable to National Bureau of Standards reference gases shall be used whenever these reference gases are available. The span and zero gas mixtures shall be the same composition as specified in the applicable performance specification as referenced in subparagraph (a) above. Every six months from date of manufacture, span and zero gases shall be reanalyzed by conducting triplicate analyses with Reference Method 6, as referenced by Part 1200-3-16-.01 (5)(g)6, for sulfur dioxide; Reference Method 7, as referenced by Part 1200-3-16-.01(5)(g)7, for nitrogen oxides; and Reference Method 3, as referenced by Part 1200-3-16-.01(5)(g)3, for oxygen and carbon dioxide.

   The gases may be analyzed at less frequent intervals if longer shelf lives are guaranteed by the manufacturer.

2. For non-extractive continuous monitoring systems measuring gases, minimum procedures shall include upscale check(s) using a certified calibration gas cell or test cell which is functionally equivalent to a known gas concentration. The zero check may be performed by computing the zero value from upscale measurements or by mechanically producing a zero condition.

3. For continuous monitoring systems measuring opacity of emissions, minimum procedures shall include a method for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obscuration of the light beam. Such procedures shall provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photodetector assembly.

(e) Except for zero and span adjustments required under subparagraph (d) of this paragraph and system breakdowns, repairs, and calibration checks, all continuous monitoring systems shall be in

continuous operation and shall meet minimum frequency of operation requirements as follows:

1. All continuous monitoring systems referenced by subparagraph (8)(c) for measuring opacity of emissions shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period.

2. All continuous monitoring systems referenced by subparagraph (c) of this paragraph for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

(f) All continuous monitoring systems or monitoring devices shall be installed in such a manner that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable performance specifications are referenced in subparagraph (8)(a) of this rule.

(g) When the effluents from a single affected facility or two or more affected facilities subject to the same emission standards are combined before being released to the atmosphere, the owner or operator may install applicable continuous monitoring systems on each effluent or on the combined effluent. When the affected facilities are not subject to the same emission standards, separate continuous monitoring systems shall be installed on each effluent. When the effluent from one affected facility is released to the atmosphere through more than one point, the owner or operator shall install applicable continuous monitoring systems on each separate effluent unless the installation of fewer systems is approved by the Technical Secretary.

(h) 1. Owners or operators of all continuous monitoring systems for measurement of opacity shall reduce all data to six-minute averages and for systems other than opacity to one-hour averages for time periods as defined in paragraph (4) of this Rule. Six minute opacity averages shall be calculated from 24 or more data points equally spaced over each six-minute period. For systems other than opacity, one hour averages shall be computed from four or more data points equally spaced over each one-hour period. Data recorded during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under this subparagraph. An arithmetic or integrated average of all data may be used. The data output of all continuous monitoring systems may be recorded in reduced or nonreduced form (e.g., ppm pollutant and percent O^2 or ng/J (lb/million Btu) of pollutant). All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in the rules of this chapter. After conversion into units of the standard, the data may be rounded to the same number of significant digits used in the following rules in this chapter to specify the applicable standard (e.g., rounded to the nearest one percent opacity).

2. Upon written application by an owner or operator, the Technical Secretary may approve alternatives to any monitoring procedures or requirements of this chapter including, but not limited to the following:

(i) Alternative monitoring requirements when installation of a continuous monitoring system or monitoring device specified by this chapter would not provide accurate measurements due to liquid water or other interferences caused by substances with the effluent gases.

(ii) Alternative monitoring requirements when the affected facility is infrequently operated.

(iii) Alternative monitoring requirements to accommodate continuous monitoring systems that require additional measurements to correct for stack moisture conditions.

(iv) Alternative locations for installing continuous monitoring systems or monitoring devices when the owner or operator can demonstrate that installation at alternative locations will enable accurate and representative measurements.

(v) Alternative methods of converting pollutant concentration measurements to units of the standards.

(vi) Alternative procedures for performing daily checks of zero and span drift that do not involve use of span gases or test cells.

(vii) Alternative to the A.S.T.M. test methods or sampling procedures specified by any rule. (Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired).

(viii) Alternative continuous monitoring systems that do not meet the design or performance requirements in Performance Specification 1, as referenced in subparagraph (a) above, but adequately demonstrate a definite and consistent relationship between its measurements and the measurements of opacity by a system complying with the requirements in Performance Specification 1. The Technical Secretary may require that such demonstration be performed for each affected facility.

(ix) Alternative monitoring requirements when the effluent from a single affected facility or the combined effluent from two or more affected facilities are released to the atmosphere through more than one point.

(i) The reference methods for continuous monitoring systems for opacity, sulfur dioxide, nitrogen oxides, oxygen, and carbon dioxide are found in the Federal Register, Vol. 40, No. 194, of October 6, 1975.

(9) (a) Modification

1. Modification as defined and used in this chapter shall have a less inclusive meaning than in the other chapters of these regulations. Therefore, an action not considered a modification for inclusion under the requirements of this chapter may be a modification as regards the permit requirements in chapter 1200-3-9 and other requirements for new and/or modified sources in other than this chapter 1200-3-16 of the regulations.

2. Except as provided under parts 5 and 6 of this subparagraph and subparagraph (b) of this paragraph, any physical or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of this chapter. Upon modification, an existing facility shall become an affected facility for each pollutant to which a standard applies and for which there is an increase in the emission rate to the atmosphere.

3. Emission rate shall be expressed as kg/hr of any pollutant discharged into the atmosphere for which a standard is applicable. The Technical Secretary shall use the following to determine emission rate:

(i) Emission factors are specified in the latest issue of "Compilation of Air Pollution Emission Factors," EPA Publication No. AP-42, or other emission factors determined by the Technical Secretary to be superior to AP-42 emission factors, in cases where utilization of emission factors demonstrate that the emission level resulting from the physical or operational change will either clearly increase or not increase.

(ii) Material balances, continuous monitor data, or manual emission tests in cases where utilization of emission factors as referenced in subpart (i) of this part does not demonstrate to the Technical Secretary's satisfaction whether the emission level resulting from the physical or operational change will either clearly increase or clearly not increase, or where an owner or operator demonstrates to the Technical Secretary's satisfaction that there are reasonable grounds to dispute the

results obtained by the Technical Secretary utilizing emission factors as referenced in subpart (i) of this part. When the emission rate is based on results from manual emission tests or continuous monitoring systems, the procedures specified in Appendix C as listed in the Federal Register (40 FR 58420, December 16, 1975) shall be used to determine whether an increase in emission rate has occurred. Tests shall be conducted under such conditions as the Technical Secretary shall specify to the owner or operator based on representative performance of the facility. At least three valid test runs must be conducted before and at least three after the physical or operational change. All operating parameters which may affect emissions must be held constant to the maximum feasible degree for all test runs.

4. The addition of an affected facility to a stationary source as an expansion to that source or as a replacement for an existing facility shall not by itself bring within the applicability of this chapter any other facility within that source.

5. (i) A modification shall not be deemed to occur if an existing facility undergoes a physical or operational change where the owner or operator demonstrates to the Technical Secretary's satisfaction (by any of the procedures prescribed under part 3 of this subparagraph) that the total emission rate of any pollutant has not increased from all facilities within the stationary source to which appropriate reference, equivalent, or alternative methods can be applied. An owner or operator may completely and permanently close any facility within a stationary source to prevent an increase in the total emission rate regardless of whether such reference, equivalent or alternative method can be applied, if the decrease in emission rate from such closure can be adequately determined by any of the procedures prescribed under part 3 of this subparagraph. The owner or operator of the source shall have the burden of demonstrating compliance with this paragraph.

(ii) Such demonstration shall be in writing and shall include:

(I) The name and address of the owner or operator.

(II) The location of the stationary source.

(III) A complete description of the existing facility undergoing the physical or operational change resulting in an increase in emission rate, any applicable control system, and the physical or operational change to such facility.

(IV) The emission rates into the atmosphere from the existing facility of each pollutant to which a standard applies physical or operational change takes place, to the extent such information is known or can be predicted.

(V) A complete description of each facility and the control systems, if any, for those facilities within the stationary source where the emission rate of each pollutant in question will be decreased to compensate for the increase in emission rate from the existing facility undergoing the physical or operational change.

(VI) The emission rates into the atmosphere of the pollutants in question from each facility described under item (V) of this subpart both before and after the improvement or installation of any applicable control system or any physical or operational changes to such facilities to reduce emission rate.

(VII) A complete description of the procedures and methods used to determine the emission rates.

(iii) Compliance with part 5 of this subparagraph may be demonstrated by the methods listed in part 3 of this subparagraph where appropriate. Decreases in emissions resulting from requirements of rules in other chapters of Tennessee Air Pollution

Control Regulations will not be acceptable. The required reduction in emission rate may be accomplished through the installation or improvement of a control system or through physical or operational changes to facilities including reducing the production of a facility or closing a facility.

(iv) Emission rates established for the existing facility which is undergoing a physical or operational change resulting in an increase in the emission rate, and established for the facilities described under item 5(ii)(V) of this subparagraph shall become the baseline for determining whether such facilities undergo a modification or are in compliance with standards.

(v) Any emission rate in excess of that rate established under subpart (iv) of this part shall be a violation of these regulations except as otherwise provided in part 6 of this subparagraph. However, any owner or operator electing to demonstrate compliance under this part 5 must apply to the Technical Secretary to obtain the use of any exemptions under subparts 6(i), 6.(ii), and 6.(iv) of this subparagraph. The Technical Secretary will grant such under this paragraph will not be circumvented or nullified by the utilization of the exemption.

(vi) The Technical Secretary may require the use of continuous monitoring devices and compliance with necessary reporting procedures for each facility described in items 5(ii)(III) and 5(ii)(V) of this subparagraph.

6. The following shall not, by themselves, be considered modifications under this chapter:

(i) Maintenance, repair, and replacement which the Technical Secretary determines to be routine for a source category, subject to the provisions of part 4 of this subparagraph and subparagraph (b) of this paragraph.

(ii) An increase in production rate of an existing facility, if that increase can be accomplished without a capital expenditure on the stationary source containing that facility.

(iii) An increase in the hours of operation.

(iv) Use of an alternative fuel or raw material if, prior to the date any standard under this part becomes applicable to that source type, provided the existing facility was designed to accommodate that alternative use. A facility shall be considered to be designed to accommodate an alternative fuel or raw material if that use could be accomplished under the facility's construction specifications, as amended, prior to the change. Conversion to coal required for energy considerations, shall not be considered a modification.

(v) The addition or use of any system or device whose primary function is the reduction of air pollutants, except when an emission control system is removed or is replaced by a system which the Technical Secretary determines to be less environmentally beneficial.

(vi) The relocation or change in ownership of an existing facility.

7. Special provisions set forth under an applicable rule of this chapter shall supersede any conflicting provisions of this paragraph.

8. Within 180 days of the completion of any physical or operational change subject to the control measures specified in parts 2 or 5 of this subparagraph, compliance with all applicable standards must be achieved.

(b) Reconstruction

1. An existing facility, upon reconstruction, becomes an affected facility, irrespective of any change in emission rate.

2. "Reconstruction" means the replacement of components of an existing facility to such an extent that:

(i) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, and

(ii) It is technologically and economically feasible to meet the applicable standards set forth in this chapter.

3. "Fixed capital cost" means the capital needed to provide all the depreciable components.

4. If an owner or operator of an existing facility proposes to replace components, and the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, he shall notify the Technical Secretary of the proposed replacements. The notice must be postmarked 60 days (or as soon as practicable) before construction of the replacements is commenced and must include the following information:

(i) Name and address of the owner or operator.

(ii) The location of the existing facility.

(iii) A brief description of the existing facility and the components which are to be replaced.

(iv) A description of the existing air pollution control equipment and the proposed air pollution control equipment.

(v) An estimate of the fixed capital cost of the replacements and of constructing a comparable entirely new facility.

(vi) The estimated life of the existing facility after the replacements.

(vii) A discussion of any economic or technical limitations the facility may have in complying with the applicable standards of performance after the proposed replacements.

5. The Technical Secretary will determine, within a reasonable time after receipt of the notice required by part 4 of this subparagraph and any additional information he may reasonably require, whether the proposed replacement constitutes reconstruction.

6. The Technical Secretary's determination under part 5 of this subparagraph shall be based on:

(i) The fixed capital cost of the replacements in comparison to the fixed capital cost that would be required to construct a comparable entirely new facility;

(ii) The estimated life of the facility after the replacements compared to the life of a comparable entirely new facility;

(iii) The extent to which the components being replaced cause or contribute to the emissions from the facility; and

(iv) Any economic or technical limitations on compliance with applicable standards of performance which are inherent in the proposed replacements.

7. Individual rules of this chapter may include specific provisions which refine and delimit the concept of reconstruction set forth in this subparagraph.

(10) Upon mutual agreement of the owner or operator of any air contaminant source and the Technical Secretary, an emission limit more restrictive than that otherwise specified in this Chapter may be established. This emission limit shall be stated as a special condition for any permit or order issued concerning the source. Violation of this agreed to, more stringent emission standard is grounds for revocation of the issued permit and/or other enforcement measures provided for in the Tennessee Air Quality Act.

(11) General Control Device Requirements

(a) Introduction

This paragraph contains requirements for control devices used to comply with applicable rules of Chapter 0400-30-38 and this chapter. The requirements are placed here for administrative convenience and only apply to facilities covered by rules referring to this paragraph.

(b) Flares

Subparagraphs (c) through (f) of this paragraph apply to flares.

(c) 1. Flares shall be designed for and operated with no visible emissions as determined by the methods specified in subparagraph (f) of this paragraph, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

2. Flares shall be operated with a flame present at all times, as determined by the methods specified in subparagraph (f) of this paragraph.

3. Flares shall be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in subparagraph (f) of this paragraph.

4. (i) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in part (f)4 of this paragraph less than 18.3 m/sec (60 ft/sec), except as provided in subpart (c)4(ii) and (iii) of this paragraph.

(ii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in part (f)4 of this paragraph equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in part (f)4 of this paragraph less than velocity, Vmax, as determined by the method specified in part (f)5 of this paragraph and less than 122 m/sec (400 ft/sec) are allowed.

5. Air-assisted flares shall be designed and operated with an exit velocity less than the velocity, Vmax, as determined by the method specified in part (f)6 of this paragraph.

6. Flares used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

(d) Owners or operators of flares used to comply with the provisions of this rule shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs. Applicable rules will provide provisions stating how owners or operators of flares shall monitor these control devices.

(e) Flares used to comply with provisions of this rule shall be operated at all times when emissions may be vented to them.

(f) 1. Reference Method 22 as specified in 1200-3-16-.01(5)(g)22 shall be used to determine the compliance of flares with the visible emission provisions of this rule. The observation period is 2 hours and shall be used according to Method 22.

2. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

3. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^{n} C_i H_i$$

Where:

H_T = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20°C;

K = Constant, $\frac{(1)}{1.740 \times 10^{-7}} \frac{(g\ mole)}{ppm} \frac{(MJ)}{scm} \frac{}{kcal/(g\ mole)}$

where the standard temperature for scm is 20°C;

n = Number of components in the sample;

Ci = Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 (as specified in rule 1200-3-16-.01(5)(g)18) and measured for hydrogen and carbon monoxide by ASTM D1946-77; and

Hi = Net heat of combustion of sample component i, kcal/g mole at 25°C and 760 mm Hg. The heat of combustion may be determined using ASTM D2382-76 if published values are not available or cannot be calculated.

(Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired).

4. The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure) as determined either by Reference Method 2 or 2(A) as appropriate (as specified in 1200-3-16-.01(5)(g)2); by the unobstructed (free) cross sectional area of the flare tip.

5. The maximum permitted velocity, Vmax, for flares complying with subpart (c)4(iii) of this paragraph shall be determined by the following equation.

$\text{Log}_{10}(V_{max}) = (H_T + 28.8)/31.7$

Vmax = Maximum permitted velocity, M/sec

28.8 = Constant

31.7 = Constant

H_T = The net heating value as determined in part (f)3.

6. The maximum permitted velocity, Vmax, for air-assisted flares shall be determined by the following equation.

$$V_{max} = 8.706 + 0.7084(H_T)$$

Vmax = Maximum permitted velocity, m/sec

8.706 = Constant

0.7084 = Constant

H_T = The net heating value as determined in part (f)3 of his paragraph.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.02 Fuel Fired Steam Generators for Which Construction is Commenced After April 3, 1972.

(1) Applicability

(a) The affected facilities to which the provisions of this rule apply are:

1. Each fossil-fuel-fired steam-generating unit of more than 73 mega watts heat input rate (250 million Btu per hour) commenced on or after April 3, 1972, and before November 6, 1988.

2. Each fossil-fuel and each fossil-fuel and wood-residue-fired steam generating unit capable of firing fossil fuel at a heat input rate of more than 73 megawatts (250 million Btu per hour) that commenced construction or modification after November 6, 1988.

(b) Any change to an existing fossil-fuel-fired steam generating unit to accommodate the use of combustible materials, other than fossil fuels as defined in this rule, shall not bring that unit under the applicability of this rule.

(c) Reserved.

(d) Any facility covered under Rule 1200-03-16-.03 is not covered under this rule.

(e) Any affected facility meeting the applicability requirements of subparagraph (1)(a) of Rule 1200-03-16-.59 commencing construction, modification, or reconstruction after November 6, 1988 is not subject to this rule.

(2) Reserved

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.03 Electric Utility Steam Generating Units for Which Construction Commenced After September 18, 1978.

(1) Applicability.

(a) The affected facility to which this rule applies is each electric utility steam generating unit:

1. That is capable of combusting more than 73 megawatts (250 million Btu/hour) heat input of fossil fuel (either alone or in combination with any other fuel); and

2. For which construction or modification is commenced after September 18, 1978.

(b) This rule applies to electric utility combined cycle gas turbines that are capable of combusting more than 73 megawatts (250 million Btu/hour) heat input of fossil fuel in the steam generator. Only emissions resulting from combustion of fuels in the steam generating unit are subject to this rule. (The gas turbine emissions are subject to rule 1200-3-16-.31.)

(c) Any change to an existing fossil fuel fired steam generating unit to accommodate the use of combustible materials, other than fossil fuels, shall not bring that unit under the applicability of this rule.

(d) Any change to an existing steam generating unit originally designed to fire gaseous or liquid fossil fuels, to accommodate the use of any other fuel (fossil or nonfossil) shall not bring that unit under the applicability of this rule.

(2) Definitions

(a) "Steam generating unit" means any furnace, boiler, or other device used for combusting fuel for the purpose of producing steam (including fossil fuel fired steam generators associated with combined cycle gas turbines; nuclear steam generators are not included).

(b) "Electric utility steam generating unit" means any steam electric generating unit that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam supplied to a steam distribution system for the purpose of providing steam to a steam-electric generator that would produce electrical energy for sale is also considered in determining the electrical energy output capacity of the affected facility.

(c) "Fossil fuel" means natural gas, petroleum, coal, and any form of solid, liquid, or gaseous fuel derived from such material for the purpose of creating useful heat.

(d) "Subbituminous coal" means coal that is classified as subbituminous A, B, or C according to the American Society of Testing and Materials' (ASTM) Standard Specification for Classification of Coals by Rank D388-77.

(e) "Coal refuse" means waste products of coal mining, physical coal cleaning, and coal preparation operations (e.g., culm, gob, etc.) containing coal, matrix material, clay, and other organic and inorganic material.

(f) "Potential combustion concentration" means the theoretical emissions (ng/J, lb/million Btu heat input) that would result from combustion of a fuel in an uncleaned state without emission control systems and:

1. For particulate matter is:

(i) 3,000 ng/J (7.0 lb/million Btu) heat input for solid fuel; and

(ii) 75 ng/J (0.17 lb/million Btu) heat input for liquid fuels.

2. For sulfur dioxide is determined under 1200-3-16-.03(9)(b).

3. For nitrogen oxides is:

(i) 290 ng/J (0.67 lb/million Btu) heat input for gaseous fuels;

(ii) 310 ng/J (0.72 lb/million Btu) heat input for liquid fuels; and

(iii) 990 ng/J (2.30 lb/million Btu) heat input for solid fuels.

(g) "Combined cycle gas turbine" means a stationary turbine combustion system where heat from the turbine exhaust gases is recovered by a steam generating unit.

(h) "Interconnected" means that two or more electric generating units are electrically tied together by a network of power transmission lines and other power transmission equipment.

(i) "Electric utility company" means the largest interconnected organization, business, or governmental entity that generates electric power for sale (e.g., a holding company with operating

~~subsidiary companies).~~

~~(j) "Principal company" means the electric utility company or companies which own the affected facility.~~

~~(k) "Neighboring company" means any one of those electric utility companies with one or more electric power interconnections to the principal company and which have geographically adjoining service areas.~~

~~(l) "Net system capacity" means the sum of the net electric generating capability (not necessarily equal to rated capacity) of all electric generating equipment owned by an electric utility company (including steam generating units, internal combustion engines, gas turbines, nuclear units, hydroelectric units, and all other electric generating equipment) plus firm contractural purchases that are interconnected to the affected facility that has the malfunctioning flue gas desulfurization system. The electric generating capability of equipment under multiple ownership is prorated based on ownership unless the proportional entitlement to electric output is otherwise established by contractural arrangement.~~

~~(m) "System load" means the entire electric demand of an electric utility company's service area interconnected with the affected facility that has the malfunctioning flue gas desulfurization system plus firm contractural sales to other electric utility companies. Sales to other electric utility companies (e.g., emergency power) not on a firm contractural basis may also be included in the system load when no available system capacity exists in the electric utility company to which the power is supplied for sale.~~

~~(n) "System emergency reserves" means an amount of electric generating capacity equivalent to the rated capacity of the single largest electric generating unit in the electric utility company (including steam generating units, internal combustion engines, gas turbines, nuclear units, hydroelectric units, and all other electric generating equipment) which is interconnected with the affected facility that has the malfunctioning flue gas desulfurization system. The electric generating capability of equipment under multiple ownership is prorated based on ownership unless the proportional entitlement to electric output is otherwise established by contractural arrangement.~~

~~(o) "Available system capacity" means the capacity determined by subtracting the system load and the system emergency reserves from the net system capacity.~~

~~(p) "Spinning reserve" means the sum of the unutilized net generating capability of all units of the electric utility company that are synchronized to the power distribution system and that are capable of immediately accepting additional load. The electric generating capability of equipment under multiple ownership is prorated based on ownership unless the proportional entitlement to electric output is otherwise established by contractural arrangement.~~

~~(q) "Available purchase power" means the lesser of the following:~~

~~1. The sum of available system capacity in all neighboring companies.~~

~~2. The sum of the rated capacities of the power interconnection devices between the principal company and all neighboring companies, minus the sum of the electric power load on these interconnections.~~

~~3. The rated capacity of the power transmission lines between the power interconnection devices and the electric generating units (the unit in the principal company that has the malfunctioning flue gas desulfurization system and the unit(s) in the neighboring company supplying replacement electrical power) less the electric power load on these transmission lines.~~

~~(r) "Spare flue gas desulfurization system module" means a separate system of sulfur dioxide emission control equipment capable of treating an amount of flue gas equal to the total amount of flue gas generated by an affected facility when operated at maximum capacity divided by the total number of nonspare flue gas desulfurization modules in the system.~~

(s) "Emergency condition" means that period of time when:

1. The electric generation output of an affected facility with a malfunctioning flue gas desulfurization system cannot be reduced or electrical output must be increased because:

(i) All available system capacity in the principal company interconnected with the affected facility is being operated, and

(ii) All available purchase power interconnected with the affected facility is being obtained, or

2. The electric generation demand is being shifted as quickly as possible from an affected facility with a malfunctioning flue gas desulfurization system to one or more electrical generating units held in reserve by the principal company or by a neighboring company, or

3. An affected facility with a malfunctioning flue gas desulfurization system becomes the only available unit to maintain a part or all of the principal company's system emergency reserves, and the unit is operated in spinning reserve at the lowest practical electric generation load consistent with not causing significant physical damage to the unit. If the unit is operated at a higher load to meet load demand, an emergency condition would not exist unless the conditions under part 1 of this definition apply.

(t) "Electric utility combined cycle gas turbine" means any combined cycle gas turbine used for electric generation that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam distribution system that is constructed for the purpose of providing steam to a steam electric generator that would produce electrical power for sale is also considered in determining the electrical energy output capacity of the affected facility.

(u) "Potential electrical output capacity" is defined as 33 percent of the maximum design heat input capacity of the steam generating unit (e.g., a steam generating unit with a 100-MW (340 million Btu/hr) fossil fuel heat input capacity would have a 33 MW potential electrical output capacity). For electric utility combined cycle gas turbines, the potential electrical output capacity is determined on the basis of fossil fuel firing capacity of the steam generator exclusive of the heat input and electrical power contribution by the gas turbine.

(v) "Anthracite" means coal that is classified as anthracite according to the American Society of Testing and Materials' (ASTM) Standard Specification for Classification of Coals by Rank D388-77.

(w) "Solid-derived fuel" means any solid, liquid, or gaseous fuel derived from solid fuel for the purpose of creating useful heat and includes, but is not limited to, solvent refined coal, liquified coal, and gasified coal.

(x) "24-hour period" means the period of time between 12:01 a.m. and 12:00 midnight.

(y) "Resource recovery unit" means a facility that combusts more than 75 percent non-fossil fuel on a quarterly (calendar) heat input basis.

(z) "Noncontinental area" means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

(aa) "Boiler operating day" means a 24-hour period during which fossil fuel is combusted in a steam generating unit for the entire 24 hours.

(3) Standard for Particulate Matter

(a) On and after the date on which the performance test required to be conducted under paragraph 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of:

1. 13 ng/J (0.03 lb/million Btu) heat input derived from the combustion of solid, liquid, or gaseous fuel;

2. 1 percent of the potential combustion concentration (99 percent reduction) when combusting solid fuel; and

3. 30 percent of potential combustion concentration (70 percent reduction) when combusting liquid fuel.

(b) On and after the date the particulate matter performance test required to be conducted under 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.

(4) Standard for Sulfur Dioxide

(a) On and after the date on which the initial performance test required to be conducted under 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility which combusts solid fuel or solid-derived fuel, except as provided under subparagraphs (c), (d), (f), or (h) of this paragraph, any gases which contain sulfur dioxide in excess of:

1. 520 ng/J (1.20 lb/million Btu) heat input and 10 percent of the potential combustion concentration (90 percent reduction), or

2. 30 percent of the potential combustion concentration (70 percent reduction), when emissions are less than 260 ng/J (0.60 lb/million Btu) heat input.

(b) On and after the date on which the initial performance test required to be conducted under 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be from any affected facility which combusts liquid or gaseous fuels (except for liquid or gaseous fuels derived from solid fuels and as provided under subparagraphs (e) or (h) of this paragraph), any gases which contain sulfur dioxide in excess of:

1. 340 ng/J (0.80 lb/million Btu) heat input and 10 percent of the potential combustion concentration (90 percent reduction), or

2. 100 percent of the potential combustion concentration (zero percent reduction) when emissions are less than 86 ng/J (0.20 lb/million Btu) heat input.

(c) On and after the date on which the initial performance test required to be conducted under 1200-3-16-.01(5) is complete, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility which combusts solid solvent refined coal (SRC-I) any gases which contain sulfur dioxide in excess of 520 ng/J (1.20 lb/million Btu) heat input and 15 percent of the potential combustion concentration (85 percent reduction) except as provided under subparagraph (f) of this paragraph; compliance with the emission limitation is determined on a 30-day rolling average basis and compliance with the percent reduction requirement is determined on a 24-hour basis.

(d) Sulfur dioxide emissions are limited to 520 ng/J (1.20 lb/million Btu) heat input from any affected facility which:

1. Combusts 100 percent anthracite, or

2. Is classified as a resource recovery facility, or

3. Is located in a noncontinental area and combusts solid fuel or solid-derived fuel.

(e) Sulfur dioxide emissions are limited to 340 ng/J (0.80 lb/million Btu) heat input from any affected facility which is located in a noncontinental area and combusts liquid or gaseous fuels (excluding

solid-derived fuels).

(f) The emission reduction requirements under this paragraph do not apply to any affected facility that is operated under an SO_2 commercial demonstration permit issued in accordance with the provisions of 1200-3-16-.03(6).

(g) Compliance with the emission limitation and percent reduction requirements under this paragraph are both determined on a 30-day rolling average basis except as provided under subparagraph (c) of this paragraph.

(h) When different fuels are combusted simultaneously, the applicable standard is determined by proration using the following formula:

1. If emissions of sulfur dioxide to the atmosphere are greater than 260 ng/J (0.60 lb/million Btu) heat input:

$E_{SO_2} = (340x + 520y)/100$ and

$P_{SO_2} = 10$ percent

2. If emissions of sulfur dioxide to the atmosphere are equal to or less than 260 ng/J (0.60 lb/million Btu) heat input:

$E_{SO_2} = (340x + 520y)/100$ and

$P_{SO_2} = (90x + 70y)/100$

where:

E_{SO_2} = is the prorated sulfur dioxide emission limit (ng/J heat input).

P_{SO_2} = is the percentage of potential sulfur dioxide emission allowed percent reduction required = 100 – P_{SO_2}).

x = is the percentage of total heat input derived from the combustion of liquid or gaseous fuels (excluding solid-derived fuels)

y = is the percentage of total heat input derived from the combustion of solid fuel (including solid-derived fuels)

(5) Standard for Nitrogen Oxides

(a) On and after the date on which the initial performance test required to be conducted under 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility, except as provided under subparagraph (b) of this paragraph, any gases which contain nitrogen oxides in excess of the following emission limits, based on a 30-day rolling average.

1. NO_x Emission Limits –

Fuel type	Emission limit ng/J	Heat input (lb/M Btu)
Gaseous Fuels:		
— Coal-derived fuels	210	(0.50)
— All other fuels	86	(0.20)
Liquid Fuels:		
— Coal-derived fuels	210	(0.50)
— Shale oil	210	(0.50)

— All other fuels	130	(0.30)
Solid Fuels:		
— Coal derived fuels	210	(0.50)
— Any fuel containing more	Exempt from NOx	
— than 25%, by weight,	standards and	
— coal refuse	NOx monitoring	
requirements		
Any fuel containing more than 25%, by weight, lignite if the lignite is mined in North Dakota, South Dakota, or Montana and is combusted in a slag tap furnace	340	(0.80)
— Lignite not subject to the ng/J — heat input emission limit	260	(0.60)
— Subbituminous coal	210	(0.50)
— Bituminous coal	260	(0.60)
— Anthracite coal	260	(0.60)
— All other fuels	260	(0.60)

2. NOx reduction requirements —

Fuel type	Percent reduction of potential combustion concentration
Gaseous fuels	25%
Liquid fuels	30%
Solid fuels	65%

(b) The emission limitations under subparagraph (a) of this paragraph do not apply to any affected facility which is combusting coal-derived liquid fuel and is operating under a commercial demonstration permit issued in accordance with the provisions of 1200-3-16-.03(6).

(c) When two or more fuels are combusted simultaneously, the applicable standard is determined by proration using the following formula:

$E_{NOx} = (86\ w + 130\ x + 210\ y + 260\ z)/100$

where:

E_{NOx} is the applicable standard for nitrogen oxides when multiple fuels are combusted simultaneously (ng/J heat input);

w is the percentage of total heat input derived from the combustion of fuels subject to the 86 ng/J heat input standard;

x is the percentage of total heat input derived from the combustion of fuels subject to the 130 ng/J heat input standard;

y is the percentage of total heat input derived from the combustion of fuels subject to the 210 ng/J heat input standard; and

z is the percentage of total heat input derived from the combustion of fuels subject to the 260 ng/J heat input standard.

(6) Commercial demonstration permit.

(a) An owner or operator of an affected facility proposing to demonstrate an emerging technology may apply to the EPA Administrator for a commercial demonstration permit in accordance with section 60.45a, "Commerical demonstration permit," as specified in the Federal Register, Vol. 44, No. 113, June 11, 1979.

(b) An owner or operator of an affected facility that combusts solid solvent refined coal (SRC I) and who is issued a commercial demonstration permit is not subject to the SO_2 emission reduction requirements under 1200-3-16-.03(4)(c) but must, as a minimum, reduce SO_2 emissions to 20 percent of the potential combustion concentration (80 percent reduction) for each 24-hour period of steam generator operation and to less than 520 ng/J (1.20 lb/million Btu) heat input on a 30-day rolling average basis.

(c) An owner or operator of a fluidized bed combustion electric utility steam generator (atmospheric or pressurized) who is issued a commercial demonstration permit is not subject to the SO_2 emissions reduction requirements under 1200-3-16-.03(4)(a) but must, as a minimum, reduce SO_2 emissions to 15 percent of the potential combustion concentration (85 percent reduction) on a 30-day rolling average basis and to less than 520 ng/J (1.20 lb/million Btu) heat input on a 30-day rolling average basis.

(d) The owner or operator of an affected facility that combusts coal-derived liquid fuel and who is issued a commercial demonstration permit is not subject to the applicable NOx emission limitation and percent reduction under 1200-3-16-.03(5)(a) but must, as a minimum, reduce missions to less than 300 ng/J (0.70 lb/million Btu) heat input on a 30-day rolling average basis.

(e) Commerical demonstration permits may not exceed the following equivalent MW electrical generation capacity for any one technology category, and the total equivalent MW electrical generation capacity for all commercial demonstration plants may not exceed 15,000 MW.

Technology	Pollutant	Equivalent electrical capacity (MW electrical output)
Solid solvent refined coal (SRC I)	SO_2	6,000 10,000
Fluidized bed combustion (atmospheric)	SO_2	400-3,000
Fluidized bed combustion (pressurized)	SO_2	400-1,200
Coal liquification	NOx	750-10,000
Total allowable for all technologies		15,000

(7) Compliance provisions.

(a) Compliance with the particulate matter emission limitation under 1200-3-16-.03(3)(a)1 constitutes compliance with the percent reduction requirements for particulate matter under 1200-3-16-.03(2) and (3).

(b) Compliance with the nitrogen oxides emission limitation under 1200-3-16-.03(5)(a) constitutes compliance with the percent reduction requirements under 1200-3-16-.03(5)(a)2.

(c) The particulate matter emission standards under 1200-3-16-.03(3) and the nitrogen oxides emission standards under 1200-3-16-.03(5) apply at all times except during periods of startup, shutdown, or malfunction. The sulfur dioxide emission standards under 1200-3-16-.03(4) apply at all times except during periods of start-up, shutdown, or when both emergency conditions exist and

the procedures under subparagraph (d) of this paragraph are implemented.

(d) During emergency conditions in the principal company, an affected facility with a malfunctioning flue gas desulfurization system may be operated if sulfur dioxide emissions are minimized by:

1. Operating all operable flue gas desulfurization system modules, and bringing back into operation any malfunctioned module as soon as repairs are completed,

2. Bypassing flue gases around only those flue gas desulfurization system modules that have been taken out of operation because they were incapable of any sulfur dioxide emission reduction or which would have suffered significant physical damage if they had remained in operation, and

3. Designing, constructing, and operating a spare flue gas desulfurization system module for an affected facility larger than 365 MW (1,250 million Btu/hr) heat input (approximately 125 MW electrical output capacity). The Technical Secretary may at his discretion require the owner or operator within 60 days of notification to demonstrate spare module capability. To demonstrate this capability, the owner or operator must demonstrate compliance with the appropriate requirements under subparagraphs (a), (b), (d), (e), and (i) under 1200-3-16-.03(4) for any period of operation lasting from 24 hours to 30 days when:

(i) Any one flue gas desulfurization module is not operated,

(ii) The affected facility is operating at the maximum heat input rate,

(iii) The fuel fired during the 24-hour to 30-day period is representative of the type and average sulfur content of fuel used over a typical 30-day period, and

(iv) The owner or operator has given the Technical Secretary at least 30 days notice of the date and period of time over which the demonstration will be performed.

(e) After the initial performance test required under 1200-3-16-.01(5) compliance with the sulfur dioxide emission limitations and percentage reduction requirements under 1200-3-16-.03(4) and the nitrogen oxides emission limitations under 1200-3-16-.03(5) is based on the average emission rate for 30 successive boiler operating days. A separate performance test is completed at the end of each boiler operating day after the initial performance test, and a new 30 day average emission rate for both sulfur dioxide and nitrogen oxides and a new percent reduction for sulfur dioxide are calculated to show compliance with the standards.

(f) For the initial performance test required under 1200-3-16-.01(5), compliance with the sulfur dioxide emission limitations and percent reduction requirements under 1200-3-16-.03(4) and the nitrogen oxides emission limitation under 1200-3-16-.03(5) is based on the average emission rates for sulfur dioxide, nitrogen oxides, and percent reduction for sulfur dioxide for the first 30 successive boiler operating days. The initial performance test is the only test in which at least 30 days prior notice is required unless otherwise specified by the Technical Secretary. The initial performance test is to be scheduled so that the first boiler operating day of the 30 successive boiler operating days is completed within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility.

(g) Compliance is determined by calculating the arithmetic average of all hourly emission rates for SO_2 and NO_x for the 30 successive boiler operating days, except for data obtained during startup, shutdown, malfunction (NO_x only), or emergency conditions (SO_2 only). Compliance with the percentage reduction requirement for SO_2 is determined based on the average inlet and average outlet SO_2 emission rates for the 30 successive boiler operating days.

(h) If an owner or operator has not obtained the minimum quantity of emission data as required under 1200-3-16-.03(8) of this rule, compliance of the affected facility with the emission requirements under 1200-3-16-.03(4) and (5) of this rule for the day on which the 30-day period ends may be determined by the Technical Secretary by following the applicable procedures in sections 6.0 and 7.0 of Reference Method 19 as specified in 1200-3-16-.01(5)(g)19.

(8) Emission monitoring

(a) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous montoring system, and record the output of the system, for measuring the opacity of emissions discharged to the atmosphere, except where gaseous fuel is the only fuel combusted. If opacity interference due to water droplets exists in the stack (for example, from the use of an FGD system), the opacity is monitored upstream of the interference (at the inlet to the FGD system). If opacity interference is experienced at all locations (both at the inlet and outlet of the sulfur dioxide control system), alternate parameters indicative of the particulate matter control system's performance are monitored (subject to the approval of the Technical Secretary).

(b) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring sulfur dioxide emissions, except where natural gas is the only fuel combusted, as follows:

1. Sulfur dioxide emissions are monitored at both the inlet and outlet of the sulfur dioxide control device.

2. For a facility which qualifies under the provisions of 1200-3-16-.03(4)(d), sulfur dioxide emissions are only monitored as discharged to the atmosphere.

3. An "as fired" fuel monitoring system (upstream of coal pulverizers) meeting the requirements of Method 19 may be used to determine potential sulfur dioxide emissions in place of a continuous sulfur dioxide emission monitor at the inlet to the sulfur dioxide control device as required under part (b)1 of this paragraph.

(c) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring nitrogen oxides emissions discharged to the atmosphere.

(d) The owner or operator of an affected facility shall install, calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring the oxygen or carbon dioxide content of the flue gases at each location where sulfur dioxide or nitrogen oxides emissions are monitored.

(e) The continuous monitoring systems under subparagraphs (b), (c), and (d) of this paragraph are operated and data recorded during all periods of operation of the affected facility including periods of startup, shutdown, malfunction, or emergency conditions, except for continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments.

(f) When emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, emission data will be obtained by using other monitoring systems as approved by the Technical Secretary or the reference methods as described in subparagraph (h) of this paragraph to provide emission data for a minimum of 18 hours in at least 22 out of 30 successive boiler operating days.

(g) The 1-hour averages required under 1200-3-16-.01(8)(h) are expressed in ng/J (lbs/million Btu) heat input and used to calculate the average emission rates under 1200-3-16-.03(7). The 1-hour averages are calculated using the data points required under 1200-3-16-.01(8)(b). At least two data points must be used to calculate the 1-hour averages.

(h) Reference methods used to supplement continuous monitoring system data to meet the minimum data requirements in 1200-3-16-.03(8)(f) will be used as specified below or otherwise approved by the Technical Secretary.

1. Reference Methods 3, 6, and 7, as specified in 1200-3-16-.01(5)(g)3, 6, and 7, as applicable are used. The sampling location(s) are the same as those used for the continuous monitoring system.

2. For Method 6, the minimum sampling time is 20 minutes and the minimum sampling volume is 0.02 dscm (0.71 dscf) for each sample. Samples are taken at approximately 60-minute

intervals. Each sample represents a 1-hour average.

3. For Method 7, samples are taken at approximately 30-minute intervals. The arithmetic average of these two consecutive samples represents a 1-hour average.

4. For Method 3, the oxygen or carbon dioxide sample is to be taken for each hour when continuous SO_2 and NOx data are taken or when Methods 6 and 7 are required. Each sample shall be taken for a minimum of 30 minutes in each hour using the integrated bag method specified in Method 3. Each sample represents a 1-hour average.

5. For each 1-hour average, the emissions expressed in ng/J (lb/million Btu) heat input are determined and used as needed to achieve the minimum data requirements of subparagraph (f) of this paragraph.

(i) The following procedures are used to conduct monitoring system performance evaluations under 1200-3-16-.01(8)(c) and calibration checks under 1200-3-16-.01(8)(d).

1. Reference Method 6 or 7, as applicable, is used for conducting performance evaluations of sulfur dioxide and nitrogen oxides continuous monitoring systems.

2. Reserved

3. For affected facilities burning only fossil fuel, the span value for a continuous monitoring system for measuring opacity is between 60 and 80 percent and for a continuous monitoring system measuring nitrogen oxides is determined as follows:

Fossil fuel	Span value for nitrogen oxides (ppm)
Gas	500
Liquid	500
Solid	1,000
Combination	500 (x + y) + 1,000z

where:

x is the fraction of total heat input derived from gaseous fossil fuel,

y is the fraction of total heat input derived from liquid fossil fuel, and

z is the fraction of total heat input derived from solid fossil fuel.

4. All span values computed under subparagraph (b)3 of this paragraph for burning combinations of fossil fuels are rounded to the nearest 500 ppm.

5. For affected facilities burning fossil fuel, alone or in combination with non-fossil fuel, the span value of the sulfur monitoring system at the inlet to the sulfur dioxide control device is 125 percent of the maximum estimated hourly potential emissions of the fuel fired, and the outlet of the sulfur dioxide control device is 50 percent of maximum estimated hourly potential emissions of the fuel fired.

(9) Compliance determination procedures and methods.

(a) The following procedures and reference methods are used to determine compliance with the standards for particulate matter under 1200-3-16-.03(3).

1. Method 3 is used for gas analysis when applying Method 5, 5B, or 17.

2. Method 5, 5B, or 17 is used for determining particulate matter emissions and associated moisture content as follows: Method 5 is to be used at affected facilities without wet FGD

systems; Method 5B is to be used only after wet FGD systems; and Method 17 may be used at facilities with or without wet FGD systems provided that the stack gas temperature at the sampling location does not exceed a temperature of 160°C (320°F). The procedures of sections 2.1 and 2.3 of Method 5B may be used in Method 17 only if it is used after wet FGD systems. Do not use Method 17 after wet FGD systems if the effluent is saturated or laden with water droplets.

3. For Method 5, 5B, or 17, Method 1 is used to select the sampling site and the number of traverse sampling points. The sampling time for each run is at least 120 minutes and the minimum sampling volume is 1.7 dscm (60 dscf) except that small sampling times or volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

4. For Method 5 or 5B the probe and filter holder heating system in the sampling train is set to provide an average gas temperature of 160°C (320°F).

5. For determination of particulate emissions, the oxygen or carbon dioxide sample is obtained simultaneously with each run of Method 5, 5B, or 17 by traversing the duct at the same sampling location. Method 1 is used for selection of the number of oxygen or carbon dioxide traverse points except that no more than 12 sample points are required.

6. For each run using Method 5, 5B, or 17, the emission rate expressed in ng/J heat input is determined using the oxygen or carbon dioxide measurement and particulate matter measurements obtained under this section, the dry basis Fc factor and the dry basis emission rate calculation procedure contained in Method 19 (1200-3-16-.01(5)(g)19).

7. Prior to the Technical Secretary's issuance of a particulate matter reference method that does not experience sulfuric acid mist interference problems, particulate matter emissions may be sampled prior to a wet flue gas desulfurization system.

(b) The following procedures and methods are used to determine compliance with the sulfur dioxide standards under 1200-3-16-.03(4).

1. Determine the percent of potential combustion concentration (percent PCC) emitted to the atmosphere as follows:

(i) Fuel Pretreatment (%Rf): Determine the percent reduction achieved by any fuel pretreatment using the procedures in Method 19. Calculate the average percent reduction for fuel pretreatment on a quarterly basis using fuel analysis data. The determination of percent Rf to calculate the percent of potential combustion concentration emitted to the atmosphere is optional. For purposes of determining compliance with any percent reduction requirements under 1200-3-16-.03(4), any reduction in potential SO_2 emissions resulting from the following processes may be credited:

(I) Fuel pretreatment (physical coal cleaning), hydrodesulfurization of fuel oil, etc.).

(II) Coal pulverizers, and

(III) Bottom and flyash interactions.

(ii) Sulfur Dioxide Control System (%Rg): Determine the percent sulfur dioxide reduction achieved by any sulfur dioxide control system using emission rates measured before and after the control system, following the procedures in Method 19 or, a combination of an "as fired" fuel monitor and emission rates measured after the control system, following the procedures in Method 19. When the "as fired" fuel monitor is used, the percent reduction is calculated using the average emission rate from the sulfur dioxide control device and the average SO_2 input rate from the "as fired" fuel analysis for 30 successive boiler operating days.

(iii) Overall percent reduction (% Ro): Determine the overall percent reduction using the results obtained in subparts (b)1. (i) and (ii) of this paragraph following the procedures in Method 19. Results are calculated for each 30-day period using the quarterly average percent sulfur reduction determined for fuel pretreatment from the previous quarter and the sulfur dioxide reduction achieved by a sulfur dioxide control system for each 30-day period in the current quarter.

(iv) Percent emitted (% PCC): Calculate the percent of potential combustion concentration emitted to the atmosphere using the following equation: Percent PCC = 100 - Percent Ro.

2. Determine the sulfur dioxide emission rates following the procedures in Method 19.

(c) The procedures and methods outlined in Method 19 are used in conjunction with the 30-day nitrogen oxides emission data collected under 1200-3-16-.03(8) to determine compliance with the applicable nitrogen oxides standard under 1200-3-16-.03(5).

(d) Electric utility combined cycle gas turbines are performance tested for particulate matter, sulfur dioxide, and nitrogen oxides using Method 19. The sulfur dioxide and nitrogen oxides emission rates from the gas turbine used in Method 19 calculations are determined when the gas turbine is performance tested under 1200-3-16-.31. The potential uncontrolled particulate matter emission rate from a gas turbine is defined as 17 ng/J (0.04 lb/million Btu) heat input.

(10) Reporting Requirements.

(a) For sulfur dioxide, nitrogen oxides, and particulate matter emissions, the performance test data from the initial performance test and from the performance evaluation of the continuous monitors (including the transmissometer) are submitted to the Technical Secretary.

(b) For sulfur dioxide and nitrogen oxides the following information is reported to the Technical Secretary for each 24-hour period.

1. Calendar date.

2. The average sulfur dioxide and nitrogen oxide emission rates (ng/J or lb/million Btu) for each 30 successive boiler operating days, ending with the last 30-day period in the quarter; reasons for non-compliance with the emission standards; and description of corrective actions taken.

3. Percent reduction of the potential combustion concentration of sulfur dioxide for each 30 successive boiler operating days, ending with the last 30-day period in the quarter; reasons for non-compliance with the standard; and description of corrective actions taken.

4. Identification of the boiler operating days for which pollutant or dilutent data have not been obtained by an approved method for at least 18 hours of operation of the facility; justification for not obtaining sufficient data; and description of corrective actions taken.

5. Identification of the times when emissions data have been excluded from the calculation of average emission rates because of startup, shutdown, malfunction (NO_x only), emergency conditions (SO_2 only), or other reasons, and justification for excluding data for reasons other than startup, shutdown, malfunction, or emergency conditions.

6. Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.

7. Identification of times when hourly averages have been obtained based on manual sampling methods.

8. Identification of the times when the pollutant concentration exceeded full span of the continuous monitoring system.

9. Description of any modifications to the continuous monitoring system which could affect the ability of the continuous monitoring system to comply with Performance Specifications 2 or 3.

(c) If the minimum quantity of emission data as required by 1200-3-16-.03(8) is not obtained for any 30 successive boiler operating days, the following information obtained under the requirements of 1200-3-16-.03(7)(h) is reported to the Technical Secretary for that 30-day period:

1. The number of hourly averages available for outlet emission rates (no) and inlet emission rates (ni) as applicable.

2. The standard deviation of hourly averages for outlet emission rates (so) and inlet emission rates (si) as applicable.

3. The lower confidence limit for the mean outlet emission rate (Eo*) and the upper confidence limit for the mean inlet emission rate (Ei*) as applicable.

4. The applicable potential combustion concentration.

5. The ratio of the upper confidence limit for the mean outlet emission rate (Eo*) and the allowable emission rate (Estd) as applicable.

(d) If any standards under 1200-3-16-.03(4) are exceeded during emergency conditions because of control system malfunction, the owner or operator of the affected facility shall submit a signed statement:

1. Indicating if emergency conditions existed and requirements under 1200-3-16-.03(7)(d) were met during each period and

2. Listing the following information:

(i) Time periods the emergency condition existed;

(ii) Electrical output and demand on the owner or operator's electric utility system and the affected facility;

(iii) Amount of power purchased from interconnected neighboring utility companies during the emergency period;

(iv) Percent reduction in emissions achieved;

(v) Atmospheric emission rate (ng/J) of the pollutant discharged; and

(vi) Actions taken to correct control system malfunction.

(e) If fuel pretreatment credit toward the sulfur dioxide emission standard under 1200-3-16-.03(4) is claimed, the owner or operator of the affected facility shall submit a signed statement:

1. Indicating what percentage cleaning credit was taken for the calendar quarter, and whether the credit was determined in accordance with the provisions of 1200-3-16-.03(9) and Method 19; and

2. Listing the quantity, heat content, and date each pretreated fuel shipment was received during the previous quarter; the name and location of the fuel pretreatment facility; and the total quantity and total heat content of all fuels received at the affected facility during the previous quarter.

(f) For any periods for which opacity, sulfur dioxide, or nitrogen oxides emissions data are not available, the owner or operator of the affected facility shall submit a signed statement indicating if any changes were made in operation of the emission control system during the period of data unavailability. Operations of the control system and affected facility during periods of data

unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.

(g) The owner or operator of the affected facility shall submit a signed statement indicating whether:

1. The required continuous monitoring system calibration, span, and drift checks or other periodic audits have or have not been performed as specified.

2. The data used to show compliance was or was not obtained in accordance with approved methods and procedures of this part and is representative of plant performance.

3. The minimum data requirements have or have not been met; or the minimum data requirements have not been met for errors that were unavoidable.

4. Compliance with the standards has or has not been achieved during the reporting period.

(h) For the purposes of the reports required under 1200-3-16-.01(7), periods of excess emissions are defined as all 6-minute periods during which the average opacity exceeds the applicable opacity standards under 1200-3-16-.03(3)(b). Opacity levels in excess of the applicable opacity standard and the date of such excesses are to be submitted to the Technical Secretary each calendar quarter.

(i) The owner or operator of an affected facility shall submit the written reports required under this paragraph and rule 1200-3-16-.01 to the Technical Secretary for every calendar quarter. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.04 Incinerators

(1) Applicability and designation of affected facility

The provisions of this rule are applicable to each incinerator of more than 50 tons per day charging rate, commenced on or after April 3, 1972, which is the affected facility.

(2) Definitions

(a) "Incinerator" means any furnace used in the process of burning solid waste for the purpose of reducing the volume of the waste by removing combustible matter.

(b) "Solid waste" means refuse, more than 50 percent of which is municipal type waste consisting of a mixture of paper, wood, yard wastes, food wastes, plastic, leather, rubber, and other combustibles, and noncombustible materials such as glass and rock.

(c) "Day" means 24 hours.

(d) "Particulate matter" means any finely divided liquid or solid material, other than uncombined water, as measured by methods specified by the Technical Secretary.

(3) Standard for particulate matter

On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere of particulate matter which is in excess of 0.18 g/dscm (0.08 gr/dscf) corrected to 12 percent CO_2.

(4) Monitoring of operations

The owner or operator of any incinerator of more than forty-five (45) metric tons per day charging rate (50 tons per day) subject to the provisions of this rule shall record the daily charging rates and hours of operation.

(5) Test methods and procedures

(a) The sampling time for each particulate run shall be at least sixty (60) minutes and the minimum sample volume shall be 0.85 dscm (30 dscf) except that smaller sampling times or sample volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

(b) If a wet scrubber is used, the gas analysis sample shall reflect flue gas conditions after the scrubber, allowing for carbon dioxide absorption by sampling the gas on the scrubber inlet and outlet sides according to either the procedure under parts 1 through 5 of this subparagraph or the procedure under parts 1, 2, and 6 of this subparagraph as follows:

1. The outlet sampling site shall be the same as for the particulate matter measurement. The inlet site shall be selected according to a method specified by the Technical Secretary.

2. Randomly select nine (9) sampling points within the cross-section at both the inlet and outlet sampling sites. Use of the first set of three for the first run, the second set for the second run, and the third set for the third run.

3. Simultaneously with each particulate matter run, extract and analyze for CO_2 an integrated gas sample, traversing the three (3) sample points and sampling at each point for equal increments of time. Conduct the runs at both inlet and outlet sampling sites.

4. Measure the volumetric flow rate at the inlet during each particulate matter run using the full number of traverse points. For the inlet make two (2) full velocity traverses approximately one (1) hour apart during each run and average the results. The outlet volumetric flow rate may be determined from the particulate matter run.

5. Calculate the adjusted CO_2 percentage using the following equation:

$(\%CO_2)$ adj = $(\%CO_2)$ di (Qdi/Qdo)

where:

$(\%CO_2)$ adj is the adjusted CO_2 percentage which removes the effect of CO_2 absorption and dilution air.

$(\%CO_2)$ di is the percentage of CO_2 measured before the scrubber, dry basis.

Qdi is the volumetric flow rate before the scrubber, average of two (2) runs, dscf/min, and

Qdo is the volumetric flow rate after the scrubber, dscf/min.

6. Alternatively, the following procedures may be substituted for the procedures under parts 3, 4, and 5 of this subparagraph.

(i) Simultaneously with each particulate matter run, extract and analyze for CO_2, O_2, and N_2 an integrated gas sample, traversing the three (3) sample points and sampling for equal increments of time at each point. Conduct the runs at both the inlet and outlet sampling sites.

(ii) After completing the analysis of the gas sample, calculate the percentage of excess air (%EA) for both the inlet and outlet sampling stations.

$$\%EA = \left[\frac{\%\ O_2 - 0.5\%\ CO}{0.264\%\ N_2 - \left(\%0_2 - 0.5\%\ CO\right)}\right] x\ 100$$

Where:

%EA = Percent excess air

$\%O_2$ = Percent oxygen by volume, dry basis

%CO = Percent carbon monoxide by volume, dry basis

%N = Percent nitrogen by volume, dry basis

0.264 = Ratio of oxygen to nitrogen in air by volume.

(iii) Calculate the adjusted CO_2 percentage using the following equation:

$$(\%CO_2)adj = (\%CO_2)di \frac{100 + (\%EA)i}{100 + (\%EA)o}$$

Where:

$(\%CO_2)adj$ is the adjusted outlet CO_2 percentage,

$(\%CO_2)di$ is the percentage of CO_2 measured before the scrubber, dry basis,

(%EA)i is the percentage of excess air at the inlet, and

(%EA)o is the percentage of excess air at the outlet.

(c) Particulate matter emissions, expressed in g/dscm, shall be corrected to twelve (12) percent CO_2 by using the following formula:

$$c12 = c\left(\frac{12}{\%CO}\right)$$

where:

c12 is the concentration of particulate matter corrected to twelve (12) percent CO_2,

c is the concentration of particulate matter, and

$\%CO_2$ is the percentage of measured CO_2 or when applicable, the adjusted outlet CO_2 percentage as determined by Method 3 in subparagraph .01 (5)(g) of this chapter or by subparagraph (b) of this paragraph.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.05 Portland Cement Plants

(1) Applicability

The provisions of this rule shall apply to the affected facilities commenced on or after April 3, 1972, in Portland cement plants as follows: kiln, clinker cooler, raw mill system, finish mill system, raw mill dryer, raw material storage, clinker storage, finished product storage, conveyor transfer points, bagging and bulk loading, and unloading systems.

(2) "Portland Cement Plant" means any facility manufacturing portland cement by either the wet or dry process.

(3) Standards for particulate matter and opacity

(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any kiln any gases which:

1. Contain particulate matter in excess of 0.15 kg per metric ton of feed (dry basis) to the kiln (0.30 lb. per ton).

2. Exhibit greater than twenty (20) percent opacity.

(b) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any clinker cooler any gases which:

1. Contain particulate matter in excess of 0.050 kg per metric ton of feed (dry basis) to the kiln (0.10 lb. per ton).

2. Exhibit twenty (20) percent opacity, or greater.

(c) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this part shall cause to be discharged into the atmosphere from any affected facility other than the kiln any gases which exhibit ten (10) percent opacity, or greater.

(4) Monitoring of operations

The owner or operator of any portland cement plant subject to the provisions of this rule shall record the daily production rates and kiln feed rates.

(5) Test methods and procedures

(a) For determination of particulates, the minimum sampling time and minimum sample volume for each run, except when process variables or other factors justify otherwise to the satisfaction of the Technical Secretary shall be as follows:

1. Sixty (60) minutes and 0.85 dscm (30.0 dscf) for the kiln.

2. Sixty (60) minutes and 1.15 dscm (40.6 dscf) for the clinker cooler.

(b) Total kiln feed rate (except fuels), expressed in metric tons per hour on a dry basis, shall be determined during each testing period by suitable methods; and shall be confirmed by a material balance over the production system.

(c) For each run, particulate matter emissions expressed in g/metric ton of kiln feed, shall be determined by dividing the emission rate in g/hr by the kiln feed rate. The emission rate shall be determined by the equation, g/hr = Qs x c, where Qs = volumetric flow rate of the total effluent in dscm/hr, and c=particulate concentration in g/dscm.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.06 Sulfuric Acid Plants

(1) Applicability

The provisions of this rule shall apply to each sulfuric acid production unit commenced on or after April 3, 1972, which is the affected facility.

(2) Definitions

(a) "Sulfuric acid production unit" means any facility producing sulfuric acid by the contact process by burning elemental sulfur, alkylation acid, hydrogen sulfide, organic sulfides and mercaptans, or acid sludge, but does not include facilities where conversion to sulfuric acid is utilized primarily as a means of preventing emissions to the atmosphere of sulfur dioxide or other sulfur compounds.

(b) "Acid mist" means sulfuric acid mist, as measured by test methods specified in subparagraph .01

(5)(g) of this chapter.

(3) Standard for sulfur dioxide

On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain sulfur dioxide in excess of 2 kg per metric ton of acid produced (4 lbs/ton), the production being expressed as 100 percent H_2SO_4.

(4) Standard for acid mist and opacity

On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which:

(a) Contain acid mist, expressed as H_2SO_4 in excess of 0.075 kg per metric ton of acid produced (0.15 lb per ton), the production being expressed as 100 percent H_2SO_4.

(b) Exhibit ten (10) percent opacity, or greater.

(5) Emission Monitoring

(a) A continuous monitoring system for the measurement of sulfur dioxide shall be installed, calibrated, maintained, and operated by the owner or operator. The pollutant gas used to prepare calibration gas mixtures under paragraph 2.1, Performance Specification 2, Appendix B, Federal Register, Vol. 40, No. 194, and for calibration checks under subparagraph .01(8)(d) of this chapter, shall be sulfur dioxide (SO_2). The method for sulfuric acid mist and sulfur dioxide specified by paragraph .01(5) of this chapter shall be used for conducting monitoring system performance evaluations under subparagraph .01(8)(c) of this chapter, except that only the sulfur dioxide portion of the specified method results shall be used. The span shall be set at 1000 ppm of sulfur dioxide.

(b) The owner or operator shall establish a conversion factor for the purpose of converting monitoring data into units of the standard (kg/metric ton, lb/short ton). The conversion factor shall be determined, as a minimum, three times daily by measuring the concentration of sulfur dioxide entering the converter using suitable methods (e.g., the Reich test, National Air Pollution Control Administration Publication No. 999-AP-13) and calculating the appropriate conversion factor for each eight-hour period as follows:

$$CF = k\left[\frac{(1.000 - 0.015r)}{(r - s)}\right]$$

where:

CF = conversion factor (kg/metric ton per ppm, lb/short ton per ppm).

k = constant derived from material balance. For determining CF in metric units, k = 0.0653. For determining CF in English units, k = 0.1306.

r = percentage of sulfur dioxide by volume entering the gas converter. Appropriate corrections must be made for air injection plants subject to the Technical Secretary's approval.

s = percentage of sulfur dioxide by volume in the emissions to the atmosphere determined by the continuous monitoring system required under subparagraph (a) of this paragraph.

(c) The owner or operator shall record all conversion factors and values under subparagraph (b) of this paragraph from which they were computed (i.e., CF, r, and s).

(d) For the purpose of reports under subparagraph .01(7)(c) of this chapter, periods of excess

emissions shall be all three-hour periods (or the arithmetic average of three consecutive one-hour periods) during which the integrated average sulfur dioxide emissions exceed the applicable standards under paragraph (3).

(6) Test methods and procedures:

(a) The moisture content can be considered to be zero. For determination of sulfur dioxide and acid mist the sampling time for each run shall be at least sixty (60) minutes and the minimum sample volume shall be 1.15 dscm (40.6 dscf) except that smaller sampling times or sample volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

(b) Acid production rate, expressed in metric tons per hour of 100 percent H_2SO_4, shall be determined during each testing period by suitable methods and shall be confirmed by a material balance over the production system.

(c) Acid mist and sulfur dioxide emissions, expressed in g/metric ton of 100 percent H_2SO_4, shall be determined by dividing the emission rate in g/hr by the acid production rate. The emission rate shall be determined by the equation, g/hr = Qs x c, where Qs = volumetric flow rate of the effluent in dscm/hr as determined in accordance with paragraph .01(5) of this chapter and c = acid mist and SO_2 concentrations in g/dscm as determined in accordance with paragraph .01(5) of this chapter.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.07 Nitric Acid Plants

(1) Applicability

The provisions of this rule shall apply to each nitric acid production unit commenced on or after April 3, 1972, which is the affected facility.

(2) Definitions

(a) "Nitric acid production unit" means any facility producing weak nitric acid by either the pressure or atmospheric pressure process.

(b) "Weak acid production unit" means acid which is thirty (30) to seventy (70) percent in strength.

(3) Standards for nitrogen oxides and opacity

On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which:

(a) Contain nitrogen oxides, expressed as NO_2, in excess of 1.5 kg per metric ton of acid produced (3.0 lb. per ton), the production being expressed as 100 percent nitric acid.

(b) Exhibit ten (10) percent opacity, or greater.

(4) Emission Monitoring

(a) A continuous monitoring system for the measurement of nitrogen oxides shall be installed, calibrated, maintained, and operated by the owner or operator. The pollutant gas used to prepare calibration gas mixtures under paragraph 2.1, Performance Specification 2, Appendix B, Federal Register, Vol. 40, No. 194, and for calibration checks under subparagraph .01(8)(d) of this chapter, shall be nitrogen dioxide (NO_2). The span shall be set at 500 ppm of nitrogen dioxide. The method for nitrogen oxides specified in accordance with the provisions of paragraph .01(5) of this chapter shall be used for conducting monitoring system performance evaluations under subparagraph .01(8)(c) of this chapter.

(b) The owner or operator shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/short ton). The conversion factor shall

be established by measuring emissions with the continuous monitoring system concurrent with measuring emissions with the applicable reference method tests. Using only that portion of the continuous monitoring emission data that represents emission measurements concurrent with the reference method test periods, the conversion factor shall be determined by dividing the reference method test data averages by the monitoring data averages to obtain a ratio expressed in units of the applicable standard to units of the monitoring data, i.e., kg/metric ton per ppm (lb/short ton per ppm). The conversion factor shall be re-established during any performance test under paragraph .01(5) of this chapter or any other continuous monitoring system performance evaluation under subparagraph .01(8)(c) of this chapter.

(c) The owner or operator shall record the daily production rate and hours of operation.

(d) For the purpose of reports required under subparagraph .01(7)(c) of this chapter, periods of excess emissions that shall be reported are defined as any three-hour period during which the average nitrogen oxides emissions (arithmetic average of three contiguous one-hour periods) as measured by a continuous monitoring system exceed the standard under paragraph (3) of this rule.

(5) Test methods and procedures

(a) The sampling point for nitrogen oxides shall be the centroid of the stack or duct if the cross section area is less than 50 ft^2 or at a point no closer to the walls than 1 m (3.28 ft), if the area is 50 ft^2 or greater. Each run shall consist of at least four (4) grab samples taken at approximately fifteen (15) minute intervals. The arithmetic mean of the samples shall constitute the run value. A velocity traverse shall be performed once per run.

(b) Acid production rate, expressed in metric tons per hour of 100 percent nitric acid, shall be determined during each testing period by suitable methods and shall be confirmed by a material balance over the production system.

(c) For each run, nitrogen oxides, expressed in g/metric ton of 100 percent nitric acid, shall be determined by dividing the emission rate in g/hr by the acid production rate. The emission rate shall be determined by the equation:

g/hr = Qs x c

Where:

Qs = volumetric flow rate of the effluent in dscm/hr, and

c = NOx concentration in g/dscm.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.08 Hot Mix Asphalt Facilities

(1) Applicability

The provisions of this rule shall apply to each Hot Mix Asphalt facility commenced on or after April 21, 1976, which is the affected facility. For the purpose of this rule, a hot mix asphalt facility is comprised only of any combination of the following: dryers; systems for screening, handling, storing and weighing hot aggregate; systems for loading, transferring, and storing mineral filler; systems for mixing hot mix asphalt; and the loading, transfer and storage systems associated with emission control systems.

(2) Definitions

"Hot Mix Asphalt Facility" means any facility, as described in paragraph (1) of this rule, used to manufacture hot mix asphalt by heating and drying aggregate and mixing with asphalt cements.

(3) Standards for particulate matter and opacity. On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any affected facility

any gases which:

(a) Contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf).

(b) Exhibit twenty (20) percent opacity, or greater.

(4) Test methods and procedures.

For determination of concentration of particulate matter, the sampling time for each run shall be at least sixty (60) minutes and the sampling rate shall be at least 0.9 dscm/hr (0.53 dscf/min) except that shorter sampling time, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.09 Petroleum Refineries

(1) Applicability

(a) The provisions of this rule are applicable to the following affected facilities in petroleum refineries: fluid catalytic cracking unit catalyst regnerators, fuel gas combustion devices, and all Claus sulfur recovery plants except Claus plants of 20 long tons per day (LTD) or less. The Claus sulfur recovery plant need not be physically located within the boundaries of a petroleum refinery to be an affected facility, provided it processes gases produced within a petroleum refinery.

(b) Any fluid catalytic cracking unit catalyst regenerator or fuel gas combustion device under subparagraph (a) of this paragraph which commences construction or modification after April 21, 1976 or any Claus sulfur recovery plant under subparagraph (a) of this paragraph which commences construction or modification after November 6, 1988 is subject to the requirements of this rule.

(2) Definitions

(a) "Petroleum refinery" means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of petroleum or through redistillation, cracking or reforming of unfinished petroleum derivatives.

(b) "Petroleum" means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

(c) "Process gas" means any gas generated by a petroleum refinery process unit, except fuel gas and process upset gas as defined in this paragraph.

(d) "Fuel gas" means any gas which is generated by a petroleum refinery process unit and which is combusted, including any gaseous mixture of natural gas and fuel gas which is combusted.

(e) "Process upset gas" means any gas generated by a petroleum refinery process unit as a result of start-up, shut-down, upset or malfunction.

(f) "Refinery process unit" means any segment of the petroleum refinery in which a specific processing operation is conducted.

(g) "Fuel gas combustion device" means any equipment, such as process heaters, boilers and flares used to combust fuel gas, but does not include fluid coking unit and fluid catalytic cracking unit incinerator-waste heat boilers or facilities in which gases are combusted to produce sulfur or sulfuric acid.

(h) "Coke burn-off" means the coke removed from the surface of the fluid catalytic cracking unit catalyst by combustion in the catalyst regenerator. The rate of coke burn-off is calculated by a formula specified in 1200-3-16-.09(7)(a)(4).

(i) "Claus sulfur recovery plant" means a process unit which recovers sulfur from hydrogen sulfide by a vapor-phase catalytic reaction of sulfur dioxide and hydrogen sulfide.

(j) "Oxidation control system" means an emission control system which reduces emissions from sulfur recovery plants by converting these emissions to sulfur dioxide.

(k) "Reduction control system" means an emission control system which reduces emissions from sulfur recovery plants by converting these emissions to hydrogen sulfide.

(l) "Reduced sulfur compounds" means hydrogen sulfide (H_2S), carbonyl sulfide (COS) and carbon disulfide (CS_2).

(m) Reserved

(3) Standards for particulate matter and opacity

(a) On and after the date on which the performance test required to be conducted by 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any fluid catalytic cracking unit catalyst regenerator or from any fluid catalytic cracking unit regenerator:

1. Particulate matter in excess of 1.0 kg/1000 kg (1.0 lb/1000 lb) of coke burn-off in the catalyst regenerator.

2. Gases exhibiting thirty (30) percent opacity or greater, except for six (6) minutes in any one (1) hour.

(b) Where gases discharged by the fluid catalytic cracking unit catalyst regenerator pass through an incinerator or waste heat boiler in which auxiliary liquid or solid fossil fuel is burned, particulate matter in excess of that permitted by part (a)1 of this paragraph may be emitted to the atmosphere, except that the incremental rate of particulate emissions shall not exceed 0.043 g/MJ (0.10 lb/million Btu) of heat input attributable to such liquid or solid fossil fuel.

(4) Standard for carbon monoxide

On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from the fluid catalytic cracking unit catalyst regenerator any gases which contain carbon monoxide in excess of 0.050 percent by volume.

(5) Standard for sulfur dioxide

(a) On and after the date on which the performance test required to be conducted by 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this paragraph shall:

1. Burn in any fuel gas combustion device any fuel gas which contains hydrogen sulfide in excess of 230 mg/dscm (0.10 gr/dscf), except that the gases resulting from the combustion of fuel gas may be treated to control sulfur dioxide emissions provided the owner or operator demonstrates to the satisfaction of the Technical Secretary that this is as effective in preventing sulfur dioxide emissions to the atmosphere as restricting the H_2S concentration in the fuel gas to 230 mg/dscm or less. The combustion in a flare of process upset gas, or fuel gas which is released to the flare as a result of relief valve leakage, is exempt from this subparagraph.

2. Discharge or cause the discharge of any gases into the atmosphere from any Claus sulfur recovery plant containing in excess of:

(i) 0.025 percent by volume of sulfur dioxide at zero percent oxygen on a dry basis if emissions are controlled by a oxidation control system, or a reduction control system followed by incineration, or

(ii) 0.030 percent by volume of reduced sulfur compounds and 0.0010 percent by volume of hydrogen sulfide calculated as sulfur dioxide at zero percent oxygen on a dry basis if emissions are controlled by a reduction control system not followed by incineration.

(b) Reserved

(6) Emission monitoring

(a) Continuous monitoring systems shall be installed, calibrated, maintained, and operated by the owner or operator as follows:

1. A continuous monitoring system for the measurement of the opacity of emissions discharged into the atmosphere from the fluid catalytic cracking unit catalyst regenerator. The continuous monitoring system shall be spanned at 60, 70, or 80 percent opacity.

2. An instrument for continuously monitoring and recording the concentration of carbon monoxide in gases discharged into the atmosphere from fluid catalytic cracking unit catalyst regenerators. The span value of this continuous monitoring system shall be 1,000 ppm. Installation of carbon monoxide (CO) continuous monitoring systems is not required if the owner or operator files a written request for exemption to the Technical Secretary and demonstrates, by the exemption performance test described below, that the average CO emissions are less than 10 percent of the applicable standard listed in paragraph (4) of this rule. The exemption performance test shall consist of continuously monitoring CO emissions for 30 days using an instrument that meets the requirements of Performance Specification 4 as specified in the Federal Register, Vol. 50, No. 150, August 5, 1985, pp. 31701-31702, except the span value shall be 100 ppm instead of 1,000 ppm, and if required, the relative accuracy limit shall be 10 percent or 5 ppm, whichever is greater.

3. A continuous monitoring system for the measurement of sulfur dioxide in the gases discharged into the atmosphere from the combustion of fuel gases (except where a continuous monitoring system for the measurement of hydrogen sulfide is installed as specified under part (a)4 of this paragraph). The pollutant gas used to prepare calibration gas mixtures under paragraph 2.1, Performance Specifications 2 and Appendix B, Federal Register, Vol. 40, No. 194, and for calibration checks under subparagraph .01(8)(d) of this chapter, shall be sulfur dioxide (SO_2). The span shall be set at 100 ppm. For conducting monitoring system performance evaluations under subparagraph .01(8)(c) of this chapter, the method for sulfur dioxide specified in accordance with paragraph .01(5) of this chapter shall be used.

4. An instrument for continuously monitoring and recording concentrations of hydrogen sulfide in fuel gases burned in any fuel gas combustion device if compliance with part 1200-3-16-.09(5)(a)1 is achieved by removing H_2S from the fuel gas before it is burned; fuel gas combustion devices having a common source of fuel may be monitored at one location, if monitoring at this location accurately represents the concentration of H_2S in the fuel gas burned. The span of this continuous monitoring system shall be 300 ppm.

5. An instrument for continuously monitoring and recording concentrations of SO_2 in the gases discharged into the atmosphere from any Claus sulfur recovery plant if compliance with part 1200-3-16-.09(5)(a)2 is achieved through the use of an oxidation control system or a reduction control system followed by incineration. The span of this continuous monitoring system shall be set at 500 ppm.

6. An instrument(s) for continuously monitoring and recording the concentration of H_2S and reduced sulfur compounds in the gases discharged into the atmosphere from any Claus sulfur recovery plant if compliance with part 1200-3-16-.09(5)(a)2 is achieved through the use of a reduction control system not followed by incineration. The span(s) of this continuous monitoring system(s) shall be set at 20 ppm for monitoring and recording the concentration of H_2S and 600 ppm for monitoring and recording the concentration of reduced sulfur compounds.

(b) Reserved

(c) The average coke burn-off rate (thousands of kilogram/hr) and hours of operation for any fluid catalytic cracking unit catalyst regenerator subject to paragraphs (3) and (4) of this rule shall be recorded daily.

(d) For any fluid catalytic cracking unit catalyst regenerator which is subject to paragraph (3) of this rule and which utilizes an incinerator waste heat boiler to combust the exhaust gases from the catalyst regenerator, the owner or operator shall record daily the rate of combustion of liquid or solid fossil fuels (liters/hr or kilograms/hr) and the hours of operation during which liquid or solid fossil fuels are combusted in the incinerator waste heat boiler.

(e) For the purpose of reports under subparagraph .01 (7)(c) of this chapter periods of excess emissions that shall be reported are defined as follows:

1. Opacity

All one-hour periods which contain two or more six-minute periods during which the average opacity as measured by the continuous monitoring system exceeds 30 percent.

2. Carbon monoxide

All hourly periods during which the average carbon monoxide concentration in the gases discharged into the atmosphere from any fluid catalyltic cracking unit catalyst regenerator subject to paragraph 1200-3-16-.09(4) exceeds 0.050 percent by volume.

3. Sulfur dioxide

(i) Any three-hour period during which the average concentration of H_2S in any fuel gas combusted in any fuel gas combustion device subject to part 1200-3-16-.09(5)(a)1 exceeds 230 mg/dscm (0.10 gr/dscf), if compliance is achieved by removing H_2S from the fuel gas before it is burned; or any three-hour period during which the average concentration of SO_2 in the gases discharged into the atmosphere from any fuel gas combustion device subject to part 1200-3-16-.09(5)(a)1 exceeds the level specified in part 1200-3-16-.09(5)(a)1, if compliance is achieved by removing SO_2 from the combusted fuel gases.

(ii) Any twelve-hour period during which the average concentration of SO_2 in the gases discharged into the atmosphere from any Claus sulfur recovery plant subject to part 1200-3-16-.09(5)(a)2 exceeds 250 ppm at zero percent oxygen on a dry basis if compliance with subparagraph 1200-3-16-.09(5)(a)2 is achieved through the use of an oxidation control system or a reduction control system followed by incineration; or any twelve-hour period during which the average concentration of H_2S, or reduced sulfur compounds in the gases discharged into the atmosphere of any Claus sulfur plant subject to part 1200-3-16-.09(5)(a)2 exceeds 10 ppm or 300 ppm, respectively, at zero percent oxygen and on a dry basis if compliance is achieved through the use of a reduction control system not followed by incineration.

4. Any six-hour period during which the average emissions (arithmetic average of six contiguous one-hour periods) of sulfur dioxide as measured by a continuous monitoring system exceed the standard under 1200-3-16-.09(5).

(7) Test Methods and Procedures

(a) For the purpose of determining compliance with 1200-3-16-.09(3)(a)1, the following reference methods and calculation procedures shall be used:

1. For gases released to the atmosphere from the fluid catalytic cracking unit catalyst regenerator:

(i) Method 5B or 5F as specified in rule 1200-3-16.01(5)(g) is to be used to determine particulate matter emissions and associated moisture content from affected facilities without wet FGD systems; only Method 5B is to be used after wet FGD systems.

(ii) Method 1 for sample and velocity traverses, and

(iii) Method 2 for velocity and volumetric flow rate.

2. For Method 5B or 5F, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.015 dscm/min (0.53 dscf/min), except that shorter sampling times may be approved by the Technical Secretary when process variables or other factors preclude sampling for at least 60 minutes.

3. For exhaust gases from the fluid catalytic cracking unit catalyst regenerator prior to the emission control system: the integrated sample techniques of Methods 3 and 4 of subparagraph .01(5)(g) of this chapter for gas analysis and moisture content determination respectively; Method 1 for velocity traverses; and Method 2 for velocity and volumetric flow rate shall be used.

4. Coke burn-off rate shall be determined by the following formula:

$$Rc = 0.2982\ Qre\ (\%CO_2+\%CO) + 2.088\ Qra - 0.0994\ Qre\ \frac{(\%CO + \%CO_2+\%O_2)}{2}\ \text{(Metric Units)}$$

or

$$Rc = 0.0186\ Qre\ (\%CO_2 + \%CO)+0.1303\ Qra - 0.0062\ Qre\ \frac{(\%CO + \%CO_2 + \%O_2)}{2}\ \text{(English Units)}$$

where:

Rc = coke burn-off rate, kg/hr (English units: lb/hr).

0.2982 = metric units material balance factor divided by 100, kg-min/hr-m^3.

0.0186 = English units material balance factor divided by 100, lb-min/hr-ft^3.

Qre = fluid catalytic cracking unit catalyst regenerator exhaust gas flow rate before entering the emission control system, as determined by Method 2, subparagraph .01(5)(g) of this chapter, dscm/min (English units: dscf/min).

$\%CO_2$ = percent carbon dioxide by volume, dry basis, as determined by Method 3, subparagraph .01(5)(g) of this chapter.

$\%O_2$ = percent oxygen by volume dry basis, as determined by Method 3, subparagraph .01(5)(g) of this chapter.

2.088 = metric units material balance factor divided by 100, kg-min/hr-m^3.

0.1303 = English units material balance factor divided by 100, lb-min/hr-ft^3.

Qra = air rate to fluid catalytic cracking unit catalyst regenerator, as determined from fluid catalytic cracking unit control room instrumentation. dscm/min (English units:dscf/min).

0.0094 = metric units material balance factor divided by 100, kg-min/hr-m^3.

0.0062 = English units material balance factor divided by 100, lb-min/hr-ft^3.

%CO = Percent carbon monoxide by volume, dry basis, as determined by Method

3, subparagraph .01(5)(g) of this chapter.

5. Particulate emissions shall be determined by the following equation:

Re = (60 x 10-6) QrvCs (Metric Units)

or

Re = (8.57 x 10-3) QrvCs (English Units)

where:

Re = particulate emission rate, kg/hr (English units: lb/hr)

60×10^{-6} = Metric units conversion factor, min-kg/hr-mg

8.57×10^{-3} = English units conversion factor, min-lb/hr-gr

Qrv = volumetric flow rate of gases discharged into the atmosphere from the fluid catalytic cracking unit catalyst regenerator following the emission control system, as determined by Method 2, dscm/min. (English units: dscf/min).

Cs = particulate emission concentration discharged into the atmosphere, as determined by Method 5, mg/dscm (English units: gr/dscf).

6. For each run, emissions expressed in kg/1000 kg (English units: lb/1000 lb) of coke burn-off in the catalyst regenerator shall be determined by the following equation:

Rs = 1000 Re/Rc (Metric or English Units)

where:

Rs = Particulate emission rate, kg/1000 kg, (English units: lb/1000 lb) of coke burn-off in the fluid catalytic cracking unit catalyst regenerator.

1000 = conversion factor, kg to 1000 kg (English units: lb to 1000 lb).

Re = particulate emission rate, kg/hr. (English units: lb/hr).

Rc = coke burn-off rate, kg/hr (English units: lb/hr).

7. In those instances in which auxiliary liquid or solid fossil fuels are burned in an incinerator-waste heat boiler, the rate of particulate matter emission permitted under subparagraph (3)(b) of this rule must be determined. Auxiliary fuel heat input expressed in millions of cal/hr (English units: Millions of Btu/hr) shall be calculated for each run by fuel flow rate measurement and analysis of the liquid or solid fossil auxiliary fuels. For each run, the rate of particulate emissions permitted under subparagraph (3)(b) of this rule shall be calculated from the following equation:

$$Rs = 1.0 + \frac{0.18\ H}{Rc}\ \text{(Metric Units)}$$

or

$$Rs = 1.0 + \frac{0.10\ H}{Rc}\ \text{(English Units)}$$

where:

Rs = allowable particulate emission rate, kg/1000 kg (Englishunits: lb/1000 lb) of coke burn-off in the fluid catalytic cracking unit catalyst regenerator.

1.0 = emission standard, 1.0 kg/1000 kg (English units: 1.0 lb/1000 lb) of coke burn-off in the fluid catalytic cracking unit catalyst regenerator.

0.18 = metric units maximum allowable incremental rate of particulate emissions, g/million cal.

0.10 = English units maximum allowable incremental rate of particulate emissions, lb/million Btu.

H = heat input from solid or liquid fossil fuel, million cal/hr (English units: million Btu/hr).

Rc = coke burn-off rate, kg/hr (English units: lb/hr).

(b) For the purpose of determining compliance with paragraph (4) of this rule, the integrated sample technique of Method 10 as specified in 1200-3-16-.01(5)(g)10 shall be used. The sample shall be extracted at a rate proportional to the gas velocity at a sampling point near the centroid of the duct. The sampling time shall not be less than sixty (60) minutes.

(c) For the purpose of determining compliance with part 1200-3-16-.09-(5)(a)1, Method 11 as specified in 1200-3-16-.01(5)(g)11 shall be used to determine the concentration of H^2S and Method 6 as specified in 1200-3-16-.01(5)(g)6 shall be used to determine the concentration of SO_2.

1. If Method 11 is used, the gases sampled shall be introduced into the sampling train at approximately atmospheric pressure. Where refinery fuel gas lines are operating at pressures substantially above atmosphere, this may be accomplished with a flow control valve. If the line pressure is high enough to operate the sampling train without a vacuum pump, the pump may be eliminated from the sampling train. The sample shall be drawn from a point near the centroid of the fuel gas line. The minimum sampling time shall be 10 minutes and the minimum sampling volume 0.01 dscm (0.35 dscf) for each sample. The arithmetic average of two samples of equal sampling time shall constitute one run. Samples shall be taken at approximately 1- hour intervals. For most fuel gases, sample times exceeding 20 minutes may result in depletion of the collecting solution, although fuel gases containing low concentrations of hydrogen sulfide may necessitate sampling for longer periods of time.

2. If Method 6 is used, Method 1 as specified in 1200-3-16-.01(5)(g)1 shall be used for velocity traverses and Method 2 as specified in 1200-3-16-.01(5)(g)2 for determining velocity and volumetric flow rate. The sampling site for determining SO_2 concentration by Method 6 shall be the same as for determining volumetric flow rate by Method 2. The sampling point in the duct for determining SO_2 concentration by Method 6 shall be at the centroid of the cross section if the cross sectional area is less than 5 m^2 (54 ft^2) or at a point no closer to the walls than 1 m (39 inches) if the cross sectional area is 5 m^2 or more and the centroid is more than one meter from the wall. The sample shall be extracted at a rate proportional to the gas velocity at the sampling point. The minimum sampling time shall be 10 minutes and the minimum sampling volume 0.01 dscm (0.35 dscf) for each sample. The arithmetic average of two samples of equal sampling time shall constitute one run. Samples shall be taken at approximately 1- hour intervals.

(d) For the purpose of determining compliance with part 1200-3-16-.09(5)(a)2, Method 6 shall be used to determine the concentration of SO_2 and Method 15 as specified by 1200-3-16-.01(5)(g)15 shall be used to determine the concentration of H_2S and reduced sulfur compounds.

As an alternative, Method 15A as specified by 1200-3-16-.01(5)(g)15 may be used for determining reduced sulfur compounds.

1. If Method 6 is used, the procedure outlined in subparagraph (c)(2) of this paragraph shall be followed except that each run shall span a minimum of four consecutive hours of continuous sampling. A number of separate samples may be taken for each run, provided the total sampling time of these samples adds up to a minimum of four consecutive hours.

Where more than one sample is used, the average SO_2 concentration for the run shall be calculated as the time weighted average of the SO_2 concentration for each sample according to the formula:

$$C_R = \sum_{i=1}^{n} \frac{C_{si} t_{si}}{T}$$

Where:

C_R = SO_2 concentration for the run.

N = Number of samples.

C_{si} = SO_2 concentration for sample i.

t_{si} = Continuous time of sample i.

T = Total continuous sampling time of all N samples.

2. If Method 15 is used, each run shall consist of 16 samples taken over a minimum of 3 hours. If Method 15A is used, each run shall consist of one 3-hour sample or three 1-hour samples. The sampling point shall be at the centroid of the cross- section of the duct if the cross-sectional area is less than 5 m^2 (54 ft^2) or at a point no closer to the walls than 1 m (39 in.) if the cross-sectional area is 5 m^2 or more and the centroid is more than 1 m from the wall. For Method 15, to ensure minimum residence time for the sample inside the sample lines, the sampling rate shall be at least 3 liters/min (0.1 ft^3/min). The SO_2 equivalent for each run shall be calculated as the arithmetic average of the SO_2 equivalent of each sample during the run. Method 4 shall be used to determine the moisture content of the gases when using Method 15. The sampling point for Method 4 shall be adjacent to the sampling point for Method 15. The sample shall be extracted at a rate proportional to the gas velocity at the sampling point. Each run shall span a minimum of 4 consecutive hours of continuous sampling. A number of separate samples may be taken for each run provided the total sampling time of these samples adds up to a minimum of 4 consecutive hours. Where more than one sample is used, the average moisture content for the run shall be calculated as the time weighted average of the moisture content of each sample according to the formula:

$$B_{wo} = \sum_{i=1}^{n} \frac{B_{si} t_{si}}{T}$$

Where:

Bwo = Proportion by volume of water vapor in the gas stream for the run.

N = Number of samples.

B_{si} = Proportion by volume of water vapor in the gas stream for the sample i.

t_{si} = Continuous sampling time for sample i.

T = Total continuous sampling time of all N samples.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.10 Reserved.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.11 Reserved.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.12 Secondary Lead Smelters

(1) Applicability

The provisions of this rule shall apply to the following affected facilities commenced on or after April 21, 1976 in secondary lead smelters: pot furnaces of more than 250 kg (550 lb) charging capacity, blast (cupola) furnaces, and reverberatory furnaces.

(2) Definitions

(a) "Reverberatory furnace" includes the following types of reverberatory furnaces: stationary, rotating, rocking and tilting.

(b) "Secondary lead smelter" means any facility producing lead from a lead-bearing scrap material by smelting to the metallic form.

(c) "Lead" means elemental lead or alloys in which the predominant component is lead.

(3) Standards for particulate matter and opacity

(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from a blast (cupola) or reverberatory furnace any gases which:

1. Contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf).

2. Exhibit twenty (20) percent opacity or greater.

(b) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any pot furnace any gases which exhibit ten (10) percent opacity or greater.

(4) Test methods and procedures

For determining of the concentration of particulate matter and associated moisture content, the sampling time for each run shall be at least sixty (60) minutes and the sampling rate shall be at least 0.9 dscm/hr (0.53 dscf/min) except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary. Particulate sampling shall be conducted during representative periods of furnace operation, including charging and tapping.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.13 Secondary Brass and Bronze Ingot Production

(1) Applicability

The provisions of this rule shall apply to the following affected facilities commenced on or after April 21, 1976, in secondary brass or bronze ingot production plants: reverberatory and electric furnaces of 1,000 kg (2,205 lb) or greater production capacity and blast (cupola) furnaces of 250 kg/hr (550 lb/hr) or greater production capacity.

(2) Definitions

(a) "Brass or bronze" means any metal alloy containing copper as its predominant constituent and lesser amounts of zinc, tin, lead, or other metals.

(b) "Reverberatory furnace" includes the following types of reverberatory furnaces: stationary, rotating, rocking, and tilting.

(c) "Electric furnace" means any furnace which uses electricity to produce over fifty (50) percent of the heat required in the production of refined brass or bronze.

(d) "Blast furnace" means any furnace used to recover metal from slag.

(3) Standard for particulate matter

(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from a reverberatory furnace any gases which:

1. Contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf).

2. Exhibit twenty (20) percent opacity or greater.

(b) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any blast (cupola) or electric furnace any gases which exhibit ten (10) percent opacity or greater.

(4) Test methods and procedures

For determining the concentration of particulate matter and the associated moisture content, the sampling time for each run shall be at least 120 minutes and the sampling rate shall be at least 0.9 dscm/hr (0.53 dscf/min) except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary. Particulate matter sampling shall be conducted during representative periods of charging and refining, but not during pouring of the heat.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.14 Iron and Steel Plants

(1) Applicability

The provisions of this rule shall apply to each basic oxygen process furnace commenced on or after April 21, 1976.

(2) Definitions

(a) "Basic oxygen process furnace" (BOPF) means any furnace with a refractory lining in which molten steel is produced by charging scrap metal, molten iron, and flux materials or alloy additions into a vessel and introducing a high volume of oxygen-rich gas. Open hearth, blast, and reverberatory furnaces are not included in this definition.

(b) "Primary emissions" means particulate matter emissions from the BOPF generated during the steel production cycle and captured by the BOPF primary control system.

(c) "Primary oxygen blow" means the period in the steel production cycle of a BOPF during which a high volume of oxygen-rich gas is introduced to the bath of molten iron by means of a lance inserted from the top of the vessel or through tuyeres in the bottom or through the bottom and sides of the vessel. This definition does not include any additional or secondary oxygen blows made after the primary blow or the introduction of nitrogen or other inert gas through tuyeres in the bottom or bottom and sides of the vessel.

(d) "Steel production cycle" means the operations conducted within the BOPF steelmaking facility that are required to produce each batch of steel and includes the following operations: scrap charging,

preheating (when used), hot metal charging, primary oxygen blowing, sampling (vessel turndown and turnup), additional oxygen blowing (when used), tapping, and deslagging. This definition applies to an affected facility constructed, modified, or reconstructed after November 6, 1988. For an affected facility constructed, modified, or reconstructed after April 21, 1976, but on or before November 6, 1988, "steel production cycle" means the operations conducted within the BOPF steelmaking facility that are required to produce each batch of steel and includes the following operations: scrap charging, preheating (when used), hot metal charging, primary oxygen blowing, sampling (vessel turndown and turnup), additional oxygen blowing (when used), and tapping.

(3) Standard for particulate matter

(a) Except as provided under subparagraph (b) of this paragraph, on and after the date on which the performance test required to be conducted by paragraph 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any affected facility any gases which:

1. Contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf).

2. Exit from a control device and exhibit 10 percent opacity or greater, except that an opacity of greater than 10 percent but less than 20 percent many occur once per steel production cycle.

(b) For affected facilities constructed, modified, or reconstructed after November 6, 1988, the following limits shall apply:

1. On or after the date on which the performance test under paragraph 1200-3-16-.01(5) is required to be completed, no owner or operator of an affected facility for which open hooding is the method for controlling primary emissions shall cause to be discharged to the atmosphere any gases that:

(i) Contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf), as measured for the primary oxygen blow.

(ii) Exit from a control device not used solely for the collection of secondary emissions, as defined in paragraph (2) of rule 1200-3-16-.55, and exhibit 10 percent opacity or greater, except that an opacity greater than 10 percent but less than 20 percent may occur once per steel production cycle.

2. On or after the date on which the performance test required by 1200-3-16-.01(5) is completed, no owner or operator of an affected facility for which closed hooding is the method for controlling primary emissions shall cause to be discharged into the atmosphere any gases that:

(i) Contain particulate matter in excess of 68 mg/dscm (0.030 gr/dscf), as measured for the primary oxygen blow.

(ii) Exit from a control device not used solely for the collection of secondary emissions, as defined in paragraph (2) of rule 1200-3-16-.55, and exhibit 10 percent opacity or greater, except that an opacity greater than 10 percent but less than 20 percent may occur once per steel production cycle.

(c) On and after the date on which the performance test required by 1200-3-16-.01(5) is completed, each owner or operator of an affected facility subject to subparagraph (b) of this paragraph shall operate the primary gas cleaning system during any reblow in a manner identical to operation during the primary oxygen blow.

(4) Monitoring of operations

(a) The owner or operator of an affected facility shall maintain a single time measuring instrument which shall be used in recording daily the time and duration of each steel production cycle, and the time and duration of any diversion of exhaust gases from the main stack servicing the BOPF.

(b) The owner or operator of any affected facility that uses venturi scrubber emission control equipment shall install, calibrate, maintain, and continuously operate monitoring devices as follows:

1. A monitoring device for the continuous measurement of the pressure loss through the venturi constriction of the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ± 250 Pa (± 1 inch water).

2. A monitoring device for the continual measurement of the water supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ± 5 percent of the design water supply pressure. The monitoring device's pressure sensor or pressure tap must be located close to the water discharge point. The Technical Secretary must be consulted for approval in advance of selecting alternative locations for the pressure sensor or tap.

3. All monitoring devices shall be synchronized each day with the time measuring instrument used under subparagraph (a) of this paragraph. The chart recorder error directly after synchronization shall not exceed 0.08 cm ($^{1}/_{32}$ inch).

4. All monitoring devices shall use chart recorders which are operated at a minimum chart speed of 3.8 cm/hr (1.5 in/hr).

5. All monitoring devices are to be recalibrated annually, and at other times as the Technical Secretary may require, in accordance with the procedures under part .01(8)(b)3 of this chapter.

(c) Any owner or operator subject to the requirements of subparagraph (b) of this paragraph shall report to the Technical Secretary, on a semiannual basis, all measurements over any 3-hour period that average more than 10 percent below the average levels maintained during the most recent performance test conducted under paragraph 1200-3-16-.01(5) in which the affected facility demonstrated compliance with the mass standards under 1200-3-16-.14(3)(a)1, (b)1(i) or (b)2(i). The accuracy of the respective measurements, not to exceed the values specified in parts (b)1 and (b)2 of this paragraph, may be taken into consideration when determining the measurement results that must be reported.

(5) Test Methods and Procedures

(a) For determining the concentration of particulate matter and associated moisture content, the sampling for each run shall continue for an integral number of cycles with total duration of at least sixty (60) minutes. The sampling rate shall be at least 0.9 dscm/hr (0.53 dscf/min) except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary. A cycle shall start at the beginning of either the scrap preheat or the oxygen blow and shall terminate immediately prior to tapping.

(b) For Method 5, the sampling time shall be as follows:

1. For affected facilities that commenced construction, modification, or reconstruction on or before November 6, 1988, the sampling for each run shall continue for an integral number of steel production cycles with total duration of at least 60 minutes. A cycle shall start at the beginning of either the scrap preheat or the oxygen blow and shall terminate immediately prior to tapping. The minimum sample volume shall be at least 1.5 dscm (53 dscf). Shorter sampling times and smaller sample volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

2. For affected facilities that commence construction, modification, or reconstruction after November 6, 1988, the sampling for each run shall continue for an integral number of primary oxygen blows, with total duration of at least 60 minutes. The minimum sample volume shall be at least 1.5 dscm (53 dscf). Shorter sampling times and smaller sample volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

(c) Sampling of flue gases during each steel production cycle shall be discontinued whenever all flue gases are diverted from the stack and shall be resumed after each diversion period.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.15 Sewage Treatment Plant Incinerators

(1) Applicability

The provisions of this rule shall apply to each incinerator commenced on or after April 21, 1976, which burns the sludge produced by municipal sewage treatment facilities.

(2) Standards for particulate matter and opacity

On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator of any sewage sludge incinerator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere of:

(a) Particulate matter at a rate in excess of 0.65 g/kg dry sludge input (1.30 lb/ton dry sludge input).

(b) Any gases which exhibit twenty (20) percent opacity or greater.

(3) Monitoring of operations

The owner or operator of any sludge incinerator subject to the provisions of this rule shall:

(a) Install, calibrate, maintain, and operate a flow measuring device which can be used to determine either the mass or volume of sludge charged to the incinerator. The flow measuring device shall have an accuracy of +5 percent over its operating range.

(b) Provide access to the sludge charged so that a well-mixed representative grab sample of the sludge can be obtained.

(4) Test methods and procedures

(a) For determining the concentration of particulate matter and associated moisture content, the sampling time for each run shall be at least sixty (60) minutes and the sampling rate shall be at least 0.015 dscm/min (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors may be approved by the Technical Secretary.

(b) Dry sludge charging rate shall be determined as follows:

1. Determine the mass (Sm) or volume (Sv) of sludge charged to the incinerator during each run using a flow measuring device meeting the requirements of subparagraph (3)(a) of this rule. If total input during a run is measured by a flow measuring device, such readings shall be used. Otherwise, record the flow measuring device readings at five (5) minute intervals during a run. Determine the quantity charged during each interval by averaging the flow rates at the beginning and end of the interval and then multiplying the average for each interval by the time for each interval. Then add the quantity for each interval to determine the total quantity charged during the entire run, (Sm) or (Sv).

2. Collect samples of the sludge charged to the incinerator in non-porous collecting jars at the beginning of each run and at approximately one (1) hour intervals thereafter until the test ends, and determine for each sample the dry sludge content (total solids residue) in accordance with the method specified in "244 G. Method for Solid and Semisolid Samples," Standard Methods for the Examination of Water and Wastewater, Thirteenth Edition, American Public Health Association, Inc., New York, N.Y., 1971, pp. 539-41, except that:

(i) Evaporating dishes shall be ignited to at least 103°C rather than the 550°C specified in step 3(a)(1).

(ii) Determination of volatile residue, step 3(b) may be deleted.

(iii) The quantity of dry sludge per unit sludge charged shall be determined in terms of either Rdv (metric units; mg dry sludge/liter sludge charged or English units: lb/ft^3) or Rdm (metric units: mg dry sludge/mg sludge charged or English units: lb/lb).

3. Determine the quantity of dry sludge per unit sludge charged in terms of either Rdv or Rdm.

(i) If the volume of sludge charged is used:

$$Sd = (60x10^{-3}) \frac{RdvSv}{T} \text{ (Metric Units)}$$

or

$$Sd = (8.021) \frac{RdvSv}{T} \text{ (English Units)}$$

where:

Sd = average dry sludge charging rate during the run, kg/hr (English units: lb/hr).

Rdv = average quantity of dry sludge per unit volume of sludge charged to the incinerator, mg/l (English units: lb/ft^3).

Sv = sludge charged to the incinerator during the run, m^3 (English units: gal).

T = duration of run, min (English units: min).

$60x10^{-3}$ = metric units conversion factor, 1 kg-min/m^3-mg-hr.

8.021 = English units conversion factor, ft^3-min/gal/hr.

(ii) If the mass of sludge charged is used:

$$Sd = \frac{(60\ Rdm\ Sm)}{T} \text{ (Metric or English Units)}$$

where:

Sd = average dry sludge charging rate during the run, kg/hr (English units; lb/hr).

Rdm = average ratio of quantity of dry sludge to quantity of sludge charged to the incinerator, mg/mg (English units: lb/lb).

Sm = sludge charged during the run, kg (English units: lb).

T = duration of run, min (Metric or English units).

60 = conversion factor, min/hr (Metric or English units).

(c) Particulate emission rate shall be determined by:

Caw = CsQs (Metric or English Units)

where:

Caw = particulate matter mass emissions, mg/3hr (English units: lb/hr).

Cs = particulate matter concentration, mg/m^3 (English units: lb/dscf).

Qs = volumetric stack gas flow rate, dscm/hr (English units; dscf/hr). Qs and Cs shall be determined using Method 2 and 5, respectively.

(d) To check compliance, particulate emissions shall be determined as follows:

$$Cds = \frac{(10^{-3})\ Caw\ (Metric\ Units)}{Sd}$$

or

$$Cds = \frac{(2000)\ Caw\ (English\ Units)}{Sd}$$

where:

Cds = particulate emission discharge, g/kg dry sludge (English units: lb/ton dry sludge).

10^{-3} = Metric conversion factor, g/mg.

2000 = English conversion factor, lb/ton.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.16 Phosphate Fertilizer Industry: Wet-Process Phosphoric Acid Plants

(1) Applicability

The provisions of this rule shall apply to each wet process phosphoric acid plant having a design capacity of more than 15 tons of equivalent P_2O_5 feed per calendar day. For the purpose of this rule, the affected facility includes any combination of reactors, filters, evaporators, and hotwells commenced on or after February 9, 1977.

(2) Definitions

(a) "Wet process phosphoric acid plant" means any facility manufacturing phosphoric acid by reacting phosphate rock and acid.

(b) "Total fluorides" means elemental fluorine and all fluoride compounds as measured by reference methods specified in subparagraph .01(5)(g) or equivalent or alternative methods.

(c) "Equivalent P_2O_5 feed" means the quantity of phosphorous, expressed as phosphorous pentoxide, fed to the process.

(3) Standard for Fluorides

On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain total fluorides in excess of 10.0 g/metric ton equivalent P_2O_5 feed (0.020 lb/ton).

(4) Monitoring of Operations

The owner or operator of any wet process phosphoric acid plant, subject to the provisions of this rule shall:

(a) Install, calibrate, maintain, and operate a monitoring device which can be used to determine the mass flow of phosphorus-bearing feed material to the process. The monitoring device shall have an accuracy of ±5 percent over its operating range.

(b) Maintain a daily record of equivalent P_2O_5 feed by first determining the total mass rate in metric ton/hr of phosphorus bearing feed using a monitoring device for measuring mass flow rate which meets the requirements of subparagraph (a) of this paragraph and then by proceeding according to part (5)(c)2 of this rule.

(c) Install, calibrate, maintain, and operate a monitoring device which continuously measures and permanently records the total pressure drop across the process scrubbing system. The monitoring device shall have an accuracy of ±5 percent over its operating range.

(5) Test Methods and Procedures

(a) For determining the concentration of total fluorides and the associated moisture content, the sampling for each run shall be at least 60 minutes and the minimum sampling volume shall be 0.85 dscm (30 dscf) except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

(b) The air pollution control system for the affected facility shall be constructed so that volumetric flow rates and total fluoride emissions can be accurately determined by applicable test methods and procedures.

(c) Equivalent P_2O_5 feed shall be determined as follows:

1. Determine the total mass rate in metric ton/hr of phosphorus bearing feed during each run using a flow monitoring device meeting the requirements of subparagraph (4)(a) of this rule.

2. Calculate the equivalent P_2O_5 feed by multiplying the percentage P_2O_5 content, as measured by the spectrophotometric molybdovanadophosphate method (AOAC Method 9), times the total mass rate of phosphorus bearing feed. AOAC Method 9 is published in the Official Methods of Analysis of the Association of Official Analytical Chemists, 11th edition, 1970, pp. 11-12. Other methods may be approved by the Technical Secretary.

(d) For each run, emissions expressed in g/metric ton of equivalent P_2O_5 feed shall be determined using the following equation:

$$E = \frac{(CsQs)\,10^{-3}}{M\,P_2O_5}$$

where:

E = Emissions of total fluorides in g/metric ton of equivalent P_2O_5 feed.

Cs = Concentration of total fluorides in mg/dscm.

Qs = Volumetric flow rate of the effluent gas stream in dscm/hr.

10^{-3} = Conversion factor for mg to g.

$M\,P_2O_5$ = Equivalent P_2O_5 feed in metric ton/hr.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.17 Phosphate Fertilizer Industry: Superphosphoric Acid Plants

(1) Applicability

The provisions of this rule shall apply to each superphosphoric acid phosphate plant having a design capacity of more than 15 tons of equivalent P_2O_5 feed per calendar day. For the purpose of this rule, the affected facility includes any combination of evaporators, hotwells, acid sumps and cooling tanks commenced on or after February 9, 1977.

(2) Definitions

(a) "Superphosphoric acid plant" means any facility which concentrates wet-process phosphoric acid to 66 percent or greater P_2O_5 content by weight for eventual consumption as a fertilizer.

(b) "Total fluorides" means elemental fluorine and all fluoride compounds as measured by reference methods specified in subparagraph .01(5)(g) of this chapter, or equivalent or alternative methods.

(c) "Equivalent P_2O_5 feed" means the quantity of phosphorus, expressed as phosphorous pentoxide, fed to the process.

(3) Standard for Fluorides

On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain total fluorides in excess of 5.0 g/metric ton of equivalent P_2O_5 feed (0.010 lb/ton).

(4) Monitoring of Operations

The owner or operator of any granular diammonium phosphate plant subject to the provisions of this rule shall:

(a) Install, calibrate, maintain, and operate a flow monitoring device which can be used to determine the mass flow of phosphorus-bearing feed material to the process. The flow monitoring device shall have an accuracy of ±5 percent over its operating range.

(b) Maintain a daily record of equivalent P_2O_5 feed by first determining the total mass rate in metric ton/hr of phosphorus-bearing feed using a flow monitoring device meeting the requirements of subparagraph (a) of this paragraph and then by proceeding according to part (5)(c)2 of this rule.

(c) Install, calibrate, maintain, and operate a monitoring device which continuously measures and permanently records the total pressure drop across the scrubbing system. The monitoring device shall have an accuracy of ±5 percent over its operating range.

(5) Test Methods and Procedures

(a) For determining the concentration of total fluorides and the associated moisture content, the sampling time for each run shall be at least 60 minutes and the minimum sample volume shall be at least 0.85 dscm (30 dscf) except that at shorter necessitated by process variables or other factors, may be approved by the Technical Secretary.

(b) The air pollution control system for the affected facility shall be constructed so that volumetric flow rates and total fluoride emissions can be accurately determined by applicable test methods and procedures.

(c) Equivalent P_2O_5 feed shall be determined as follows:

1. Determine the total mass rate in metric ton/hr of phosphorus-bearing feed during each run using a flow monitoring device meeting the requirements of subparagraph (4)(a) of this rule.

2. Calculate the equivalent P_2O_5 feed by multiplying the percentage P_2O_5 content, as measured by the spectrophotometric molybdovanadophosphate method (AOAC Method 9), times the total mass rate of phosphorus-bearing feed. AOAC Method 9 is published in the Official Methods of Analysis of the Association of Official Analytical Chemists, 11th edition, 1970, pp. 11-12. Other methods may be approved by the Technical Secretary.

(d) For each run, emissions expressed in g/metric ton of equivalent P_2O_5 feed shall be determined using the following equation:

$$E = \frac{(C_s Q_s)\ 10^{-3}}{MP_2O_5}$$

where:

E = Emissions of total fluorides in g/metric ton of equivalent P_2O_5 feed.

Cs = Concentration of total fluorides in mg/dscm.

Qs = Volumetric flow rate of the effluent gas stream in dscm/hr.

10^{-3} = Conversion factor for mg to g.

MP_2O_5 = Equivalent P_2O_5 feed in metric ton/hr.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.18 Phoshate Fertilizer Industry: Diammonium Phosphate Plants

(1) Applicability

The provisions of this rule shall apply to each granular diammonium phosphate plant having a design capacity of more than 15 tons of equivalent P_2O_5 feed per calendar day. For the purpose of this rule, the affected facility includes any combination of reactors, granulators, dryers, coolers, screens and mills commenced on or after February 9, 1977.

(2) Definitions

(a) "Granular diammonium phosphate plant" means any plant manufacturing granular diammonium phosphate by reacting phosphoric acid with ammonia.

(b) "Total fluorides" means elemental fluorine and all fluoride compounds as measured by reference methods specified in subparagraph .01(5)(g) of this chapter or equivalent or alternative methods.

(c) "Equivalent P_2O_5 feed" means the quantity of phosphorous, expressed as phosphorous pentoxide, fed to the process.

(3) Standard for Fluorides

On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain total fluorides in excess of 30 g/metric ton of equivalent P_2O_5 feed (0.060 lb/ton).

(4) Monitoring of operations

The owner or operator of any granular diammonium phosphate plant subject to the provisions of this rule shall:

(a) Install, calibrate, maintain and operate a flow monitoring device which can be used to determine the mass flow of phosphorus-bearing feed material to the process. The flow monitoring device shall have an accuracy of ±5 percent over its operating range.

(b) Maintain a daily record of equivalent P_2O_5 feed by first determining the total mass rate in metric ton/hr of phosphorus-bearing feed using a flow monitoring device meeting the requirements of subparagraph (a) of this paragraph and then by proceeding according to part (5)(c)2 of this rule.

(c) Install, calibrate, maintain and operate a monitoring device which continuously measures and permanently records the total pressure drop across the process scrubbing system. The monitoring device shall have an accuracy of ±5 percent over its operating range.

(5) Test Methods and Procedures

(a) For determining the concentration of total fluorides and the associated moisture content, the sampling time for each run shall be at least 60 minutes and the minimum sample volume shall be at least 0.85 dscm (30 dscf) except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

(b) The air pollution control system for the affected facility shall be constructed so that volumetric flow rates and total fluoride emissions can be accurately determined by applicable test methods and procedures.

(c) Equivalent P_2O_5 feed shall be determined as follows:

1. Determine the total mass rate in metric ton/hr of phosphorus bearing feed during each run using a flow monitoring device meeting the requirements of subparagraph (4)(a) of this rule.

2. Calculate the equivalent P_2O_5 feed by multiplying the percentage P_2O_5 content, as measured by the spectrophotometric molybdovanadophosphate method (AOAC Method 9), times the total mass rate of phosphorus bearing feed. AOAC Method 9 is published in the Official Methods of Analysis of the Association of Official Analytical Chemists, 11th edition, 1970, pp. 11-12. Other methods may be approved by the Technical Secretary.

(d) For each run, emissions expressed in g/metric ton of equivalent P_2O_5 feed shall be determined using the following equation:

$$E = \frac{(CsQs)\,10^{-3}}{MP_2O_5}$$

where:

E = Emissions of total fluorides in g/metric ton of equivalent P_2O_5 feed.

Cs = Concentration of total fluorides in mg/dscm.

Qs = Volumetric flow rate of the effluent gas stream in dscm/hr.

10^{-3} = Conversion factor for mg to g.

MP_2O_5 = Equivalent P_2O_5 feed in metric ton/hr.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.19 Phophate Fertilizer Industry: Triple Superphosphate Plants

(1) Applicability

The provisions of this rule shall apply to each triple superphosphate plant having a design capacity of more than 15 tons of equivalent P_2O_5 feed per calendar day. For the purpose of this rule, the affected facility includes any combination of mixers, curing belts (dens), reactors, granulators, dryers, cookers, screens, mills and facilities which store run-of-pile triple superphosphate commenced on or after February 9, 1977.

(2) Definitions

(a) "Triple superphosphate plant" means any facility manufacturing triple superphosphate by reacting phosphate rock with phosphoric acid. A run-of-pile triple superphosphate plant includes curing and storing.

(b) "Run-of-pile triple superphosphate" means any triple phosphate that has not been processed in a granulator and is composed on particles at least 25 percent by weight of which (when not caked) will pass through a 16 mesh screen.

(c) "Total fluorides" means elemental fluorine and all fluoride compounds as measured by reference methods specified in subparagraph .01(5)(g) of this chapter or equivalent or alternative methods.

(d) "Equivalent P_2O_5 feed" means the quantity of phosphorus, expressed as phosphorous pentoxide, fed to the process.

(3) Standard for Fluorides

On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain total fluorides in excess of 100 g/metric ton of equivalent P_2O_5 feed (0.20 lb/ton).

(4) Monitoring of Operations

The owner or operator of any triple superphosphate plant subject to the provisions of this rule shall:

(a) Install, calibrate, maintain, and operate a flow monitoring device which can be used to determine the mass flow of phosphorus bearing feed material to the process. The flow monitoring device shall have an accuracy of ±5 percent over its operating range.

(b) Maintain a daily record of equivalent P_2O_5 feed by first determining the total mass rate in metric ton/hr of phosphorus bearing feed using a flow monitoring device meeting the requirements of subparagraph (a) of this paragraph and then by proceeding according to part (5)(c)2 of this rule.

(c) Install, calibrate, maintain, and operate a monitoring device which continuously measures and permanently records the total pressure drop across the process scrubbing system. The monitoring device shall have an accuracy of ±5 percent over its operating range.

(5) Test Methods and Procedures

(a) For determining the concentration of total fluorides and the associated moisture content, the sampling time for each run shall be at least 60 minutes and the minimum sample volume shall be at least 0.85 dscm (30 dscf) except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

(b) The air pollution control system for the affected facility shall be constructed so that volumetric flow rates and total fluoride emissions can be accurately determined by applicable test methods and procedures.

(c) Equivalent P_2O_5 feed shall be determined as follows:

1. Determine the total mass rate in metric ton/hr of phosphorus bearing feed during each run using a flow monitoring device meeting the requirements of subparagraph (4)(a) of this rule.

2. Calculate the equivalent P_2O_5 feed by multiplying the percentage P_2O_5 content, as measured by the spectrophotometric molybdovanadophosphate method (AOAC Method 9), times the total mass rate of phosphorus bearing feed. AOAC Method 9 is published in the Official Methods of Analysis of the Association of Official Analytical Chemists, 11th edition, 1970, pp. 11-12. Other methods may be approved by the Technical Secretary.

(d) For each run, emissions expressed in g/metric ton of equivalent P_2O_5 feed shall be determined when using the following equation:

$$E = \frac{(C_S Q_S)\ 10^{-3}}{M P_2O_5}$$

where:

E = Emissions of total fluorides in g/metric ton of equivalent feed.

Cs = Concentration of total fluorides in mg/dscm.

Qs = Volumetric flow rate of the effluent gas stream in dscm/hr.

10^{-3} = Conversion factor for mg to g.

MP_2O_5 = Equivalent P_2O_5 feed in metric ton/hr.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.20 Phosphate Fertilizer Industry: Granular Triple Superphosphate Storage Facilities

(1) Applicability

The provisions of this rule shall apply to each granular triple superphosphate storage facility. For the purpose of this rule, the affected facility includes any combination of storage or curing piles, conveyors, elevators, screens and mills commenced on or after February 9, 1977.

(2) Definitions

(a) "Granular triple superphosphate storage facility" means any facility curing or storing granular triple superphosphate.

(b) "Total fluorides" means elemental fluorine and all fluoride compounds as measured by reference methods specified in subparagraph .01(5)(g) of this chapter.

(c) "Equivalent P_2O_5 stored" means the quantity of phosphorus, expressed as phosphorus pentoxide, being cured or stored in the affected facility.

(d) "Fresh granular triple superphosphate" means granular triple superphosphate produced no more than 10 days prior to the date of the performance test.

(3) Standard for Fluorides

On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain total fluorides in excess of 0.25 g/hr/metric ton of equivalent P_2O_5 stored (5.0×10^{-4} lb/hr/ton of equivalent P_2O_5 stored).

(4) Monitoring of Operations

The owner or operator of any granular triple superphosphate storage facility subject to the provisions of this rule shall:

(a) Maintain an accurate account of triple superphosphate in storage to permit the determination of the amount of equivalent P_2O_5 stored.

(b) Maintain a daily record of total equivalent P_2O_5 stored by multiplying the percentage P_2O_5 content, as determined by part (5)(e)(2) of this rule times the total mass of granular triple superphosphate stored.

(c) Install, calibrate, maintain, and operate a monitoring device which continuously measures and permanently records the total pressure drop across the process scrubbing system. The monitoring device shall have an accuracy of ±5 percent over its operating range.

(5) Test Methods and Procedures

(a) For determining the concentration of total fluorides and the associated moisture content, the sampling time for each run shall be at least 60 minutes and the minimum sample volume shall be

at least 0.85 dscm (30 dscf) except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

(b) The air pollution control system for the affected facility shall be constructed so that volumetric flow rates and total fluoride emissions can be accurately determined by applicable test methods and procedures.

(c) Except as provided under subparagraph (e) of this paragraph, all performance tests on granular triple superphosphate storage facilities shall be conducted only when the following quantities of product are being cured or stored in the facility:

1. Total granular triple superphosphate - at least 10 percent of the building capacity.

2. Fresh granular triple superphosphate - at least 20 percent of the amount of triple superphosphate in the building.

(d) If the provisions set forth in part (c)2 of this paragraph exceed production capabilities for fresh granular triple superphosphate, the owner or operator shall have at least five days maximum production of fresh granular triple superphosphate in the building during a performance test.

(e) Equivalent P_2O_5 stored shall be determined as follows:

1. Determine the total mass stored during each run using an accountability system meeting the requirements of subparagraph (4)(a) of this rule.

2. Calculate the equivalent P_2O_5 stored by multiplying the percentage P_2O_5 content, as measured by the spectrophotometric molybdovanadophosphate method (AOAC Method 9), times the total mass stored. AOAC Method 9 is published in the Official Methods of Analysis of the Association of Official Analytical Chemists, 11th edition, 1970, pp. 11-12. Other methods may be approved by the Technical Secretary.

(f) For each run, emissions expressed in g/hr/metric ton of equivalent P_2O_5 stored shall be determined using the following equation:

$$E = \frac{(CsQs)\ 10^{-3}}{MP_2O_5}$$

where:

E = Emissions of total fluorides in g/hr/metric ton of equivalent P_2O_5 stored.

Cs = Concentration of total fluorides in mg/dscm.

Qs = Volumetric flow rate of the effluent gas stream in dscm/hr.

10-3 = Conversion factor for mg to g.

MP_2O_5 = Equivalent P_2O_5 stored in metric tons.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-3-16-.21 Primary Aluminum Reduction Plants

(1) Applicability

(a) The affected facilities in primary aluminum reduction plants to which this rule applies are potroom groups and anode baking plants.

(b) Any facility under subparagraph (a) of this paragraph that commences construction or modification after November 6, 1988 is subject to the requirements of this rule.

(2) Definitions

(a) "Aluminum equivalent" means an amount of aluminum which can be produced from a Mg of anodes produced by an anode bake plant as determined by subparagraph (6)(g) of this rule.

(b) "Anode bake plant" means a facility which produces carbon anodes for use in a primary aluminum reduction plant.

(c) "Potroom" means a building unit which houses a group of electrolytic cells in which aluminum is produced.

(d) "Potroom group" means an uncontrolled potroom, a potroom which is controlled individually, or a group of potrooms or potroom segments ducted to a common control system.

(e) "Primary aluminum reduction plant" means any facility manufacturing aluminum by electrolytic reduction.

(f) "Primary control system" means an air pollution control system designed to remove gaseous and particulate fluorides from exhaust gases which are captured at the cell.

(g) "Roof monitor" means that portion of the roof of a potroom where gases not captured at the cell exit from the potroom.

(h) "Total fluorides" means elemental fluorine and all fluoride compounds as measured by reference methods specified in paragraph (6) of this rule or by equivalent or alternative methods.

(3) Standards for fluorides

(a) On and after the date on which the initial performance test required to be conducted by 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases containing total fluorides as measured according to 1200-3-16-.01(5) above, in excess of:

1. (i) 1.0 kg/Mg (2.0 lb/ton) of aluminum produced for potroom groups at Soderberg plants: except that emissions between 1.0 kg/Mg (2.0 lb/ton) and 1.3 kg/Mg (2.6 lb/ton) will be considered in compliance if the owner or operator demonstrates that exemplary operation and maintenance procedures were used with respect to the emission control system and that proper control equipment was operating at the affected facility during the performance tests;

(ii) 0.95 kg/Mg (1.9 lb/ton) of aluminum produced for potroom groups at prebake plants; except that emissions between 0.95 kg/Mg and 1.25 kg/Mg (2.5 lb/ton) will be considered in compliance if the owner or operator demonstrates that exemplary operation and maintenance procedures were used with respect to the emission control system and that proper control equipment was operating at the affected facility during the performance test;

(iii) For the purpose of compliance with the alternative standards in subparts (i) and (ii), exemplary operation and maintenance procedures include the following:

(I) Hood covers should fit properly and be in good repair;

(II) If the exhaust system is equipped with an adjustable air damper system, the hood exhaust rate for individual pots should be increased whenever hood covers are removed from a pot (the exhaust system should not, however, be overloaded by placing too many pots on high exhaust);

(III) Hood covers should be replaced as soon as possible after each potroom operation;

(IV) Dust entrainment should be minimized during materials handling

operations and sweeping of the working aisles;

(V) Only tapping crucibles with functional aspirator air return systems (for returning gases under the collection hooding) should be used;

(VI) The primary control system should be regularly inspected and properly maintained;

2. 0.05 kg/Mg (0.1 lb/ton) of aluminum equivalent for anode bake plants.

(b) Within 30 days of any performance test which reveals emissions which fall between the 1.0 kg/Mg and 1.3 kg/Mg levels in part (a)1(i) of this paragraph or between the 0.95 kg/Mg and 1.25 kg/Mg levels in part (a)1(ii) of this paragraph, the owner or operator shall submit a report indicating whether all necessary control devices were on line and operating properly during the performance test, describing the operating and maintenance procedures followed, and setting forth any explanation for the excess emissions to the Technical Secretary.

(4) Standard for visible emissions

(a) On and after the date on which the performance test required to be conducted by 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere:

1. From any potroom group any gases which exhibit 10 percent opacity or greater, or

2. From any anode bake plant any gases which exhibit 20 percent opacity or greater.

(5) Monitoring of Operations

(a) The owner or operator of any affected facility subject to the provisions of this rule shall install, calibrate, maintain and operate monitoring devices which can be used to determine daily the weight of aluminum and anode produced. The weighing devices shall have an accuracy of ± 5 percent over their operating range.

(b) The owner or operator of any affected facility shall maintain a record of daily production rates of aluminum and anodes, raw material feed rates, and cell or potline voltages.

(6) Test methods and procedures

(a) Following the initial performance test as required under 1200-3-16-.01(5)(a) an owner or operator shall conduct a performance test at least once each month during the life of the affected facility, except when malfunctions prevent representative sampling, as provided under 1200-3-16-.01(5)(c). The owner or operator shall give the Technical Secretary at least 15 days notice of each test. The Technical Secretary may require additional testing.

(b) An owner or operator may petition the Technical Secretary to establish an alternative testing requirement that requires testing less frequently than once each month for a primary control system or an anode bake plant. If the owner or operator shows that emissions from the primary control system or the anode bake plant have low variablity during day-to-day operations, the Technical Secretary may establish such an alternative testing requirement. The alternative testing requirement shall include a testing schedule and, in the case of a primary control system, the method to be used to determine primary control system emissions for the purpose of performance tests. The Technical Secretary shall establish alternative testing requirements on the applicable operating permit as a condition.

(c) Except as provided in 1200-3-16-.01(5)(b), reference methods in 1200-3-16-.01(5)(g) shall be used to determine compliance with the standards prescribed in paragraph (3) of this rule as follows:

1. For sampling emissions from stacks:

(i) Method 1 as specified in 1200-3-16-.01(5)(g)1 for sample and velocity traverses.

(ii) Method 2 as specified in 1200-3-16-.01(5)(g)2 for velocity and volumetric flow rate.

(iii) Method 3 as specified in 1200-3-16-.01(5)(g)3 for gas analysis.

(iv) Method 13A and 13B as specified in 1200-3-16-.01(5)(g)13 for the concentration of total fluorides and the associated moisture content.

2. For sampling emissions from roof monitors not employing stacks or pollutant collection systems:

(i) Method 1 as specified in 1200-3-16-.01(5)(g)1 for sample and velocity traverses,

(ii) Method 2 as specified in 1200-3-16-.01(5)(g)2 and Method 14 as specified in 1200-3-16-.01(5)(g)14 for velocity and volumetric flow rate,

(iii) Method 3 as specified in 1200-3-16-.01(5)(g)3 for gas analysis, and

(iv) Method 14 as specified in 1200-3-16-.01(5)(g)14 for the concentration of total fluorides and associated moisture content.

3. For sampling emissions from roof monitors not employing stacks but equipped with pollutant collection systems, the procedures under 1200-3-16-.01(5)(b) shall be followed.

(d) For Method 13A or 13B as specified in 1200-3-16-.01(5)(g)13, the sampling time for each run shall be at least 8 hours for any potroom sample and at least 4 hours for any anode bake plant sample, and the minimum sample volume shall be 6.8 dscm (240 dscf) for any potroom sample and 3.4 dscm (120 dscf) for any anode bake plant sample except that shorter sampling times or smaller volumes, when necessiated by process variables or other factors, may be approved by the Technical Secretary.

(e) The air pollution control system for each affected facility shall be constructed so that volumetric flow rates and total fluoride emissions can be accurately determined using applicable methods specified under subparagraph (c) of this paragraph.

(f) The rate of aluminum production is determined by dividing 720 hours into the weight of aluminum tapped from the affected facility during a period of 30 days prior to and including the final run of a performance test.

(g) For anode bake plants, the aluminum equivalent for anodes produced shall be determined as follows:

1. Determine the average weight (Mg) of anode produced in anode bake plant during a representative oven cycle using a monitoring device which meets the requirements of subparagraph (5)(a) of this rule.

2. Determine the average rate of anode production by dividing the total weight of anodes produced during the representative oven cycle by the length of the cycle in hours.

3. Calculate the aluminum equivalent for anodes produced by multiplying the average rate of anode production by two. (Note: An owner or operator may establish a different multiplication factor by submitting production records of the Mg of aluminum produced and the concurrent Mg of anode consumed by potrooms).

(h) For each run, potroom group emissions expressed in kg/Mg of aluminum produced shall be determined using the following equation:

$$Epg = \frac{(CsQs)_1 10^{-6} + (CsQs)_2 10^{-6}}{M}$$

Where:

E_{pg} = potroom group emissions of total fluorides in kg/Mg of aluminum produced.

C_s = concentration of total fluorides in mg/dscm as determined by Method 13A or 13B, as specified in 1200-3-16-.01(5)(g)13, or by Method 14 as specified in 1200-3-16-.01(5)(g)14, as applicable.

Q_s = volumetric flow rate of the effluent gas stream in dscm/hr as determined by Method 2 as specified in 1200-3-16-.01(5)(g)2 and/or Method 14 as specified in 1200-3-16-.01(5)(g)14, as applicable.

10^{-6} = conversion factor from mg to kg.

M = rate of aluminum production in Mg/hr as determined by subparagraph (6)(f) of this rule.

$(CsQs)_1$ = product of Cs and Qs for measurements of primary control system effluent gas streams.

$(CsQs)_2$ = product of Cs and Qs for measurements of secondary control system of roof monitor effluent gas streams.

Where an alternative testing requirement has been established for the primary control system, the calculated value $(CsQs)_1$ from the most recent performance test will be used.

(i) For each run, as applicable, anode bake plant emissions expressed in kg/Mg of aluminum equivalent shall be determined using the following equation:

$$E_{bp} = \frac{(CsQs)\ 10^{-6}}{Me}$$

Where:

E_{bp} = anode bake plant emissions of total fluorides in kg/Mg of aluminum equivalent.

C_s = concentration of total fluorides in mg/dscm as determined by Method 13A or 13B, as specified in 1200-3-16-.01(5)(g)13.

Q_s = volumetric flow rate of the effluent gas stream in dscm/hr as determined by Method 2, as specified in 1200-3-16-.01(5)(g)2.

10^{-6} = conversion factor from mg to kg.

Me = aluminum equivalent for anodes produced by anode bake plants in Mg/hr as determined by subparagraph (6)(g) of this rule.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.22 Reserved

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.23 Primary Copper Smelters

(1) Applicability

The provisions of this rule shall apply to the following affected facilities commenced on or after February 9, 1977 in primary copper smelters: dryer roaster, smelting furnace, and copper converter.

(2) Definitions

(a) "Primary copper smelter" means any installation or any intermediate process engaged in the production of copper from copper sulfide ore concentrates through the use of pyrometallurgical techniques.

(b) "Dryer" means any facility in which a copper sulfide ore concentrate charge is heated in the presence of air to eliminate a portion of the moisture from the charge, provided less than 5 percent of the sulfur contained in the charge is eliminated in the facility.

(c) "Roaster" means any facility in which a copper sulfide ore concentrate charge is heated in the presence of air to eliminate a significant portion (5 percent or more) of the sulfur contained in the charge.

(d) "Calcine" means the solid materials produced by a roaster.

(e) "Smelting" means processing techniques for the melting of a copper sulfide ore concentrate or calcine charge leading to the formation of separate layers of molten slag, molten copper, and/or copper matte.

(f) "Smelting furnace" means any vessel in which the smelting of copper sulfide ore concentrates or calcines is performed and in which the heat necessary for smelting is provided by an electric current, rapid oxidation of a portion of the sulfur contained in the concentrate as it passes through an oxidizing atmosphere, or the combustion of a fossil fuel.

(g) "Copper converter" means any vessel to which copper matte is charged and oxidized to copper.

(h) "Sulfuric acid plant" means any facility producing sulfuric acid by the contact process.

(i) "Fossil fuel" means natural gas, petroleum, coal and any form of solid, liquid, or gaseous fuel derived from such materials for the purpose of creating useful heat.

(j) "Reverberatory smelting furnace" means any vessel in which the smelting of copper sulfide ore concentrates or calcines is performed and in which the heat necessary for smelting is provided primarily by combustion of a fossil fuel.

(k) "Total smelter charge" means the weight (dry basis) of all copper sulfides ore concentrates processed at a primary copper smelter, plus the weight of all other solid materials introduced into the roasters and smelting furnaces at a primary copper smelter, except calcine, over a one-month period.

(l) "High level of volatile impurities" means a total smelter charge containing more than 0.2 weight percent arsenic, 0.1 weight percent antimony, 4.5 weight percent lead or 5.5 weight percent zinc, on a dry basis.

(3) Standard for particulate matter

On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any dryer any gases which contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf).

(4) Standard for Sulfur Dioxide

(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any roaster, smelting furnace, or copper converter any gases which contain sulfur dioxide in excess of 0.065 percent by volume, except as provided in subparagraphs (b) and (c) of this paragraph.

(b) Reverberatory smelting furnaces shall be exempted from subparagraph (a) of this paragraph during

periods when the total smelter charge at the primary copper smelter contains a high level of volatile impurities.

(c) A change in the fuel combusted in a reverberatory smelting furnace shall not be considered a modification under this chapter.

(5) Standard for Visible Emissions

(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any dryer any visible emissions which exhibit greater than twenty (20%) percent opacity.

(b) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any affected facility that uses a sulfuric acid plant to comply with the standard set forth in paragraph (4) of this rule, any visible emissions which exhibit greater than twenty percent (20%) opacity.

(6) Monitoring of Operations

(a) The owner or operator of any primary copper smelter subject to subparagraph (4)(b) of this rule, shall keep a monthly record of the total smelter charge and the weight percent (dry basis) of arsenic, antimony, lead and zinc contained in this charge. The analytical methods and procedures employed to determine the weight of the total smelter charge and the weight percent of arsenic, antimony, lead and zinc shall be approved by the Technical Secretary and shall be accurate to within plus or minus ten percent.

(b) The owner or operator of any primary copper smelter subject to the provisions of this rule shall install and operate:

1. A continuous monitoring system to monitor and record the opacity of gases discharged into the atmosphere from any dryer. The span of this system shall be set at 80 to 100 percent opacity.

2. A continuous monitoring system to monitor and record sulfur dioxide emissions discharged into the atmosphere from any roaster, smelting furnace or copper converter subject to subparagraph (4)(a) of this rule. The span of this system shall be set at a sulfur dioxide concentration of 0.20 percent by volume.

(i) The continuous monitoring system performance evaluation required under paragraph .01(8) of this chapter shall be completed prior to the initial performance evaluation. During the performance evaluation the span of the continuous monitoring system may be set at a sulfur dioxide concentration of 0.15 percent by volume if necessary to maintain the system output between 20 percent and 90 percent of full scale. Upon completion of the continuous monitoring system performance evaluation, the span of the continuous monitoring system shall be set at a sulfur dioxide concentration of 0.20 percent by volume.

(ii) For the purpose of the continuous monitoring system performance evaluation required under paragraph .01(8) of this chapter, the reference method referred to under the Field Test for Accuracy (Relative) in Performance Specification 2 of Appendix B (Federal Register, Vol. 40, No. 194) to this part shall be as specified by the Technical Secretary. For the performance evaluation, each concentration measurement shall be of one hour duration. The pollutant gas used to prepare the calibration gas mixtures required under paragraph 2.1, Performance Specification 2 of Appendix B (Federal Register, Vol. 40, No. 194), and for calibration checks under paragraph .01(8) of this chapter, shall be sulfur dioxide.

(c) Six-hour average sulfur dioxide concentrations shall be calculated and recorded daily for the four consecutive 6-hour periods of each operating day. Each six-hour average shall be determined as

the arithmetic mean of the appropriate six contiguous one-hour average sulfur dioxide concentrations provided by the continuous monitoring system installed under subparagraph (b) of this paragraph.

(d) For the purpose of reports required under subparagraph .01(7)(c) of this chapter periods of excess emissions that shall be reported are defined as follows:

1. Opacity

Any six-minute period during which the average opacity, as measured by the continuous monitoring system installed under subparagraph (b) of this paragraph, exceeds the standard under subparagraph (5)(a).

2. Sulfur dioxide

Any six-hour period, as described in subparagraph (c) of this paragraph, during which the average emissions of sulfur dioxide, as measured by the continuous monitoring system installed under subparagraph (b) of this paragraph, exceeds the standard under paragraph (4).

(7) Test Methods and Procedures

(a) Sulfur dioxide concentrations shall be determined using the continuous monitoring system installed in accordance with subparagraph (6)(b). One 6-hour average period shall constitute one run. The monitoring system drift during any run shall not exceed 2 percent of span.

(b) For determining the concentration of particulate matter and associated moisture content, the sampling time for each run shall be at least 60 minutes and the minimum sampling volume shall be 0.85 dscm (30 dscf) except that smaller times or volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-3-16-.24 Primary Zinc Smelters

(1) Applicability

The provisions of this rule shall apply to the following affected facilities in primary zinc smelters: roaster and sintering machine commenced on or after February 9, 1977.

(2) Definitions

(a) "Primary zinc smelter" means any installation engaged in the production, or any intermediate process in the production, of zinc or zinc oxide from zinc sulfide ore concentrates through the use of pyrometallurgical techniques.

(b) "Roaster" means any facility in which a zinc sulfide ore concentrate charge is heated in the presence of air to eliminate a significant portion (more than 10 percent) of the sulfur contained in the charge.

(c) "Sintering machine" means any furnace in which calcines are heated in the presence of air to agglomerate the calcines into a hard porous mass called "sinter".

(d) "Sulfuric acid plant" means any facility producing sulfuric acid by the contact process.

(3) Standard for Particulate Emissions

(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any sintering machine any gases which contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf).

(4) Standard for Sulfur Dioxide

(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any roaster any gases which contain sulfur dioxide in excess of 0.065 percent by volume.

(b) Any sintering machine which eliminates more than 10 percent of the sulfur initially contained in the zinc sulfide ore concentrates will be considered as a roaster under subparagraph (a) of this paragraph.

(5) Standard for Visible Emissions

(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any sintering machine any visible emissions which exhibit greater than 20 percent opacity.

(b) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any affected facility that uses a sulfuric acid plant to comply with the standard set forth in paragraph (4), any visible emissions which exhibit greater than 20 percent opacity.

(6) Monitoring of Operations

(a) The owner or operator of any primary zinc smelter subject to the provisions of this rule shall install and operate:

1. A continuous monitoring system to monitor and record the opacity of gases discharged into the atmosphere from any sintering machine. The span of this system shall be set at 80 to 100 percent opacity.

2. A continuous monitoring system to monitor and record sulfur dioxide emissions discharged into the atmosphere from any roaster subject to paragraph (4). The span of this system shall be set at a sulfur dioxide concentration of 0.20 percent by volume.

(i) The continuous monitoring system performance evaluation required under paragraph .01(8) of this chapter Rule 0400-30-16-.01 shall be completed prior to the initial performance test required under paragraph .01(5) of this chapter. During the performance evaluation, the span of the continuous monitoring system may be set at a sulfur dioxide concentration of 0.15 percent by volume if necessary to maintain the system output between 20 percent and 90 percent of full scale. Upon completion of the continuous monitoring system performance evaluation, the span of the continuous monitoring system shall be set at a sulfur dioxide concentration of 0.20 percent by volume.

(ii) For the purpose of the continuous monitoring system performance evaluation required under paragraph .01(8) of this chapter the reference method referred to under the Field Test for Accuracy (Relative) in Performance Specification 2 of Appendix B (Federal Register, Vol. 40, No. 194) shall be as specified by the Technical Secretary.

(iii) For the performance evaluation, each concentration measurement shall be of one hour duration. The pollutant gas used to prepare the calibration gas mixtures required under paragraph 2.1, Performance Specifications 2 of Appendix B (Federal Register, Vol. 40, No. 194) and for calibration checks under paragraph .01(8) of this chapter shall be sulfur dioxide.

(b) Two-hour average sulfur dioxide concentrations shall be calculated and recorded daily for the

twelve consecutive 2-hour periods of each operating day. Each two-hour average shall be determined as the arithmetic mean of the appropriate two contiguous one-hour average sulfur dioxide concentrations provided by the continuous monitoring system installed under subparagraph (a) of this paragraph.

(c) For the purpose of reports required under subparagraph .01(7)(c) of this chapter, periods of excess emissions that shall be reported are defined as follows:

1. Opacity

Any six-minute period during which the average opacity, as measured by the continuous monitoring system installed under subparagraph (a) of this paragraph, exceeds the standard in subparagraph (5)(a) of this rule.

2. Sulfur dioxide

Any two-hour period, as described in subparagraph (b) of this paragraph, during which the average emissions of sulfur dioxide, as measured by the continuous monitoring system installed under subparagraph (a) of this paragraph, exceeds the standard under paragraph (4).

(7) Test Methods and Procedures

(a) Sulfur dioxide concentrations shall be determined using the continuous monitoring system installed in accordance with subparagraph (6)(a). One 2-hour average period shall constitute one run.

(b) The sampling time for each run shall be at least 60 minutes and the minimum sampling volume shall be 0.85 dscm (30 dscf) except that smaller times or volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.25 Primary Lead Smelters

(1) Applicability

The provisions of this rule shall apply to the following affected facilities in primary lead smelters: sintering machine, sintering machine discharge end, blast furnace, dross reverberatory furnace, electric smelting furnace, and converter commenced on or after February 9, 1977.

(2) Definitions

(a) "Primary lead smelter" means any installation or any intermediate process engaged in the production of lead from lead sulfide ore concentrates through the use of pyrometallurgical techniques.

(b) "Sintering machine" means any furnace in which a lead sulfide ore concentrate charge is heated in the presence of air to eliminate sulfur contained in the charge and to agglomerate the charge into a hard porous mass called "sinter".

(c) "Sinter bed" means the lead sulfide ore concentrate charge within a sintering machine.

(d) "Sintering machine discharge end" means any apparatus which receives sinter as it is discharged from the conveying grate of a sintering machine.

(e) "Blast furnace" means any reduction furnace to which sinter is charged and which forms separate layers of molten slag and lead bullion.

(f) "Dross reverbatory furnace" means any furnace used for the removal or refining of impurities from lead bullion.

(g) "Electric smelting furnace" means any furnace in which the heat necessary for smelting of the lead sulfide ore concentrate charge is generated by passing an electric current through a portion of the molten mass in the furnace.

(h) "Converter" means any vessel to which lead concentrate or bullion is charged and refined.

(i) "Sulfuric acid plant" means any facility producing sulfuric acid by the contact process.

(3) Standard for Particulate Matter

On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any blast furnace, dross reverberatory furnace, or sintering machine discharge end any gases which contain particulate matter in excess of 50 mg/dscm (0.022 gr/dscf).

(4) Standard for Sulfur Dioxide

On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge of cause the discharge into the atmosphere from any sintering machine, electric smelting furnace, or converter gases which contain sulfur dioxide in excess of 0.065 percent by volume.

(5) Standard for Visible Emissions

(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any blast furnace, dross reverberatory furnace, or sintering machine discharge end any visible emissions which exhibit greater than 20 percent opacity.

(b) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any affected facility that uses a sulfuric acid plant to comply with the standard set forth in paragraph (4), any visible emissions which exhibit greater than 20 percent opacity.

(6) Monitoring of Operations

(a) The owner or operator of any primary lead smelter subject to the provisions of this rule shall install and operate:

1. A continuous monitoring system to monitor and record the opacity of gases discharged into the atmosphere from any blast furnace, dross reverberatory furnace, or sintering machine discharge end. The span of this system shall be set at 80 to 100 percent opacity.

2. A continuous monitoring system to monitor and record sulfur dioxide emissions discharged into the atmosphere from any sintering machine, electric furnace or converter subject to paragraph (4). The span of this system shall be set at a sulfur dioxide concentration of 0.20 percent by volume.

(i) The continuous monitoring system performance evaluation required under paragraph .01(8) of this chapter shall be completed prior to the initial performance test required under paragraph .01(5) of this chapter. During the performance evaluation, the span of the continuous monitoring system may be set at a sulfur dioxide concentration of 0.15 percent by volume if necessary to maintain the system output between 20 percent and 90 percent of full scale. Upon completion of the continuous monitoring system performance evaluation, the span of the continuous monitoring system shall be set at a sulfur dioxide concentration of 0.20 percent by volume.

(ii) For the purpose of the continuous monitoring system performance evaluation

required under paragraph .01(8) of this chapter, the reference method referred to under the Field Test for Accuracy (Relative) in Performance Specification 2 of Appendix B (Federal Register, Vol. 40, No. 194) shall be as specified by the Technical Secretary.

(iii) For the performance evaluation, each concentration measurement shall be of one hour duration. The pollutant gases used to prepare the calibration gas mixtures required under paragraph 2.1, Performance Specification 2 of Appendix B (Federal Register, Vol. 40, No. 194) and for calibration checks under paragraph .01(8) of this chapter shall be sulfur dioxide.

(b) Two hour average sulfur dioxide concentrations shall be calculated and recorded daily for the twelve consecutive two-hour periods of each operating day. Each two-hour average shall be determined as the arithmetic mean of the appropriate two continuous one hour average sulfur dioxide concentrations provided by the continuous monitoring system installed under subparagraph (a) of this paragraph.

(c) For the purpose of reports required under subparagraph .01(7)(c) of this chapter, periods of excess emissions that shall be reported are defined as follows:

1. Opacity

Any six minute period during which the average opacity, as measured by the continuous monitoring system installed under subparagraph (a) of this paragraph, exceeds the standard under subparagraph (5)(a).

2. Sulfur dioxide. Any two-hour period, as described in subparagraph (b) of this paragraph, during which the average emissions of sulfur dioxide, as measured by the continuous monitoring system installed under subparagraph (a) of this paragraph, exceeds the standard under subparagraph (4)(a).

(7) Test Methods and Procedures

(a) Sulfur dioxide concentrations shall be determined using the continuous monitoring system installed in accordance with subparagraph (6)(a) of this rule. One 2-hour average period shall constitute one run.

(b) The sampling time for each run shall be at least 60 minutes and the minimum sampling volume shall be 0.85 dscm (30 dscf) except that smaller times or volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.26 Steel Plants: Electric Arc Furnances Constructed After February 9, 1977, and on or Before August 17, 1983.

(1) Applicability and designation of affected facility

(a) The provisions of this rule are applicable to the following affected facilities in steel plants that produce carbon, alloy, or specialty steels: electric arc furnaces and dust handling systems.

(b) The provisions of this rule apply to each affected facility identified in subparagraph (a) of this paragraph that commenced construction, modification, or reconstruction after February 9, 1977 and on or before August 17, 1983.

(2) Definitions

(a) "Electric Arc Furnace" (EAF) means a furnace that produces molten steel and heats the charge materials with electric arcs from carbon electrodes. Furnaces that continuously feed direct-reduced iron ore pellets as the primary source of iron are not affected facilities within the scope of this definition.

(b) "Dust handling equipment" means any equipment used to handle particulate matter collected by the control device and located at or near the control device for an EAF subject to this rule.

(c) "Control device" means the air pollution control equipment used to remove particulate matter generated by an EAF(s) from the effluent gas stream.

(d) "Capture system" means the equipment (including ducts, hoods, fans, dampers, etc.) used to capture or transport particulate matter generated by an EAF to the air pollution control device.

(e) "Charge" means the addition of iron and steel scrap or other materials into the top of an electric arc furnace.

(f) "Charging period" means the time period commencing at the moment an EAF starts to open and ending either three minutes after the EAF roof is returned to its closed position or six minutes after commencement of opening of the roof, whichever is longer.

(g) "Tap" means the pouring of molten steel from an EAF.

(h) "Tapping period" means the time period commencing at the moment an EAF begins to tilt to pour and ending either three minutes after an EAF returns to an upright position or six minutes after commencing to tilt, whichever is longer.

(i) "Meltdown and refining" means that phase of the steel production cycle when charge material is melted and undesirable elements are removed from the metal.

(j) "Meltdown and refining period" means the time period commencing at the termination of the initial charging period and ending at the initiation of the tapping period, excluding any intermediate charging periods.

(k) "Shop opacity" means the arithmetic average of 24 or more opacity observations of emissions from the shop taken in accordance with Method 9 (as specified in 1200-3-16-.01(5)(g)9) for the applicable time periods.

(l) "Heat time" means the period commencing when scrap is charged to an empty EAF and terminating when the EAF tap is completed.

(m) "Shop" means the building which houses one or more EAF's.

(n) "Direct shell evacuation system (DEC System)" means any system that maintains a negative pressure within the EAF above the slag or metal and ducts these emissions to the control device.

(3) Standards for Particulate Matter and Opacity

(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from an electric arc furnace any gases which:

1. Exit from a control device and contain particulate matter in excess of 12 mg/dscm (0.0052 gr/dscf).

2. Exit from a control device and exhibit three percent opacity or greater.

3. Exit from a shop and, due solely to operations of any EAF(s), exhibit six percent opacity or greater except:

(i) Shop opacity less than 20 percent may occur during charging periods.

(ii) Shop opacity less than 40 percent may occur during tapping periods.

(iii) Opacity standards under part (a)3 of this paragraph shall apply only during periods

when pressures and either control system fan motor amperes and damper positions or flow rates are being established under subparagraphs (5)(c) and (5)(g) of this rule.

(iv) Where the capture system is operated such that the roof of the shop is closed during the charge and the tap, and emissions to the atmosphere are prevented until the roof is opened after completion of the charge or tap, the shop opacity standards under part (a)3 of this paragraph shall apply when the roof is opened and shall continue to apply for the length of time defined by the charging and/or tapping periods.

(b) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from dust handling equipment any gases which exhibit 10 percent opacity or greater.

(4) Emission Monitoring

(a) A continuous monitoring system for the measurement of the opacity of emissions discharged into the atmosphere from the control device(s) shall be installed, calibrated, maintained, and operated by the owner or operator subject to the provisions of this rule.

(b) For the purpose of reports under 1200-3-16-.01(7)(c), periods of excess emissions that shall be reported are defined as all six-minutes periods during which the average opacity is three percent or greater.

(c) No continuous monitoring system shall be required on any modular, multiple-stack, negative-pressure or positive pressure fabric filters if observations of the opacity of the visible emissions from the control device are performed by a certified visible emission observer in accordance with subpart (6)(c)6(i) of this rule.

(5) Monitoring of Operations

(a) The owner or operator subject to the provisions of this rule shall maintain records daily of the following information:

1. Time and duration of each charge;

2. Time and duration of each tap;

3. All flow rate data obtained under subparagraph (b) of this paragraph, or equivalent obtained under subparagraph (d) of this paragraph; and

4. All pressure data obtained under subparagraph (c) of this paragraph.

(b) Except as provided under subparagraph (d) of this paragraph, the owner or operator subject to the provisions of this rule shall check and record on a once-per-shift basis the furnace static pressure (if a Direct Shell Evacuation system is in use) and either:

1. check and record the control system fan motor amperes and damper positions on a once-per-shift basis; or

2. install, calibrate, and maintain a monitoring device that continuously records the volumetric flow rate through each separately ducted hood. The monitoring device(s) may be installed in any appropriate location in the exhaust duct such that reproducible flow rate monitoring will result. The flow rate monitoring device(s) shall have an accuracy ±10 percent over its normal operating range and shall be calibrated according to the manufacturer's instructions. The Technical Secretary may require the owner or operator to demonstrate the accuracy of the monitoring device(s) relative to Methods 1 and 2 (as specified in 1200-3-16-.01(5)(g)).

(c) When the owner or operator of an EAF is required to demonstrate compliance with the standards under 1200-3-16-.26(3)(a)3 and at any other time the Technical Secretary may require that either the control system fan motor amperes and all damper positions or the volumetric flow rate through each separately ducted hood shall be determined during all periods in which a hood is operated for the purpose of capturing emissions from the EAF subject to parts (b)1 or (b)2 of this paragraph. The owner or operator may petition the Technical Secretary for reestablishment of these parameters whenever the owner or operator can demonstrate to the Technical Secretary's satisfaction that the EAF operating conditions upon which the parameters were previously established are no longer applicable. The values of these parameters as determined during the most recent demonstration of compliance shall be maintained at the appropriate level for each applicable period. Operation at other than baseline values may be subject to the requirements of 1200-3-16-.26(7)(a).

(d) The owner or operator may petition the Technical Secretary to approve any alternative method that will provide a continuous record of operation of each emission capture system.

(e) The owner or operator shall perform monthly operational status inspections of the equipment that is important to the performance of the total capture system (i.e., pressure sensors, dampers, and damper switches). This inspection shall include observations of the physical appearance of the equipment (e.g., presence of hole in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion). Any deficiencies shall be noted and proper maintenance performed.

(f) Where emissions during any phase of the heat time are controlled by use of a direct shell evacuation system, the owner or operator shall install, calibrate, and maintain a monitoring device that continuously records the pressure in the free space inside the EAF. The pressure shall be recorded as 15-minute integrated averages. The monitoring device may be installed in any appropriate location in the EAF such that reproducible results will be obtained. The pressure monitoring device shall have an accuracy of ± 5 mm of water gauge over its normal operating range and shall be calibrated according to the manufacturer's instructions.

(g) When the owner or operator of an EAF is required to demonstrate compliance with the standard under 1200-3-16-.26(3)(a)3 and at any other time the Technical Secretary may require, the pressure in the free space inside the furnace shall be determined during the meltdown and refining period(s) using the monitoring device described in subparagraph (f) of this paragraph. The owner or operator may petition the Technical Secretary for reestablishment of the 15-minute integrated average pressure whenever the owner or operator can demonstrate to the Technical Secretary's satisfaction that the EAF operating conditions upon which the pressures were previously established are no longer applicable. The pressure determined during the most recent demonstration of compliance shall be maintained at all times the EAF is operating in a meltdown and refining period. Operation at higher pressures may be considered by the Technical Secretary to be unacceptable operation and maintenance of the affected facility.

(h) Where the capture system is designed and operated such that all emissions are captured and ducted to a control device, the owner or operator shall not be subject to the requirements of this paragraph.

(i) During any performance test required under 1200-3-16-.01(5), and for any report thereof required by subparagraph (6)(c) of this rule or to determine compliance with 1200-3-16-.26(3)(a)3, the owner or operator shall monitor the following information for all heats covered by the test:

1. Charge weights and materials, and tap weights and materials;

2. Heat times, including start and stop times, and a log of process operation, including periods of no operation during testing and the pressure inside furnace where direct-shell evacuation systems are used;

3. Control device operation log; and

4. Continuous monitor or Method 9 (as specified in 1200-3-16-.01(5)(g)9) data.

(6) Test methods and procedures

(a) Reference methods (as referenced in 1200-3-16-.01(5)(g)) except as provided under 1200-3-16-.01(5)(b), shall be used to determine compliance with standards prescribed under 1200-3-16-.26(3) as follows:

1. Either Method 5 for negative-pressure fabric filters and other types of control devices or Method 5D for positive-pressure fabric filters for concentration of particulate matter and associated moisture content;

2. Method 1 for sample and velocity traverses;

3. Method 2 for velocity and volumetric flow rate;

4. Method 3 for gas analysis; and

5. Method 9 for the opacity of visible emissions.

(b) For Method 5 or 5D, the sampling time for each run shall be at least 4 hours. When a single EAF is sampled, the sampling time for each run shall also include an integral number of heats. Shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary. For Method 5 or 5D, the minimum sample volume shall be 4.5 dscm (160 dscf).

(c) For the purpose of this rule, the owner or operator shall conduct the demonstration of compliance with subparagraph (3)(a) of this rule and furnish the Technical Secretary a written report of the results of the test. This report shall include the following information:

1. Facility name and address;

2. Plant representative;

3. Make and model of process, control device, and continuous monitoring equipment;

4. Flow diagram of process and emission capture equipment including other equipment or process(es) ducted to the same control device;

5. Rated (design) capacity of process equipment;

6. Those data required under subparagraph (5)(i) of this rule;

(i) List of charge and tap weights and materials;

(ii) Heat times and process log;

(iii) Control device operation log; and

(iv) Continuous monitor or Reference Method 9 data.

7. Test dates and times;

8. Test company;

9. Test company representative;

10. Test observers from outside agency;

11. Description of test methodology used, including any deviation from standard reference methods;

12. Schematic of sampling location;

13. Number of sampling points;

14. Description of sampling equipment;

15. Listing of sampling equipment calibrations and procedures;

16. Field and laboratory data sheets;

17. Description of sample recovery procedures;

18. Sampling equipment leak check results;

19. Description of quality assurance procedures;

20. Description of analytical procedures;

21. Notation of sample blank corretions; and

22. Sample emission calculations.

(d) During any performance test required under 1200-3-16-.01(5)(g), no gaseous diluents may be added to the effluent gas stream after the fabric in any pressurized fabric filter collector, unless the amount of dilution is separately determined and considered in the determination of emissions.

(e) When more than one control device serves the EAF(s) being tested, the concentration of particulate matter shall be determined using the following equation:

$$C_s = \frac{\left[\sum_{n=1}^{N} (C_s Q_s)_n\right]}{\sum_{n=1}^{N} (Q_s)_n}$$

Where:

Cs = concentration of particulate matter in mg/dscm (gr/dscf) as determined by Method 5.

N = total number of control devices tested.

Qs = volumetric flow rate of the effluent gas stream in dscm/hr (dscf/hr) as detemined by Method 2.

(CsQs)n or (Qs)n = value of the applicable parameter for each control device tested.

(f) Any control device subject to the provisions of this rule shall be designed and constructed to allow measurement of emissions using applicable test methods and procedures.

(g) Where emissions from any EAF(s) are combined with emissions from facilities not subject to the provisions of this rule but controlled by a common capture system and control device, the owner or operator may use any of the following procedures during a performance test:

1. Base compliance on control of the combined emissions.

2. Utilize a method acceptable to the Technical Secretary which compensates for the emissions from the facilities not subject to this rule.

3. Any combination of the criteria of parts (g)1 and (g)2 of this paragraph.

(h) Where emissions from any EAF(s) are combined with emissions from facilities not subject to the provisions of this rule, the owner or operator may use any of the following procedures for demonstrating compliance with 1200-3-16-.26(3)(a)3:

1. Base compliance on control of the combined emissions.

2. Shut down operation of facilities not subject to the provisions of this rule.

3. Any combination of the criteria of parts (h)1 and (h)2 of this paragraph.

(i) Visible emissions observations of modular, multiple stack, negative pressure or positive pressure fabric filters shall occur at least once per day of operation. The observations shall occur when the furnace is operating in the melting and refining period. These observations shall be taken in accordance with Method 9, and, for at least three 6-minute periods, the opacity shall be recorded for any point(s) where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of the visible emissions, only one set of three 6-minute observations will be required. In this case, Reference Method 9 observations must be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. Records shall be maintained of any 6-minute average that is in excess of the emission limit specified in subparagraph (3)(a) of this rule.

(j) Unless the presence of inclement weather makes concurrent testing infeasible, the owner or operator shall conduct concurrently the performance tests required under 1200-3-16-.01(5)(g) to demonstrate compliance with parts (3)(a)1, 2 and 3, of subparagraph 1200-3-16-.26(3)(a).

(7) Recordkeeping and reporting requirements

(a) Operation at a furnace static pressure that exceeds the value established under subparagraph (5)(f) of this rule and either operation of control system fan motor amperes at values exceeding ±15 percent of the value established under subparagraph (5)(c) of this rule or operation at flow rates lower than those established by subparagraph (5)(c) of this rule may be considered by the Technical Secretary to be unacceptable operation and maintenance of the affected facility. Operation at such values shall be reported to the Technical Secretary semiannually.

(b) When the owner or operator of an EAF is required to demonstrate compliance with the standard under parts (6)(g)2 and (6)(g)3 of this rule, the owner or operator shall obtain approval from the Technical Secretary of the procedure(s) that will be used to determine compliance. Notification of the procedure(s) to be used must be postmarked 30 days prior to the performance test.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.27 Ferroalloy Production Facilities

(1) Applicability

The provisions of this rule are applicable to the following affected facilties commenced on or after February 9, 1977: Electric submerged arc furnaces which produce silicon metal, ferrosilicon, calcium silicon, silicomanganese zirconium, ferrochrome silicon, silvery iron, high carbon ferrochrome, charge chrome, standard ferromanganese, silicomanganese, ferromanganese silicon, or calcium carbide; and dust handling equipment.

(2) Definitions

(a) "Electric submerged arc furnace" means any furnace wherein electrical energy is converted to heat energy by transmission of current between electrodes partially submerged in the furnace charge.

(b) "Furnace charge" means any material introduced into the electric material arc furnace and may consist of, but is not limited to, ores, slag, carbonaceous material, and limestone.

(c) "Product change" means any change in the composition of the furnace charge that would cause the electric submerged arc furnace to become subject to a different mass standard applicable under

this rule.

(d) "Slag" means the more or less completely fused and vitrified matter separated during the reduction of a metal from its ore.

(e) "Tapping" means the removal of slag or product from the electrical submerged arc furnace under normal operating conditions such as removal of metal under normal pressure and movement by gravity down the spout into the ladle.

(f) "Tapping period" means the time duration from initiation of the process of opening tap until plugging of the tap hole is completed.

(g) "Furnace cycle" means the time period from completion of a furnace product tap to the completion of the next consecutive product tap.

(h) "Tapping station" means that general area where molten product or slag is removed from the electric submerged arc furnace.

(i) "Blowing tap" means any tap in which an evolution of gas forces or projects jets of flame or metal sparks beyond the ladle, runner, or collection hood.

(j) "Furnace power input" means the resistive electrical power consumption of an electric submerged arc furnace as measured in kilowatts.

(k) "Dust-handling equipment" means any equipment used to handle particulate matter collected by the air pollution control device (and located at or near such device) serving any electric submerged arc furnace subject to this rule.

(l) "Control device" means the air pollution control equipment used to remove particulate matter generated by an electric submerged arc furnace from an effluent gas stream.

(m) "Capture system" means the equipment (including hoods, ducts, fans, dampers, etc.) used to capture or transport particulate matter generated by an affected electric submerged arc furnace to the control device.

(n) "Standard ferromanganese" means that alloy as defined by A.S.T.M. designation A99-66.

(o) "Silicomanganese" means that alloy as defined by A.S.T.M. designation A483-66.

(p) "Calcium carbide" means material containing 70 to 85 percent calcium carbide by weight.

(q) "High-carbon ferrochrome" means that alloy as defined by A.S.T.M. designation A101-66 grades HC_1 through HC_6.

(r) "Charge chrome" means that alloy containing 52 to 70 percent by weight chromium, 5 to 8 percent by weight carbon, and 3 to 6 percent by weight silicon.

(s) "Silvery iron" means any ferrosilicon, as defined by A.S.T.M. designation A100-69, which contains less than 30 percent silicon.

(t) "Ferrochrome silicon" means that alloy as defined by A.S.T.M. designation A482-66.

(u) "Silicomanganese zirconium" means that alloy containing 60 to 65 percent by weight silicon, 1.5 to 2.5 percent by weight calcium, 5 to 7 percent by weight zirconium, 0.75 to 1.25 percent by weight aluminum, 5 to 7 percent by weight manganese, and 2 to 3 percent by weight barium.

(v) "Calcium silicon" means that alloy as defined by A.S.T.M. designation A495-64.

(w) "Ferrosilicon" means that alloy as defined by A.S.T.M. designation A100-69 grades A, B, C, D, and E which contains 50 or more percent silicon by weight.

(x) "Silicon metal" means any silicon alloy containing more than 96 percent silicon by weight.

(y) "Ferromanganese silicon" means that alloy containing 63 to 66 percent by weight manganese, 28 to 32 percent by weight silicon, and a maximum of 0.08 percent by weight carbon.

(3) Standards for Particulate Matter and Opacity

(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any electric submerged arc furnace any gases which:

1. Exit from a control device and contain particulate matter in excess of 0.45 kg/MW-hr (0.99 lb/MW-hr) while silicon metal, ferrosilicon, calcium silicon, or silicomanganese zirconium is being produced.

2. Exit from a control device and contain particulate matter in excess of 0.23 kg/MW-hr (0.51 lb/MW-hr) while high carbon ferrochrome, charge chrome, standard ferromanganese, silicomanganese, calcium carbide, ferrochrome silicon, ferromanganese silicon, or silvery iron is being produced.

3. Exit from a control device and exhibit 15 percent opacity or greater.

4. Exit from an electric submerged arc furnace and escape the capture system and are visible without the aid of instruments. The requirements under this part apply only during periods when flow rates are being established under subparagraph (6)(d) of this rule.

5. Escape the capture system at the tapping station and are visible without the aid of instruments for more than 40 percent of each tapping period. There are no limitations on visible emissions under this part when a blowing tap occurs. The requirements under this subparagraph apply only during periods when flow rates are being established under subparagraph (6)(d) of this rule.

(b) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any dust handling equipment any gases which exhibit 10 percent opacity or greater.

(4) Standard for Carbon Monoxide

(a) On and after the date on which the performance test required to be conducted by paragaph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any electric submerged arc furnace any gases which contain, on a dry basis, 20 or greater volume percent of carbon monoxide. Combustion of such gases under conditions acceptable to the Technical Secretary constitutes compliance with this section. Acceptable conditions include, but are not limited to, flaring of gases or use of gases as fuel for other processes.

(5) Emission Monitoring

(a) The owner or operator subject to the provisions of this rule shall install, calibrate, maintain and operate a continuous monitoring system for measurement of the opacity of emissions discharged into the atmosphere from the control device(s).

(b) For the purpose of reports required under subparagraph .01 (7)(c) of this chapter, the owner or operator shall report as excess emissions all six-minute periods in which the average opacity is 15 percent or greater.

(c) The owner or operator subject to the provisions of this subpart shall submit a written report of any product change to the Technical Secretary. Reports of product changes must be postmarked not later than 30 days after implementation of the product change.

(6) Monitoring of Operations

(a) The owner or operator of any electric submerged arc furnace subject to the provisions of this rule shall maintain daily records of the following information:

1. Product being produced.

2. Description of constituents of furnace charge, including the quantity, by weight.

3. Time and duration of each tapping period and the identification of material tapped (slag or product).

4. All furnace power input data obtained under subparagraph (b) of this paragraph.

5. All flow rate data obtained under subparagraph (e) of this paragraph or all fan motor power consumption and pressure drop data obtained under subparagraph (e) of this paragraph.

(b) The owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate a device to measure and continuously record the furnace power input. The furnace power input may be measured at the output or input side of the transformer. The device must have an accuracy of ±5 percent over its operating range.

(c) The owner or operator subject to the provisions of this rule shall install, calibrate, and maintain a monitoring device that continuously measures and records the volumetric flow rate through each separately ducted hood of the capture system, except as provided under subparagraph (e) of this paragraph. The owner or operator of an electric submerged arc furnace that is equipped with a water cooled cover which is designed to contain and prevent escape of the generated gas and particulate matter shall monitor only the volumetric flow rate through the capture system for control of emissions from the tapping station. The owner or operator may install the monitoring device(s) in any appropriate location in the exhaust duct such that reproductible flow rate monitoring will result. The flow rate monitoring device must have an accuracy of ±10 percent over its normal operating range and must be calibrated according to the manufacturer's instructions. The Technical Secretary may require the owner or operator to demonstrate the accuracy of the monitoring device relative to Methods 1 and 2 in subparagraph .01(5)(g) of this chapter.

(d) When performance tests are conducted under the provisions of paragraph .01(5) of this chapter to demonstrate compliance with the standards under parts (3)(a)4 and (3)(a)5 of this rule, the volumetric flow rate through each separately ducted hood of the capture system must be determined using the monitoring device required under subparagraph (c) of this paragraph. The volumetric flow rates must be determined for furnace power input levels at 50 and 100 percent of the nominal rated capacity of the electric submerged arc furnace. At all times the electric submerged arc furnace is operated, the owner or operator shall maintain the volumetric flow rate at or above the appropriate levels for that furnace power input level determined during the most recent performance test. If emissions due to tapping are captured and ducted separately from emissions of the electric submerged arc furnace, during each tapping period the owner or operator shall maintain the exhaust flow rates through the capture system over the tapping station at or above the levels established during the most recent performance test. Operation at lower flow rates may be considered by the Technical Secretary to be unacceptable operation and maintenance of the affected facility. The owner or operator may request that these flow rates be reestablished by conducting new performance tests under paragraph .01(5) of this rule.

(e) The owner or operator may as an alternative to subparagraph (c) of this paragraph determine the volumetric flow rate through each fan of the capture system from the fan power consumption, pressure drop across the fan and the fan performance curve. Only data specific to the operation of the affected electric submerged arc furnace are acceptable for demonstration of compliance with the requirements of this subparagraph. The owner or operator shall maintain a permanent record of the fan performance curve (prepared for a specific temperature) and shall:

1. Install, calibrate, maintain and operate a device to continuously measure and record the power consumption of the fan motor (measured in kilowatts), and

2. Install, calibrate, maintain, and operate a device to continuously measure and record the pressure drop across the fan. The fan power consumption and pressure drop measurements must be synchronized to allow real time comparisons of the data. The monitoring devices must have an accuracy of ±5 percent over their normal operating ranges.

(f) The volumetric flow rate through each fan of the capture system must be determined from the fan power consumption, fan pressure drop, and fan performance curve specified under subparagraph (e) of this paragraph, during any performance test required under paragraph .01(5)(g) of this chapter to demonstrate compliance with the standards under parts (3)(a)4 and 5 of this rule. The owner or operator shall determine the volumetric flow rate at a representative temperature for furnace power input levels of 50 and 100 percent of the nominal rated capacity of the electric submerged arc furnace. At all times the electric submerged arc furnace is operated, the owner or operator shall maintain the fan power consumption and fan pressure drop at levels such that the volumetric flow rate is at or above the levels established during the most recent performance test for the furnace power input level.

If emissions due to tapping are captured and ducted separately from emissions of the electric submerged arc furnace, during each tapping period the owner or operator shall maintain the fan power consumption and fan pressure drop at levels such that the volumetric flow rate is at or above the levels established during the most recent performance test. Operation at lower flow rates may be considered by the Technical Secretary to be unacceptable operation and maintenance of the affected facility. The owner or operator may request that these flow rates be reestablished by conducting new performance tests under paragraph .01(5) of this chapter. The Technical Secretary may require the owner or operator to verify the fan performance curve by monitoring necessary fan operating parameters and determining the gas volume moved relative to Methods 1 and 2 of subparagraph .01(5)(g) of this chapter.

(g) All monitoring devices required under subparagraphs (c) and (e) of this paragraph are to be checked for calibration annually in accordance with the procedures under paragraph .01(8) of this chapter.

(7) Test Methods and Procedures

(a) When determining the concentration of particulate matter and the associated moisture content, the use of the heating system specified by the method outlined in part .01(5)(g) of this chapter are not to be used when the carbon monoxide content of the gas stream exceeds ten (10) percent by volume, dry basis.

(b) The sampling time for each particulate run is to include an integral number of furnace cycles. The sampling time for each run must be at least 60 minutes and the minimum sample volume must be 1.8 dscm (64 dscf) when sampling emissions from open electric submerged arc furnaces with wet scrubber control devices, sealed electric submerged arc furnaces, or semi-enclosed electric submerged arc furnaces. When sampling emissions from other types of installations, the sampling time for each run must be at least 200 minutes and the minimum sample volume must be 5.7 dscm (200 dscf). Shorter sampling times or smaller sampling volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

(c) During the performance test, the owner or operator shall record the maximum open hood area (in hoods with segmented or otherwise moveable sides) under which the process is expected to be operated and remain in compliance with all standards. Any future operation of the hooding system with open areas in excess of the maximum is not permitted.

(d) The owner or operator shall construct the control devices so that volumetric flow rates and particulate matter emissions can be accurately determined by applicable test methods and procedures.

(e) During any performance test required under paragraph .01(5) of this chapter, the owner or operator shall not allow gaseous diluents to be added to the effluent gas stream after the fabric in an open pressurized fabric filter collector unless the total gas volume flow from the collector is accurately

determined and considered in the determination of emissions.

(f) When compliance with paragraph (4) of this rule is to be attained by combusting the gas stream in a flare, the location of the sampling site for particulate matter is to be upstream of the flare.

(g) For each run, particulate matter emissions, expressed in kg/hr (lb/hr), must be determined for each exhaust stream at which emissions are quantified using the following equation:

En = CsQs

where:

En = Emissions of particulate matter in kg/hr (lb/hr).

Cs = Concentration of particulate matter in kg/dscm (lb/dscf) as determined by Method 5 of subparagraph .01(5)(g) of this chapter Rule 0400-30-16-.01.

Qs = Volumetric flow rate of the effluent gas stream in dscm/hr (dscf/hr) as determined by Method 2 of subparagraph .01(5)(g) of this chapter Rule 0400-30-16-.01.

(h) For Method 5, particulate matter emissions from the affected facility, expressed in kg/MW-hr (lb/MW-hr) must be determined for each run using the following equation:

$$E = \frac{\sum_{n=1}^{N} E_n}{p}$$

where:

E = Emissions of particulate matter from the affected facility, in kg/MW-hr (lb/MW-hr).

N = Total number of exhaust streams at which emissions are quantified.

En = Emission of particulate matter from each exhaust stream in kg/hr (lb/hr), as determined in subparagraph (g) of this subparagraph.

p = Average furnace power input during the sampling period, in megawatts as determined according to subparagraph (6)(b) of this rule.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.28 Lime Manufacturing Plants

(1) Applicability and designation of the affected facility

(a) The provisions of this rule are applicable to the following affected facilities commenced on or after November 6, 1988, used in the manufacture of lime: rotary lime kilns and lime hydrators.

(b) The provisions of this rule are not applicable to facilities used in the manufacture of lime at kraft pulp mills.

(2) Definitions

(a) "Lime manufacturing plant" includes any plant which produces a lime product from limestone by calcination. Hydration of the lime product is also considered to be part of the source.

(b) "Lime product" means the product of the calcination process including, but not limited to, calcitic lime, dolomitic lime, and dead-burned dolomite.

(c) "Rotary lime kiln" means a unit with an inclined rotating drum which is used to produce a lime

product from limestone by calcination.

(d) "Lime hydrator" means a unit used to produce hydrated lime product.

(3) Standard for particulate matter

(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this Chapter is completed, no owner or operator subject to the provisions of this paragraph shall cause to be discharged into the atmosphere:

1. from any rotary lime kiln any gases which contain particulate matter in excess of 0.15 kilogram per megagram of limestone feed (0.30 lb/ton).

2. From any lime hydrator any gases which contain particulate matter in excess of 0.075 kilogram per megagram of lime feed (0.15 lb/ton).

(4) Standard for visible emissions

(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this chapter is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any rotary lime kiln any gases which exhibit ten (10/) percent opacity or greater.

(5) Monitoring of Emissions and Operations

(a) The owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate a continuous monitoring system, except as provided in subparagraph (b) of this paragraph, to monitor and record the opacity of a representative portion of the gases discharged into the atmosphere from any rotary lime kiln. The span of this system shall be set at forty (40%) percent opacity.

(b) The owner or operator of any rotary lime kiln using a positive pressure fabric filter control device or a control device with a multiple stack exhaust or a roof monitor may, in lieu of the continuous opacity monitoring requirement of subparagraph (a) of this paragraph, monitor visible emissions at least once per day of operation by using a certified visible emissions observer who, for each site where visible emissions are observed, will perform three Method 9 tests and record the results. Visible emission observations shall occur during normal operation of the rotary lime kiln at least once per day. For at least three 6-minute periods, the opacity shall be recorded for any point(s) where visible emissions are observed, and the corresponding feed rate of the kiln shall also be recorded. Records shall be maintained of any 6-minute average that is in excess of the emissions specified in subparagraph (4)(a) of this rule.

(c) The owner or operator of any lime hydrator using a wet scrubbing emission control device subject to the provisions of this rule shall install, calibrate, maintain, and operate the following continuous monitoring devices:

1. A monitoring device for the continuous measuring of the scrubbing liquid flow rate. The monitoring device must be accurate within ±5 percent of design scrubbing liquid flow rate.

2. A monitoring device for the continuous measurement of the electric current, in amperes, used by the scrubber. The monitoring device must be accurate within ±10 percent over its normal operating range.

(d) For the purpose of conducting a performance test under paragraph .01(5) of this Chapter, the owner or operator of any lime manufacturing plant subject to the provisions of this rule shall install, calibrate, maintain, and operate a device for measuring the mass rate of limestone feed to any affected rotary lime kiln and the mass rate of lime feed to any affected lime hydrator. The measuring device used must be accurate to within ±5 percent of the mass rate over its operating range.

(e) For the purpose of reports required under subparagraph .01(7)(c) of this chapter, periods of excess emissions that shall be reported are defined as all six-minute periods during which the average

opacity of the plume from any lime kiln subject to subparagraph (a) of this paragraph is 10 percent or greater.

(6) Test Methods and Procedures

(a) For determining the concentration of particulate matter and associated moisture content, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.85 std m3/h, dry basis (0.53 dscf/min), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

(b) Because of the high moisture content (40 to 85 percent by volume) of the exhaust gases from hydrators, the Method 5 sample train may be modified to include a calibrated orifice immediately following the sample nozzle when testing lime hydrators. In this configuration, the sampling rate necessary for maintaining isokinetic conditions can be directly related to exhaust gas velocity without a correction for moisture content. Extra care should be exercised when cleaning the sample train with the orifice in this position with the following test runs.

(c) Visible emission observations of a control device with a multiple stack exhaust or a roof monitor shall occur during normal operation of the rotary lime kiln, at least once per day of operation. For at least three 6-minute periods, the opacity shall be recorded for any point(s) where visible emissions are observed, and the corresponding feed rate of the kiln shall also be recorded. These observations shall be taken in accordance with Method 9. Records shall be maintained of any 6-minute average that is in excess of the emissions limit specified in subparagraph (4)(a) of this rule.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.29 Kraft Pulp Mills

(1) Applicability and Designation of Affected Facility

(a) The provisions of this rule are applicable to the following affected facilities in kraft pulp mills: Digester system, brown stock washer system, multiple-effect evaporator system, recovery furnace, smelt dissolving tank, lime kiln, and condensate stripper system. In pulp mills where kraft pulping is combined with neutral sulfite semichemical pulping, the provisions of this rule are applicable when any portion of the material charged to an affected facility is produced by the kraft pulping operation.

(b) Except as noted in subpart (4)(a)1(iv) of this rule, any facility under subparagraph (a) of this paragraph that commences construction or modification after November 6, 1988 is subject to the requirements of this rule.

(2) Definitions

(a) "Kraft pulp mill" means any stationary source which produces pulp from wood by cooking (digesting) wood chips in a water solution of sodium hydroxide and sodium sulfide (white liquor) at high temperature and pressure. Regeneration of the cooking chemicals through a recovery process is also considered part of the kraft pulp mill.

(b) "Neutral sulfite semichemical pulping operation" means any operation in which pulp is produced from wood by cooking (digesting) wood chips in a solution of sodium sulfite and sodium bicarbonate, followed by mechanical defibrating (grinding).

(c) "Total reduced sulfur (TRS)" means the sum of the sulfur compounds hydrogen sulfide, methyl mercaptan, dimethyl sulfide, and dimethyl disulfide, that are released during the kraft pulping operation and measured by Reference Method 16 (as referenced in 1200-03-16-.01(5)(g)).

(d) "Digester system" means each continuous digester or each batch digester used for the cooking of wood in white liquor, and associated flash tank(s), blow tank(s), chip steamer(s), and condenser(s).

(e) "Brown stock washer system" means brown stock washers and associated knotters, vacuum pumps, and filtrate tanks used to wash the pulp following the digestion system. Diffusion washers

are excluded from this definition.

(f) "Multiple-effect evaporator system" means the multiple-effect evaporators and associated condenser(s) and hotwell(s) used to concentrate the spent cooking liquid that is separated from the pulp (black liquor).

(g) "Black liquor oxidation system" means the vessels used to oxidize, with air or oxygen, the black liquor, and associated storage tank(s).

(h) "Recovery furnace" means either a straight kraft recovery furnace, or a cross recovery furnace, and includes the direct contact evaporator for a direct contact furnace.

(i) "Straight kraft recovery furnace" means a furnace used to recover chemicals consisting primarily of sodium and sulfur compounds by burning black liquor which on a quarterly basis contains 7 weight percent or less of the total pulp solids from the neutral sulfite semichemical process or has green liquor sulfidity of 28 percent or less.

(j) "Cross recovery furnace" means a furnace used to recover chemicals consisting primarily of sodium and sulfur compounds by burning black liquor which on a quarterly basis contains more than 7 weight percent of the total pulp solids from the neutral sulfite semichemical process and has a green liquor sulfidity of more than 28 percent.

(k) "Black liquor solids" means the dry weight of the solids which enter the recovery furnace in the black liquor.

(l) "Green liquor sulfidity" means the sulfidity of the liquor which leaves the smelt dissolving tank.

(m) "Smelt dissolving tank" means a vessel used for dissolving the smelt collected from the recovery furnace.

(n) "Lime kiln" means a unit used to calcine lime mud, which consists primarily of calcium carbonate, into quicklime, which is calcium oxide.

(o) "Condensate stripper system" means a column, and associated condensers, used to strip, with air or steam, TRS compounds from condensate streams from various processes within a kraft pulp mill.

(3) Standard for Particulate Matter and Opacity

(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this Chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere:

1. From any recovery furnace any gases which:

(i) Contain particulate matter in excess of 0.10 g/dscm (0.044 gr/dscf) corrected to 8 percent oxygen.

(ii) Exhibit 35 percent opacity or greater.

2. From any smelt dissolving tank any gases which contain particulate matter in excess of 0.1 g/kg black liquor solids (dry weight) (0.2 lb/ton black liquor solids (dry weight)).

3. From any lime kiln any gases which contain particulate matter in excess of:

(i) 0.15 g/dscm (0.067 gr/dscf) corrected to 10 percent oxygen, when gaseous fossil fuel is burned.

(ii) 0.30 g/dscm (0.13 gr/dscf) corrected to 10 percent oxygen when liquid fossil fuel is burned.

(4) Standard for Total Reduced Sulfur (TRS).

(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this Chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere:

1. From any digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 10 percent oxygen, unless the following conditions are met:

(i) The gases are combusted in a lime kiln subject to the provisions of part (a)5 of this paragraph; or,

(ii) The gases are combusted in a recovery furnace subject to the provisions of parts (a)2 or (a)3 of this paragraph; or,

(iii) The gases are combusted with other waste gases in an incinerator or other device, or combusted in a lime kiln or recovery furnace not subject to the provisions of this rule, and are subjected to a minimum temperature of 1200°F for at least 0.5 second; or,

(iv) It has been demonstrated to the Technical Secretary's satisfaction by the owner or operator that incinerating the exhaust gases from a new, modified, or reconstructed brown stock washer system is technologically or economically unfeasible. Any exempt system will become subject to the provisions of this rule if the facility is changed so that the gases can be incinerated.

(v) The gases from the digester system, brown stock washer system, or condensate stripper system are controlled by a means other than combustion. In this case, this system shall not discharge any gases to the atmosphere which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to the actual oxygen content of the untreated gas stream.

(vi) The uncontrolled exhaust gases from a new, modified, or reconstructed digester system contain TRS less than 0.005 g/kg ADP (0.01 lb/ton ADP).

2. From any straight kraft recovery furnace any gases which contain TRS in excess of 5 ppm by volume on a dry basis, corrected to 8 percent oxygen.

3. From any cross recovery furnace any gases which contain TRS in excess of 25 ppm by volume on a dry basis, corrected to 8 percent oxygen.

4. From any smelt dissolving tank any gases which contain TRS in excess of 0.016 g/kg black liquor solids at H_2S (0.033 lb/ton black liquor solids as H_2S).

5. From any lime kiln any gases which contain TRS in excess of 8 ppm by volume on a dry basis, corrected to 10 percent oxygen.

(5) Monitoring of Emissions and Operations

(a) Any owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate the following continuous monitoring systems:

1. A continuous monitoring system to monitor and record the opacity of the gases discharged into the atmosphere from any recovery furnace. The span of this system shall be set at 70 percent opacity.

2. Continuous monitoring systems to monitor and record the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere from any lime kiln, recovery furnace, digester system, brown stock washer system, multiple-effect evaporator system, or condensate stripper system, except

where the provisions of subpart (4)(a)1(iii) or (iv) of this rule apply. These systems shall be located downstream of the control device(s) and the spans of these continuous monitoring system(s) shall be set:

(i) At a TRS concentration of 30 ppm for the TRS continuous monitoring system, except that for any cross recovery furnace the span shall be set at 50 ppm.

(ii) At 20 percent oxygen for the continuous oxygen monitoring system.

(b) Any owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate the following continuous monitoring devices:

1. For any incinerator, a monitoring device which measures and records the combustion temperature at the point of incineration of effluent gases which are emitted from any digester system, brown stock washer system, multiple-effect evaporator system, black liquor oxidation system, or condensate stripper system where the provisions of subpart (4)(a)1(iii) of this rule apply. The monitoring device is to be certified by the manufacturer to be accurate within ± 1 percent of the temperature being measured.

2. For any lime kiln or smelt dissolving tank using a scrubber emission control device:

(i) A monitoring device for the continuous measurement of the pressure loss of the gas stream through the control equipment. The monitoring device is to be certified by the manufacturer to be accurate to within a gauge pressure of ± 500 pascals (ca. ± 2 inches water gauge pressure).

(ii) A monitoring device for the continuous measurement of the scrubbing liquid supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within ± 15 percent of design scrubbing liquid supply pressure. The pressure sensor or tap is to be located close to the scrubber liquid discharge point. The Technical Secretary shall be consulted for approval of alternative locations.

(c) Any owner or operator subject to the provisions of this rule shall, except where the provisions of subpart (4)(a)1(iv) or part (4)(a)4 of this rule apply.

1. Calculate and record on a daily basis 12-hour average TRS concentrations for the two consecutive periods of each operating day. Each 12-hour average shall be determined as the arithmetic mean of the appropriate 12 contiguous 1-hour average total reduced sulfur concentrations provided by each continuous monitoring system installed under part (a)2 of this paragraph.

2. Calculate and record on a daily basis 12-hour average oxygen concentrations for the two consecutive periods of each operating day for the recovery furnace and lime kiln. These 12-hour averages shall correspond to the 12-hour average TRS concentrations under part (c)1 of this paragraph and shall be determined as an arithmetic mean of the appropriate 12 contiguous 1-hour average oxygen concentrations provided by each continuous monitoring system installed under part (a)2 of this paragraph.

3. Correct all 12-hour average TRS concentrations to 10 volume percent oxygen, except that all 12-hour average TRS concentration from a recovery furnace shall be corrected to 8 volume percent using the following equation:

$$C_{corr} = C_{meas} (21 - X / 21 - Y)$$

where:

C_{corr} = the concentration corrected for oxygen.

C_{meas} = the concentration uncorrected for oxygen.

X = The volumetric oxygen concentration in percentage to be corrected to (8 percent for recovery furnaces and 10 percent for lime kilns, incinerators, or other devices).

Y = the measured 12-hour average volumetric oxygen concentration.

4. Record once per shift measurements obtained from the continuous monitoring devices installed under part (b)2 of this paragraph.

(d) For the purpose of reports required under 1200-3-16-.01(7)(c), any owner or operator subject to the provisions of this rule shall report semiannually periods of excess emissions as follows:

1. For emissions from any recovery furnace periods of excess emissions are:

(i) All 12-hour averages of TRS concentrations above 5 ppm by volume for straight kraft recovery furnaces and above 25 ppm by volume for cross recovery furnaces.

(ii) All 6-minute average opacities that exceed 35 percent.

2. For emissions from any lime kiln, periods of excess emissions are all 12-hour average TRS concentration above 8 ppm by volume.

3. For emissions from any digester system, brown stock washer system, multiple effect evaporator system, or condensate stripper system periods of excess emissions are:

(i) All 12-hour average TRS concentrations above 5 ppm by volume unless the provisions of subparts (4)(a)1(i), (ii), or (iv) of this rule apply; or

(ii) All periods in excess of 5 minutes and their duration during which the combustion temperature at the point of incineration is less than 1200° F, where the provisions of subpart (4)(a)1(iii) of this rule apply.

(e) The Technical Secretary will not consider periods of excess emissions reported under subparagraph (d) of this paragraph to be indicative of a violation of rule .01(6)(d) of this chapter provided that:

1. The percent of the total number of possible contiguous periods of excess emissions in a quarter (excluding periods of startup, shutdown, or malfunction and periods when the facility is not operating) during which excess emissions occur does not exceed:

(i) One percent for TRS emissions from recovery furnaces.

(ii) Six percent for average opacities from recovery furnaces.

2. The Technical Secretary determines that the affected facility, including air pollution control equipment, is maintained and operated in a manner which is consistent with good air pollution control practice for minimizing emissions during periods of excess emissions.

(6) Test Methods and Procedures

(a) For determining the concentration of particulate matter and associated moisture content, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.85 dscm/hr (0.53 dscf/min) except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary. Water shall be used as the cleanup solvent instead of acetone in the sample recovery procedure outlined in Method 5 (as specified in 1200-3-16-.01(5)(g)5).

(b) In-stack filtration as specified in 1200-3-16-.01(5)(g)17 may be used for determining compliance with subpart (3)(a)1(i) of this rule provided, that a constant value of 0.009 g/dscm (0.004 gr/dscf) is added to the results of Method 17 and the stack temperature is no greater than 205°C (ca. 400°F). Water shall be used as the cleanup solvent instead of acetone in the sample recovery procedure

outlined in Method 17 (as referenced in 1200-3-16-.01(5)(g)17).

(c) For the purpose of determining compliance with paragraph (4) of this rule, the following reference methods shall be used:

1. Reference method listed in 1200-3-16-.01(5)(g)16 or at the discretion of the owner or operator, 1200-3-16-.01(5)(g)16, subpart (i) for the concentration of TRS.

2. The reference method listed in 1200-3-16-.01(5)(g)3 for gas analysis, and

3. When determining compliance with part (4)(a)4 of this rule, use the results of Method 2, Method 16 or Method 16A, and the black liquor solids feed rate in the following equation to determine the TRS emission rate on an equivalent hydrogen sulfide (H_2S) basis.

$E = (C_{TRS})(F)(Qsd)/BLS$

Where:

E = mass of TRS emitted per unit of black liquor solids (g/kg)(lb/ton)

C_{TRS} = average combined concentration of TRS as determined by Method 16 or 16A during the test period, PPM.

F = 0.001417 g H_2S/m^3 PPM for metric units
0.08844 x^2 10^{-6} lb H_2S/ft^3 PPM for English units

Qsd = dry volumetric stack gas flow rate corrected to standard conditions, dscm/hr (dscf/hr)

BLS = black liquor solids feed rate, kg/hr (ton/hr)

4. When determining whether a furnace is a straight kraft recovery furnace or a cross recovery furnace, TAPPI Method T.624 (note: All references to TAPPI refer to the Technical Association of the Pulp and Paper Industry, Dunwoody Park, Atlanta, Georgia 30341. Copies of the methods are available for purchase by writing TAPPI at the above address. Be sure and specify the desired method.) shall be used to determine sodium sulfide, sodium hydroxide and sodium carbonate. These determinations shall be made three times daily from the green liquor and the daily average values shall be converted to sodium oxide ($N_{a2}O$) and substituted into the following equation to determine the green liquor sulfidity:

$GLS = 100\ CN_{a2}S/(CN_{a2}S+CN_aOH + CN_{a2}C_{O3})$

where:

GLS = percent green liquor sulfidity

$CN_{a2}S$ = average concentration of $N_{a2}S$ expressed as $N_{a2}O$ (mg/1)

CNaOH = average concentration of NaOH expressed as $N_{a2}O$ (mg/1)

CNa_2C_{03} = average concentration of $N_{a2}C_{O3}$ expressed as $N_{a2}O$(mg/l)

5. When determining compliance with subpart (4)(a)1(vi) of this rule, use the results of Method 2, Method 16 or Method 16A, and the pulp production rate in the equation specified in part (6)(c) 3 of this rule, except substitute the pulp production rate (PPR) (kg/hr (tons/hr)) for the black liquor solids feed rate (BLS).

(d) All concentrations of particulate matter and TRS required to be measured by this paragraph from lime kilns or incinerators shall be corrected 10 volume percent oxygen and those concentrations from recovery furnaces shall be corrected to 8 volume percent oxygen. These corrections shall be made in the manner specified in part (5)(c)3 of this rule.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.30 Grain Elevators

(1) Applicability and Designation of Affected Facility

(a) The provisions of this rule apply to each affected facility at any grain terminal elevator or any grain storage elevator, except as provided under subparagraph (5)(a) of this rule. The affected facilities are each truck unloading station, truck loading station, barge and ship unloading station, barge and ship loading station, railcar loading station, railcar unloading station, grain dryer, and all grain handling operations.

(b) Any facility under subparagraph (a) of this paragraph which commences construction, modification, or reconstruction after December 10, 1979 is subject to the requirements of this rule.

(2) Definitions

(a) "Grain" means corn, wheat, sorghum, rice, rye, oats, barley, and soybeans.

(b) "Grain elevator" means any plant or installation at which grain is unloaded, handled, cleaned, dried, stored, or loaded.

(c) "Grain terminal elevator" means any grain elevator which has a permanent storage capacity of more than 88,100 m^3 (ca. 2.5 million U.S. bushels), except those located at animal food manufacturers, cereal manufacturers, breweries, and livestock feedlots.

(d) "Permanent storage capacity" means grain storage capacity which is inside a building, bin, or silo.

(e) "Railcar" means railroad hopper car or boxcar.

(f) "Grain storage elevator" means any grain elevator located at any wheat flour mill, wet corn mill, dry corn mill (human consumption), rice mill, or soybean oil extraction plant which has a permanent grain storage capacity of 35,200 m^3 (ca. 1 million bushels).

(g) "Process emission" means the particulate matter which is collected by a capture system.

(h) "Fugitive emission" means the particulate matter which is not collected by a capture sytem and is released directly into the atmosphere from an affected facility at a grain elevator.

(i) "Capture system" means the equipment such as sheds, hoods, ducts, fans, dampers, etc. used to collect particulate matter generated by an affected facility at a grain elevator.

(j) "Grain unloading station" means that portion of a grain elevator where the grain is transferred from a truck, railcar, barge, or ship to a receiving hopper.

(k) "Grain loading station" means that portion of a grain elevator where the grain is transferred from the elevator to a truck, railcar, barge, or ship.

(l) "Grain handling operations" include bucket elevators or legs (excluding legs used to unload barges or ships), scale hoppers and surge bins (garners), turn heads, scalpers, cleaners, trippers, and the headhouse and other such structures.

(m) "Column dryer" means any equipment used to reduce the moisture content of grain in which the grain flows from the top to the bottom in one or more continuous packed columns between two perforated metal sheets.

(n) "Rack dryer" means any equipment used to reduce the moisture content of grain in which the grain flows from the top to the bottom in a cascading flow around rows of baffles (racks).

(o) "Unloading leg" means a device which includes a bucket-type elevator which is used to remove

grain from a barge or ship.

(3) Standards for Particulate Matter and Opacity

(a) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this Chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere any gases which exhibit greater than 0 percent opacity from any:

1. Column dryer with column plate perforation exceeding 2.4 mm diameter (ca. 0.094 inch).

2. Rack dryer in which exhaust gases pass through a screen filter coarser than 50 mesh.

(b) On and after the date on which the performance test required to be conducted in paragraph .01(5) of this Chapter is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility except a grain dryer any process emission which:

1. Contains particulate matter in excess of 0.023 g/dscm (ca. 0.01 gr/dscf).

2. Exhibits greater than 0 percent opacity.

(c) On and after the date on which the performance test required to be conducted by paragraph .01(5) of this Chapter is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere any fugitive emissions from:

1. Any individual truck unloading station, railcar unloading station, or railcar loading station, which exhibits greater than 5 percent opacity.

2. Any grain handling operation which exhibits greater than 0 percent opacity.

3. Any truck loading station which exhibits greater than 10 percent opacity.

4. Any barge or ship loading station which exhibits greater than 20 percent opacity.

(d) The owner or operator of any barge or ship unloading station shall operate as follows:

1. The unloading leg shall be enclosed from the top (including the receiving hopper) to the center line of the bottom pulley and ventilation to a control device shall be maintained on both sides of the leg and the grain receiving hopper.

2. The total rate of air ventilated shall be at least 32.1 actual cubic meters per cubic meter of grain handling capacity (ca. 40 ft^3/bu).

3. Rather than meet the requirements of subparagraphs (1) and (2), of this paragraph the owner or operator may use other methods of emission control if it is demonstrated to the Technical Secretary's satisfaction that they would reduce emissions of particulate matter to the same level or less.

(4) Test Methods and Procedures

For determination of concentration of particulate matter, the sampling time for each run shall be at least 60 minutes and the sample volume shall be 1.7 dscm (ca. 60 dscf). If the method 5 sampling procedure is used, the sampling probe and filter holder shall be operated without heaters.

(5) Modifications

(a) The following physical changes or changes in the method of operation shall not by themselves be considered a modification of any existing facility:

1. The addition of gravity loadout spouts to existing grain storage or grain transfer bins.

2. The installation of automatic weighing scales.

3. Replacement of motor and drive units driving existing grain handling equipment.

4. The installation of permanent storage capacity with no increase in hourly grain handling capacity.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.31 Reserved

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.32 Ammonium Sulfate Manufacture

(1) Applicability

(a) The affected facility to which the provisions of this rule apply is each ammonium sulfate dryer within an ammonium sulfate manufacturing plant in the caprolactam by-product, synthetic, and coke oven by-product sectors of the ammonium sulfate industry.

(b) Any facility under subparagraph (a) of this paragraph that commences construction or modification after February 28, 1983 is subject to the requirements of this rule.

(2) Definitions

"Ammonium sulfate dryer" means a unit or vessel into which ammonium sulfate is charged for the purpose of reducing the moisture content of the product using a heated gas stream. The unit includes foundations, superstructure, material charger systems, exhaust systems, and integral control systems and instrumentation.

"Ammonium sulfate feed material streams" means the sulfuric acid feed stream to the reactor/crystallizer for synthetic and coke oven by-product ammonium sulfate manufacturing plants; and means the total or combined feed streams (the oximation ammonium sulfate stream and the rearrangement reaction ammonium sulfate stream) to the crystallizer stage, prior to any recycle streams.

"Ammonium sulfate manufacturing plant" means any plant which produces ammonium sulfate.

"Caprolactam by-product ammonium sulfate manufacturing plant" means any plant which produces ammonium sulfate as a by-product from process streams generated during caprolactam manufacture.

"Coke oven by-product ammonium sulfate manufacturing plant" means any plant which produces ammonium sulfate by reacting sulfuric acid with ammonia recovered as a by-product from the manufacture of coke.

"Synthetic ammonium sulfate manufacturing plant" means any plant which produces ammonium sulfate by direct combination of ammonia and sulfuric acid.

(3) Standards for particulate matter

On or after the date on which the performance test required to be conducted by 1200-3-16-.01(5) is completed, no owner or operator of an ammonium sulfate dryer subject to the provisions of this rule shall cause to be discharged into the atmosphere, from any ammonium sulfate dryer, particulate matter at an emission rate exceeding 0.15 kilogram of particulate per megagram of ammonium sulfate produced (0.30 pound of particulate per ton of ammonium sulfate produced) and exhaust gases with greater than 15 percent opacity.

(4) Monitoring of operations

(a) The owner or operator of any ammonium sulfate manufacturing plant subject to the provisions of

this rule shall install, calibrate, maintain, and operate flow monitoring devices which can be used to determine the mass flow of ammonium sulfate feed material streams to the process. The flow monitoring device shall have an accuracy of ±5 percent over its range. However, if the plant uses weigh scales of the same accuracy to directly measure production rate of ammonium sulfate, the use of flow monitoring devices is not required.

(b) The owner or operator of any ammonium sulfate manufacturing plant subject to the provisions of this rule shall install, calibrate, maintain, and operate a monitoring device which continuously measures and permanently records the total pressure drop across the emission control system. The monitoring device shall have an accuracy of ± 5 percent over its operating range.

(5) Test methods and procedures

(a) Reference methods in 1200-3-16-.01(5)(g) of this chapter, except as provided in 1200-3-16-.01(5)(b), shall be used to determine compliance with 1200-3-16-.32(3) as follows:

1. Method 5 as specified in 1200-3-16-.01(5)(g)5 for the concentration of particulate matter.

2. Method 1 as specified in 1200-3-16-.01(5)(g)1 for sample and velocity traverses.

3. Method 2 as specified in 1200-3-16-.01(5)(g)2 for velocity and volumetric flow rate.

4. Method 3 as specified in 1200-3-16-.01(5)(g)3 for gas analysis.

(b) For Method 5, the sampling time for each run shall be at least 60 minutes and the volume shall be at least 1.50 dry standard cubic meters (53 dry standard cubic feet).

(c) For each run, the particulate emission rate, E, shall be computed as follows:

E = Qsd x Cs 1000

1. E is the particulate emission rate (kg/h).

2. Qsd is the average volumetric flow rate (dscm/h) as determined by Method 2; and

3. Cs is the average concentration (g/dscm) of particulate matter as determined by Method 5.

(d) For each run, the rate of ammonium sulfate production, P (Mg/h), shall be determined by direct measurement using product weigh scales or computed from a material balance. If production rate is determined by material balance, the following equations shall be used.

1. For synthetic and coke oven by-product ammonium sulfate plants, the ammonium sulfate production rate shall be determined using the following equation:

P = A x B x C x 0.0808

where:

P = Ammonium sulfate production rate in megagrams per hour.

A = Sulfuric acid flow rate to the reactor/crystallizer in liters per minute averaged over the time period taken to conduct the run.

B = Acid density (a function of acid strength and temperature) in grams per cubic centimeter.

C = Percent acid strength in decimal form.

0.0808 = Physical constant for conversion of time, volume, and mass units.

2. For caprolactam by-product ammonium sulfate plants the ammonium sulfate production rate shall be determined by using the following equation:

$$P = D * E * F * (6.0 \times 10^{-5})$$

where:

P = Production rate of caprolactam by-product ammonium sulfate in megagrams per hour.

D = Total combined feed stream flow rate to the ammonium sulfate crystallizer before the point where any recycle streams enter the stream in liters per minute averaged over the time period taken to conduct the test run.

E = Density of the process stream solution in grams per liter.

F = Percent mass of ammonium sulfate in the process solution in decimal form.

(6.0×10^{-5}) = Physical constant for conversion of time and mass units.

(e) For each run, the dryer emission rate shall be computed as follows:

R = E/P

where:

1. R is the dryer emission rate (kg/Mg);

2. E is the particulate emission rate (kg/h) from (c) above; and

3. P is the rate of ammonium sulfate production (Mg/h) from (d) above.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.33 Reserved.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.34 Automobile and Light Duty Truck Surface Coating Operations

(1) Applicability

(a) The provisions of this rule apply to the following affected facilities in an automobile or light-duty truck assembly plant: each prime coat operation, each guide coat operation, and each topcoat operation.

(b) Exempted from the provisions of this rule are operations used to coat plastic body components or all-plastic automobile or light-duty truck bodies on separate coating lines. The attachment of plastic body parts to a metal body before the body is coated does not cause the metal body coating operation to be exempted.

(c) The provisions of this rule apply to any affected facility identified in subparagraph (a) of this paragraph that begins construction, reconstruction, or modification after November 6, 1988.

(2) Definitions and Abbreviations

(a) Definitions

1. "Applied coating solids" means the volume of dried or cured coating solids which is

deposited and remains on the surface of the automobile or light-duty truck body.

2. "Automobile" means a motor vehicle capable of carrying no more than 12 passengers. "Motor vehicle" for the purposes of this rule means every vehicle which is self propelled excluding motorized bicycles and every vehicle which is not propelled by electric power obtained from overhead trolley wires. The words "motor vehicle" shall not mean any mobile home or house trailer.

3. "Automobile and light-duty truck body" means the exterior surface of an automobile or light-duty truck including hoods, fenders, cargo boxes, doors, and grill opening panels.

4. "Bake oven" means a device that uses heat to dry or cure coatings.

5. "Electrodeposition (EDP)" means a method of applying a prime coat by which the automobile or light-duty truck body is submerged in a tank filled with coating material and an electrical field is used to effect the deposition of the coating material on the body.

6. "Electrostatic spray application" means a spray application method that uses an electrical potential to increase the transfer efficiency of the coating solids. Electrostatic spray application can be used for prime coat, guide coat, or topcoat operations.

7. "Flash-off area" means the structure on automobile and light-duty truck assembly lines between the coating application system (dip tank or spray booth) and the bake oven.

8. "Guide coat operation" means the guide coat spray booth, flash-off area and bake oven(s) which are used to apply and dry or cure a surface coating between the prime coat and topcoat operation on the components of automobile and light-duty truck bodies.

9. "Light duty truck" means any motor vehicle rated at 3,850 kilograms gross vehicle weight or less, designed mainly to transport property.

10. "Plastic body" means an automobile or light-duty truck body constructed of synthetic organic material.

11. "Plastic body component" means any component of an automobile or light-duty truck exterior surface constructed of synthetic organic material.

12. "Prime coat operation" means the prime coat spray booth or dip tank, flash-off area, and bake oven(s) which are used to apply and dry or cure the initial coating on components of automobile or light-duty truck bodies.

13. "Purge" or "line purge" means the coating material expelled from the spray system when clearing it.

14. "Solvent-borne" means a coating which contains five percent or less water by weight in its volatile fraction.

15. "Spray application" means a method of applying coatings by atomizing the coating material and directing the atomized material toward the part to be coated. Spray applications can be used for prime coat, guide coat, and topcoat operations.

16. "Spray booth" means a structure housing automatic or manual spray application equipment where prime coat, guide coat, or topcoat is applied to components of automobile or light-duty truck bodies.

17. "Surface coating operation" means any prime coat, guide coat, or topcoat operation on an automobile or light-duty truck surface coating line.

18. "Topcoat operation" means the topcoat spray booth, flash-off area, and bake oven(s) which are used to apply and dry or cure the final coating(s) on components of automobile and light-duty truck bodies.

19. "Transfer efficiency" means the ratio of the amount of coating solids transferred onto the surface of a part or product to the total amount of coating solids used.

20. "VOC content" means all volatile organic compounds that are in a coating expressed as kilograms of VOC per liter (pounds per gallon) of coating solids.

21. "Waterborne" or "water reducible" means a coating which contains more than five weight percent water in its volatile fraction.

(b) Abbreviations

1. Caj = concentration of VOC (as carbon) in the effluent gas flowing through stack (j) leaving the control device (parts per million by volume).

2. Cbi = concentration of VOC (as carbon) in the effluent gas flowing through stack (i) entering the control device (parts per million by volume).

3. Cfk = concentration of VOC (as carbon) in the effluent gas flowing through exhaust stack (k) not entering the control device (parts per million by volume).

4. Dci = density of each coating (i) as received (kilograms per liter) (pounds per gallon).

5. Ddj = density of each type VOC dilution solvent (j) added to the coatings, as received (kilograms per liter or pounds per gallon).

6. Dr = density of VOC recovered from an affected facility (kilograms per liter or pounds per gallon).

7. E = VOC destruction efficiency of the control device.

8. F = fraction of total VOC which is emitted by an affected facility that enters the control device.

9. G = volume weighted average mass of VOC per volume of applied solids (kilograms per liter or pounds per gallon).

10. Lci = volume of each coating (i) consumed, as received (liters or gallons).

11. Lcil = volume of each coating (i) consumed by each application method (l), as received (liters or gallons).

12. Ldj = volume of each type VOC dilution solvent (j) added to the coatings, as received (liters or gallons).

13. Lr = volume of VOC recovered from an affected facility (liters or gallons).

14. Ls = volume of solids in coatings consumed (liters or gallons).

15. Md = total mass of VOC in dilution solvent (kilograms or pounds).

16. Mo = total mass of VOC in coatings as received (kilograms or pounds).

17. Mr = total mass of VOC recovered from an affected facility (kilograms or pounds).

18. N = volume weighted average mass of VOC per volume of applied coating solids after the control device kilograms of VOC or pounds of VOC liter of applied solids (gallon of applied solids)

19. Qaj = volumetric flow rate of the effluent gas flowing through stack (j) leaving the control device (dry standard cubic meters (feet) per hour).

20. Qbi = volumetric flow rate of the effluent gas flowing through stack (i) entering the control device (dry standard cubic meters (feet) per hour).

21. Qfk = volumetric flow rate of the effluent gas flowing through exhaust stack (k) not entering the control device (dry standard cubic meters (feet) per hour).

22. T = overall transfer efficiency.

23. TI = transfer efficiency for application method (I).

24. Vsi = proportion of solids by volume in each coating (i) as received liter solids or gallons of solids liter coating gallons of coating, and

25. Woi = proportion of VOC by weight in each coating (i), as received kilograms VOC or pounds VOC kilograms coating pounds coating.

(3) Standards for volatile organic compounds

On and after the date on which the initial performance test required by 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge into the atmosphere from any affected facility VOC emissions in excess of:

(a) 0.16 kilograms of VOC per liter (1.34 pounds of VOC per gallon) of applied coating solids of each prime coat operation.

(b) 1.40 kilograms of VOC per liter (11.69 pounds of VOC per gallon) of applied coating solids from each guide coat operation.

(c) 1.47 kilograms of VOC per liter (12.28 pounds of VOC per gallon) of applied coating solids from each topcoat operation.

(4) Performance test and compliance provisions

(a) Subparagraphs 1200-3-16-.01(5)(d) and (f) do not apply to the performance test procedures required by this paragraph.

(b) The owner or operator of an affected facility shall conduct an initial performance test in accordance with 1200-3-16-.01(5)(a) and thereafter for each calendar month for each affected facility according to the procedures in this paragraph.

(c) The owner or operator shall use the following procedures for determining the monthly volume weighted average mass of VOC emitted per volume of applied coating solids.

1. The owner or operator shall use the following procedures for each affected facility which does not use a capture system and a control device to comply with the applicable emission limit specified under paragraph (3) of this rule.

(i) Calculate the volume weighted average mass of VOC per volume of applied coating solids for each calendar month for each affected facility. The owner or operator shall determine the composition of the coatings by formulation data supplied by the manufacturer of the coating or from data determined by an analysis of each coating, as received, by Reference Method 24, as specified in 1200-3-16-.01(5)(g)24. The Technical Secretary may require the owner or operator who uses formulation data supplied by the manufacturer of the coating to determine data used in the calculation of the VOC content of coatings by Reference Method 24, as specified in 1200-3-16-.01(5)(g)24 or an equivalent or alternative method. The owner or operator shall determine from company records on a monthly basis the volume of coating consumed, as received, and the mass of solvent used for thinning purposes. The volume weighted average of the total mass of VOC per volume of coating solids used each calendar month will be determined by the

following procedures.

(I) Calculate the mass of VOC used in each calendar month for each affected facility by the following equation where "n" is the total number of coatings used and "m" is the total number of VOC solvents used:

$$M_o + M_d = \sum_{i=1}^{n} L_{ci} D_{ci} W_{oi} + \sum_{j=1}^{m} L_{dj} D_{dj}$$

(SUM LdjDdj will be zero if no VOC solvent is added to the coatings, as received).

(II) Calculate the total volume of coating solids used in each calendar month for each affected facility by the following equation where "n" is the total number of coatings used:

$$L_s = \sum_{i=1}^{n} L_{ci} v_{si}$$

(III) Select the appropriate transfer efficiency (T) from the following tables for each surface coating operation:

Application Method	Transfer efficiency
Air Atomized Spray (waterborne coating).	0.39
Air Atomized Spray (solvent-borne coating).	0.50
Manual Electrostatic Spray.	0.75
Automatic Electrostatic Spray.	0.95
Electrodeposition.	1.00

The values in the table above represent an overall system efficiency which includes a total capture of purge. If a spray system uses line purging after each vehicle and does not collect any of the purge material, the following table shall be used:

Application Method	Transfer efficiency
Air Atomized Spray (waterborne coating).	0.30
Air Atomized Spray (solvent-borne coating).	0.40
Manual Electrostatic Spray.	0.62
Automatic Electrostatic Spray.	0.75

In lieu of using the values listed above for transfer efficiencies, any owner or operator may petition the Board for use of a different transfer efficiency based on scientific evidence that the proposed values are more correct than those listed above for their sources. Prior to any approval by the Board, a public hearing shall be held to allow input from the public. If the petition is granted, the approved values shall be included on any permit issued to the source and shall serve in lieu of those listed above.

I. When more than one application method (I) is used on an individual surface coating operation, the owner or operator shall perform an analysis to determine an average transfer efficiency by the following equation where "n" is the total number of coatings used and "p" is the total number of application methods:

$$T = \frac{\sum_{i=1}^{n} T_l V_{si} L_{cil}}{\sum_{l=1}^{p} L_s}$$

(IV) Calculate the volume solids weighted average mass of VOC per volume of applied coating solids (G) during each calendar month for each affected facility by the following procedures:

I. For prime coat operations, use the following procedure: G is equal to the sum of (Mo + Md) for 6 out of 7 most recent calendar months of normal operation divided by the respective sum of (LsT).

II. For guide coat and topcoat operations, use the following equation:

$$G = \frac{Mo + Md}{LsT}$$

(ii) If the volume weighted average mass of VOC per volume of applied coating solids (G), calculated on a calendar month basis, is less than or equal to the applicable emission limit specified in paragraph (3) of this rule, the affected facility is in compliance. Each monthly calculation is a performance test for the purpose of this rule.

2. The owner or operator shall use the following procedures for each affected facility which uses a capture system and a control device that destroys VOC (e.g., incinerator) to comply with the applicable emission limits specified under paragraph (3) of this rule.

(i) Calculate the volume weighted average mass of VOC per volume of applied coating solids (G) during each calendar month for each affected facility as described under subpart (4)(c)1(i) of this rule.

(ii) Calculate the volume weighted average mass of VOC per volume of applied solids emitted after the control device, by the following equation:

$N = G (1 - FE)$

(I) Determine the fraction of total VOC which is emitted by an affected facility that enters the control device by using the following equation where “n” is the total number of stacks entering the control device and “p” is the total number of stacks not connected to the control device:

$$F = \frac{\sum_{i=1}^{n} Q_{bi} C_{bi}}{\sum_{l=1}^{n} Q_{bi} C_{bi} + \sum_{l=1}^{p} Q_{fk} C_{fk}}$$

In lieu of using the method above, any owner or operator may petition the Board for use of a different method based on scientific evidence that the proposed method is more correct than that method above for their sources. Prior to any approval by the Board, a public hearing shall be held to allow input from the public. If the petition is granted, the approved method shall be included on any permit issued to the source and shall serve in lieu of the method above.

I. In subsequent months, the owner or operator shall use the most recently determined capture fraction for the performance test.

(II) Determines the destruction efficiency of the control device using values of the volumetric flow rate of the gas streams and the VOC content (as carbon) of each of the gas streams in and out of the device by the following equation where "n" is the total number of stacks entering the control device and "m" is the total number of stacks leaving the control device:

$$E = \frac{\sum_{i=1}^{n} Q_{bi} C_{bi} - \sum_{j=1}^{m} Q_{aj} C_{aj}}{\sum_{i=1}^{n} Q_{bi} C_{bi}}$$

I. In subsequent months, the owner or operator shall use the most recently determined VOC destruction efficiency for the performance test.

(III) If an emission control device controls the emissions from more than one affected facility, the owner or operator shall measure the VOC concentration (Cbi) in the effluent gas entering the control device (in parts per million by volume) and the volumetric flow rate (Qbi) of the effluent gas (in dry standard cubic meters per hour) entering the device through each stack. The destruction or removal efficiency determined using these data shall be applied to each affected facility served by the control device.

(iii) If the volume weighted average mass of VOC per volume of applied solids emitted after the control device (N) calculated on a calendar month basis is less than or equal to the applicable emission limit specified in paragraph (3) of this rule, the affected facility is in compliance. Each monthly calculation is a performance test for the purposes of this rule.

3. The owner or operator shall use the following procedures for each affected facility which uses a capture system and a control device that recovers the VOC (e.g., carbon adsorber) to comply with the applicable emission limit specified under paragraph (3) of this rule.

(i) Caculate the mass of VOC (Mo+ Md) used during each calendar month for each affected facility as described under subpart (4)(c)1(i) of this rule.

(ii) Calculate the total volume of coating solids (Ls) used in each calendar month for each affected facility as described under subpart (4)(c)1(i) of this rule.

(iii) Calculate the mass of VOC recovered (Mr) each calendar month for each affected facility by the following equation: Mr = LrDr

(iv) Calculate the volume weighted average mass of VOC per volume of applied coating solids emitted after the control device during a calendar month by the following equation:

$$N = \frac{Mo + Md - Mr}{LsT}$$

(v) If the volume weighted average mass of VOC per volume of applied solids emitted after the control device (N) calculated on a calendar month basis is less than or equal to the applicable emission limit specified in paragraph (3) of this rule, the affected facility is in compliance. Each monthly calculation is a performance test for the purposes of this rule.

(5) Monitoring of emissions and operations

The owner or operator of an affected facility which uses an incinerator to comply with the emission limits

specified under paragraph (3) of this rule shall install, calibrate, maintain, and operate temperature measurement devices as prescribed below:

(a) Where thermal incineration is used, a temperature measurement device shall be installed in the firebox. Where catalytic incineration is used, a temperature measurement device shall be installed in the gas stream immediately before and after the catalyst bed.

(b) Each temperature measurement device shall be installed, calibrated, and maintained according to accepted practice and the manufacturer's specifications. The device shall have an accuracy of the greater of ± 0.75 percent of the temperature being measured expressed in degrees Celsius or ±2.5°C.

(c) Each temperature measurement device shall be equipped with a recording device so that a permanent record is produced.

(6) Reporting and recordkeeping requirements

(a) Each owner or operator of an affected facility shall include the data outlined in parts 1 and 2 of this subparagraph in the initial compliance report required by 1200-3-16-.01(5).

1. The owner or operator shall report the volume weighted average mass of VOC per volume of applied coating solids for each affected facility.

2. Where compliance is achieved through the use of incineration, the owner or operator shall include the following additional data in the control device initial performance test required by 1200-3-16-.01(5)(a) or subsequent performance tests at which destruction efficiency is determined: the combustion temperature (or the gas temperature upstream and downstream of the catalyst bed), the total mass of VOC per volume of applied coating solids before and after the incinerator, capture efficiency, the destruction efficiency of the incinerator used to attain compliance with the applicable emission limit specified in paragraph (3) of this rule and a description of the method used to establish the fraction of the VOC captured and sent to the control device.

(b) Following the initial report, each owner or operator shall report the volume weighted average mass of VOC per volume of applied coating solids for each affected facility during each calendar month in which the affected facility is not in compliance with the applicable emission limit specified in paragraph (3) of this rule. This report shall be postmarked not later than ten days after the end of the calendar month that the affected facility is not in compliance. Where compliance is achieved through the use of a capture system and control device, the volume weighted average after the control device should be reported.

(c) Where compliance with paragraph (3) of this rule is achieved through the use of incineration, the owner or operator shall continuously record the incinerator combustion temperature during coating operations for thermal incineration or the gas temperature upstream and downstream of the incinerator catalyst bed during coating operations for catalytic incineration. The owner or operator shall report quarterly as defined below.

1. For thermal incinerators, every three hour period shall be reported during which the average temperature measured is more than 28°C less than the average temperature during the most recent control device performance test at which the destruction efficiency was determined as specified under paragraph (3) of this rule. Readings should be taken a minimum of one (1) every fifteen (15) minutes within the specified three-hour period.

2. For catalytic incinerators, every three hour period shall be reported during which the average temperature immediately before the catalyst bed, when the coating system is operational, is more than 28°C less than the average temperature immediately before the catalyst bed during the most recent control device performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule. In addition, every three hour period shall be reported each quarter during which the average temperature difference across the catalyst bed when the coating system is operational is less than 80 percent of the average temperature difference of the device during the most recent control

device performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule. Readings should be taken a minimum of one (1) every fifteen (15) minutes within the specified three-hour period.

3. For thermal and catalytic incinerators, if no such periods occur, the owner or operator shall submit a negative report.

(d) The owner or operator shall notify the Technical Secretary 30 days in advance of any test by Reference Method 25 as specified in 1200-3-16-.01(5)(g)25.

(7) Reference methods and procedures

(a) The reference methods in 1200-3-16-.01(5)(g) shall be used to conduct performance tests.

1. Reference Method 24 as specified 1200-3-16-.01(5)(g)24 or an equivalent or an alternative method approved by the Technical Secretary shall be used for the determination of the data used in the calculation of the VOC content of the coatings used for each affected facility. Manufacturers' formulation data is approved by the Technical Secretary as an alternative method to Method 24. In the event of dispute, Reference Method 24 shall be the referee method.

2. Reference Method 25 as specified in 1200-3-16-.01(5)(g)25 or an equivalent or alternative method approved by the Technical Secretary shall be used for the determination of the VOC concentration in the effluent gas entering and leaving the emission control device for each stack equipped with an emission control device and in the effluent gas leaving each stack not equipped with a control device.

3. The following methods shall be used to determine the volumetric flow rate in the effluent gas in a stack:

(i) Method 1 as specified in 1200-3-16-.01(5)(g)1 for sample and velocity traverses.

(ii) Method 2 as specified in 1200-3-16-.01(5)(g)2 for velocity and volumetric flow rate.

(iii) Method 3 as specified in 1200-3-16-.01(5)(g)3 for gas analysis, and

(iv) Method 4 as specified in 1200-3-16-.01(5)(g)4 for stack gas moisture.

(b) For reference Method 24, the coating sample must be a 1-liter sample taken in a 1-liter container.

(c) For Reference Method 25, the sampling time for each of three runs must be at least one hour. The minimum sample volume must be 0.003 dscm except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary. The Technical Secretary will approve the sampling of representative stacks on a case-by-case basis if the owner or operator can demonstrate to the satisfaction of the Technical Secretary that the testing of representative stacks would yield results comparable to those that would be obtained by testing all stacks.

(8) Modifications

The following physical or operational changes are not by themselves, considered modifications of existing facilities:

(a) Changes as a result of model year changeovers or switches to larger cars.

(b) Changes in the application of the coatings to increase coating film thickness.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.35 Asphalt Processing and Asphalt Roofing Manufacture

(1) Applicability and designation of affected facilities

The affected facilities to which this rule applies are each saturator and each mineral handling and storage facility at asphalt roofing plants and each asphalt storage tank and each blowing still at asphalt processing plants, petroleum refineries, and asphalt roofing plants that commence construction or modification after November 6, 1988.

(2) Definitions

(a) "Afterburner (A/B)" means an exhaust gas incinerator used to control emissions of particulate matter.

(b) "Asphalt processing" means the storage and blowing of asphalt.

(c) "Asphalt processing plant" means a plant which blows asphalt for use in the manufacture of asphalt products.

(d) "Asphalt roofing plant" means a plant which produces asphalt roofing products (shingles, roll roofing, siding, or saturated felt).

(e) "Asphalt storage tank" means any tank used to store asphalt at asphalt roofing plants, petroleum refineries, and asphalt processing plants. Storage tanks containing cutback asphalt (asphalts diluted with solvents to reduce viscosity for low temperature applications) and emulsified asphalts (asphalts dispersed in water with an emulsifying agent) are not subject to this regulation.

(f) "Blowing still" means the equipment in which air is blown through asphalt flux to change the softening point and penetration rate.

(g) "Catalyst" means a substance which when added to asphalt flux in a blowing still alters the penetrating-softening point relationship or increases the rate of oxidation of the flux.

(h) "Coating blow" means the process in which air is blown through hot asphalt flux to produce coating asphalt. The coating blow starts when the air is turned on and stops when the air is turned off.

(i) "Electostatic precipitator (ESP)" means an air pollution control device in which solid or liquid particulates in a gas stream are charged as they pass through an electric field and precipitated on a collection surface.

(j) "High velocity air filter (HVAF)" means an air pollution control filtration device for the removal of sticky, oily, or liquid aerosol particulate matter from exhaust gas streams.

(k) "Mineral handling and storage facility" means the areas in asphalt roofing plants in which minerals are unloaded from a carrier, the conveyor transfer points between the carrier and the storage silos, and the storage silos.

(l) "Saturator" means the equipment in which asphalt is applied to felt to make asphalt roofing products. The term saturator includes the saturator, wet looper, and coater.

(3) Standards for particulate matter

(a) On and after the date on which 1200-3-16-.01(5)(b) requires a performance test to be completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any saturator:

1. Particulate matter in excess of:

(i) 0.04 kilograms of particulate per megagram (0.04 lb/1000 lb) of asphalt shingle or mineral-surfaced roll roofing producted; or

(ii) 0.4 kilograms per megagram (0.4 lb/1000 lb) of saturated felt or smooth-surfaced

roll roofing produced.

2. Exhaust gases with opacity greater than 20 percent; and

3. Any visible emissions from a saturator capture system for more than 20 percent of any period of consecutive valid observations totaling 60 minutes. Saturators that were constructed before November 6, 1988, and that have not been reconstructed since that date and that become subject to these standards through modification are exempt from the visible emissions standards. Saturators that have been newly constructed or reconstructed since November 6, 1988 are subject to the visible emissions standard.

(b) On and after the date on which 1200-3-16-.01(5)(b) requires a performance test to be completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any blowing still:

1. Particulate matter in excess of 0.67 kilograms of particulate per megagram (0.67 lb/1000 lb) of asphalt charged to the still when a catalyst is added to the still; and

2. Particulate matter in excess of 0.71 kilograms of particulate per megagram (0.71 lb/1000 lb) of asphalt charged to the still when a catalyst is added to the still and when No. 6 fuel oil is fired in the afterburner; and

3. Particulate matter in excess of 0.60 kilograms of particulate per megagram (0.6 lb/1000 lb) of asphalt charged to the still during blowing without a catalyst; and

4. Particulate matter in excess of 0.64 kilograms of particulate per megagram (0.64 lb/1000 lb) of asphalt charged to the still during blowing without a catalyst and when No. 6 fuel oil is fired in the afterburner; and

5. Exhaust gases with an opacity greater than 0 percent unless an opacity limit for the blowing still when fuel oil is used to fire the afterburner has been established by the Technical Secretary in accordance with the procedures in subparagraph (5)(k) of this rule.

(c) Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any asphalt storage tank exhaust gases with opacity greater than 0 percent, except for one consecutive 15-minute period in any 24-hour period when the transfer lines are being blown for clearing. The control device shall not be bypassed during this 15-minute period. If, however, the emissions from any asphalt storage tank(s) are ducted to a control device for a saturator, the combined emissions shall meet the emission limit contained in subparagraph (a) of this paragraph during the time the saturator control device is operating. At any other time the asphalt storage tank(s) must meet the opacity limit specified above for storage tanks.

(d) Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any mineral handling and storage facility emissions with opacity greater than 1 percent.

(4) Monitoring of operations

(a) The owner or operator subject to the provisions of this rule, and using either an electrostatic precipitator or a high velocity air filter to meet the emission limit in part (3)(a)1 and/or (3)(b)1 of this rule shall continuously monitor and record the temperature of the gas at the inlet of the control device. The temperature monitoring instrument shall have an accuracy of ±15°C (±27°F) over its range.

(b) The owner of operator subject to the provisions of this rule and using an afterburner to meet the emission limit in (3)(a)1 and/or (3)(b)1 of this rule shall continuously monitor and record the temperature in the combustion zone of the afterburner. The monitoring instrument shall have an accuracy of ±10°C (±18°F) over its range.

(c) An owner or operator subject to the provisions of this rule and using a control device not mentioned in subparagraphs (a) and (b) of this paragraph shall provide to the Technical Secretary information describing the operation of the control device and the process parameter(s) which would indicate proper operation and maintenance of the device. The Technical Secretary may require continuous monitoring and will determine the process parameters to be monitored.

(d) The industry is exempted from the quarterly reports required under 1200-3-16-.01(7)(c). The owner/operator is required to record and report the operating temperature of the control device during the performance test and, as required by 1200-3-16.01(7)(d), maintain a file of the temperature monitoring results for at least two years.

(5) Test methods and procedures

(a) Reference methods in 1200-3-16-.01(5)(g), except as provided in 1200-3-16-.01(5)(b), shall be used to determine compliance with the standards prescribed in paragraph (3) of this rule as follows:

1. Method 5A as specified in 1200-3-16-.01(5)(g)5(ii) for the concentration of particulate matter.

2. Method 1 as specified in 1200-3-16-.01(5)(g)1 for sample and velocity traverses;

3. Method 2 as specified in 1200-3-16-.01(5)(g)2 for velocity and volumetric flow rate;

4. Method 3 as specified in 1200-3-16-.01(5)(g)3 for gas analysis; and

5. Method 9 as specified in 1200-3-16.01(5)(g)9 for opacity.

(b) The Technical Secretary will determine compliance with the standards prescribed in part (3)(a)3 of this rule by using Method 22, as specified in 1200-3-16-.01(5)(g)22, modified so that readings are recorded every 15 seconds for a period of consecutive observations during representative conditions (in accordance with 1200-3-16-.01(5)(c)) totaling 60 minutes. A performance test shall consist of one run.

(c) For Method 5A as specified in 1200-3-16-.01(5)(g)5(ii), the sampling time for each run on a saturator shall be at least 120 minutes, and the sampling volume shall be at least 3 dscm. Method 5A shall be used to measure the emissions from the saturator while 106.6-kg (235-lb) asphalt shingle is being produced if the final product is shingle or mineral-surfaced roll roofing or while 6.8-kg (15-lb) saturated felt is being produced if the final product is saturated felt or smooth-surfaced roll roofing. If the saturator produces only fiberglass shingles, Method 5A shall be used to measure saturator emissions while a nominal 100-kg (220-lb) shingle is being produced. Method 5A shall be used to measure emissions from the blowing still for at least 90 minutes or for the duration of the coating blow, whichever is greater. If the blowing still is not used to blow coating asphalt, Method 5A shall be used to measure emissions from the blowing still for at least 90 minutes or for the duration of the blow, whichever is greater.

(d) The particulate emission rate, E, shall be computed as follows:

$E = Qsd \times Cs$

Where:

1. E is the particulate emission rate, Kg/hr (lb/hr);

2. Qsd is the average volumetric flow rate, dscm/hr (dscf/hr), as determined by Method 2; and

3. Cs is the average concentration, Kg/dscm (lb/dscf), of particulate matter as determined by Method 5A.

(e) The asphalt roofing production rate, P, Mg/hr (TPH), shall be determined by dividing the weight of roofing produced on the shingle or saturated felt process lines during the performance test by the

number of hours required to conduct the performance test. The roofing production shall be obtained by direct measurement.

(f) The production rate of asphalt from the blowing still, Ps, Mg/hr (TPH), shall be determined by dividing the weight of asphalt charged to the still by the time required for the performance test during an asphalt blow. The weight of asphalt charged to the still shall be determined at the starting temperature of the blow. The weight of asphalt shall be converted from the volume measurement as follows:

$$M = \frac{Vd}{c}$$

M = weight of asphalt in megagrams (English Units: tons)

V = volume of asphalt in cubic meters (English Units: ft3)

d = density of asphalt in kilograms per cubic meter (English Units: lb/ft3)

c = conversion factor 1,000 kilograms per megagram (English Units: 2,000 lb/ton)

The density of asphalt at any measured temperature is calculated by using the following equation:

d = 1056.1 – (0.6176 *x* °C) (Metric Units) or

d = 65.92 – (0.0214 *x* °F) (English Units)

The method of measurement shall have an accuracy of +10 percent.

(g) The saturator emission rate shall be computed as follows: R = E/P.

(h) The blowing still emission rate shall be computed as follows: Rs = E/Ps where:

1. R is the saturator emission rate, Kg/Mg (lb/ton);

2. Rs is blowing still emission rate, Kg/Mg (lb/ton);

3. E is the particulate emission rate, Kg/hr (lb/hr), from subparagraph (c) of this paragraph;

4. P is the asphalt roofing production rate, Mg/hr (TPH); and

5. Ps is the asphalt charging rate, Mg/hr (TPH).

(i) Temperature shall be measured and continuously recorded with the monitor required under subparagraph (4)(a) or (b) of this rule during the measurement of particulate by Method 5A and reported to the Technical Secretary with the performance test results.

(j) If at a later date the owner or operator believes the emission limits in subparagraphs (3)(a) and (b) of this rule are being met even though the temperature measured in accordance with subparagraph (4) of this rule is exceeding that measured during the performance test, he may submit a written request to the Technical Secretary to repeat the performance test and procedure outlined in subparagraph (h) of this paragraph.

(k) If fuel oil is to be used to fire an afterburner used to control a blowing still, the owner or operator may petition the Technical Secretary in accordance with 1200-3-16-.01(6) to establish an opacity standard for the blowing still that will be the opacity standard when fuel oil is used to fire the afterburner. To obtain this opacity standard, the owner or operator must request the Technical Secretary to determine opacity during an initial, or subsequent, performance test when fuel oil is used to fire the afterburner. Upon receipt of the results of the performance test, the Technical Secretary will make a finding concerning compliance with the mass standard for the blowing still. If the Technical Secretary finds that the facility was in compliance with the mass standard during the performance test but failed to meet the zero opacity standard, the Technical Secretary will establish

as a condition on the operating permit of the source an opacity standard for the blowing still that will be the opacity standard when fuel oil is used to fire the afterburner. When the afterburner is fired with natural gas, the zero percent opacity remains the applicable opacity standard.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.36 Industrial Surface Coating: Large Appliances

(1) Applicability

(a) The provisions of this rule apply to each surface coating operation in a large appliance surface coating line.

(b) The provisions of this rule apply to each affected facility identified in subparagraph (a) of this paragraph that commences construction, modification, or reconstruction after November 6, 1988.

(2) Definitions and Symbols

(a) Definitions

1. "Applied coating solids" means the coating solids that adhere to the surface of the large appliance part being coated.

2. "Large appliance part" means any organic surface coated metal lid, door, casing, panel, or other interior or exterior metal part or accessory that is assembled to form a large appliance product. Parts subject to in-use temperatures in excess of 250°F are not included in this definition.

3. "Large appliance product" means any organic surface coated metal range, oven, microwave oven, refrigerator, freezer, washer, dryer, dishwasher, water heater, or trash compactor manufactured for household, commercial, or recreational use.

4. "Large appliance surface coating line" means that portion of a large appliance assembly plant engaged in the application and curing of organic surface coatings on large appliance parts or products.

5. "Coating application station" means that portion of the large appliance surface coating operation where a prime coat or a top coat is applied to large appliance parts or products (e.g., dip tank, spray booth, or flow coating unit).

6. "Curing oven" means a device that uses heat to dry or cure the coating(s) applied to large appliance parts or products.

7. "Electrodeposition" (EDP) means a method of coating application in which the large appliance part or product is submerged in a tank filled with coating material suspended in water and an electrical potential is used to enhance deposition of the material on the part or product.

8. "Flashoff area" means the portion of a surface coating line between the coating application station and the curing oven.

9. "Organic coating" means any coating used in a surface coating operation, including dilution solvents, from which VOC emissions occur during the application or the curing process. For the purpose of this regulation, powder coatings are not included in this definition.

10. "Powder coating" means any surface coating that is applied as a dry powder and is fused into a continuous coating film through the use of heat.

11. "Spray booth" means the structure housing automatic or manual spray application equipment where a coating is applied to large appliance parts or products.

12. “Surface coating operation” means the system on a large appliance surface coating line used to apply and dry or cure an organic coating on the surface of large appliance parts or products. The surface coating operation may be a prime coat or a topcoat operation and includes the coating application station(s), flashoff area, and curing oven.

13. “Transfer efficiency” means the ratio of the amount of coating solids deposited onto the surface of a large appliance part or product to the total amount of coating solids used.

14. “VOC content” means the proportion of a coating that is volatile organic compounds (VOC’s), expressed as kilograms of VOC’s per liter of coating solids.

15. “VOC emissions” means the mass of volatile organic compounds (VOC’s), expressed as kilograms of VOC’s per liter of applied coating solids, emitted from a surface coating operation.

(b) Symbols

Ca = the concentration of VOC’s in a gas stream leaving a control device and entering the atmosphere (parts per million by volume, as carbon).

Cb = the concentration of VOC’s in a gas stream entering a control device (parts per million by volume, as carbon).

Cf = the concentration of VOC’s in a gas stream emitted directly to the atmosphere (parts per million by volume, as carbon).

Dc = density of coating (or input stream), as received (kilograms per liter).

Dd = density of a VOC solvent added to coatings (kilograms per liter).

Dr = density of a VOC-solvent recovered by an emission control device (kilograms per liter).

E = the VOC destruction efficiency of a control device (fraction).

F = the proportion of total VOC’s emitted by an affected facility that enters a control device (fraction).

G = the volume-weighted average mass of VOC’s in coatings consumed in a calendar month per unit volume of applied coating solids (kilograms per liter).

Lc = the volume of coating consumed, as received (liters).

Ld = the volume of VOC solvent added to coatings (liters).

Lr = the volume of VOC-solvent recovered by an emission control device (liters).

Ls = the volume of coating solids consumed (liters).

Md = the mass of VOC solvent added to coatings (kilograms).

Mo = the mass of VOC’s in coatings consumed, as received (kilograms).

Mr = the mass of VOC’s recovered by an emision control device (kilograms).

N = the volume-weighted average mass of VOC’s emitted to the atmosphere per unit volume of applied coating solids (kilograms per liter).

Qa = the volumetric flow rate of a gas stream leaving a control device and entering the atmosphere (dry standard cubic meters per hour).

Qb = the volumetric flow rate of a gas stream entering a control device (dry standard cubic meters per hour).

Qf = the volumetric flow rate of a gas stream emitted directly to the atmosphere (dry standard cubic meters per hour).

R = the overall VOC emission reduction achieved for an affected facility (fraction).

T = the transfer efficiency (fraction).

Vs = the proportion of solids in a coating (or input stream), as received (fraction by volume).

Wo = the proportion of VOC's in a coating (or input stream), as received (fraction by weight).

(3) Standard for volatile organic compounds

On or after the date on which the performance test required by 1200-3-16-.01(5) is completed, no owner or operator of an affected facility subject to the provisions of this rule shall discharge or cause the discharge of VOC emissions that exceed 0.90 kilogram of VOC's per liter of applied coating solids from any surface coating operation on a large appliance surface coating line.

(4) Performance test and compliance provisions

(a) Subparagraphs 1200-3-16-.01(5)(d) and (f) do not apply to the performance test procedures required by this rule.

(b) The owner or operator of an affected facility shall conduct an initial performance test as required under 1200-3-16-.01(5)(a) and thereafter a performance test each calendar month for each affected facility according to the procedures in this subparagraph.

1. An owner or operator shall use the following procedures for any affected facility that does not use a capture system and control device to comply with the emissions limit specified under paragraph (3) of this rule. The owner or operator shall determine the composition of the coatings by formulation data supplied by the coating manufacturer or by analysis of each coating, as received, using Reference Method 24 as specified in rule 1200-3-16-.01(5)(g). The Technical Secretary may require the owner or operator who uses formulation data supplied by the coating manufacturer to determine the VOC content of coatings using Reference Method 24. The owner or operator shall determine the volume of coating and the mass of VOC solvent used for thinning purposes from company records on a monthly basis. If a common coating distribution system serves more than one affected facility or serves both affected and existing facilities, the owner or operator shall estimate the volume of coatings used at each facility, by using the average dry weight of coating and the surface area coated by each affected and existing facility or by other procedures acceptable to the Technical Secretary.

(i) Except as provided in subpart (b)1(iv) of this paragraph, the weighted average of the total mass of VOC's consumed per unit volume of coating solids applied each calendar month will be determined as follows:

(I) Calculate the mass of VOC's consumed (Mo + Md) during the calendar month for each affected facility by the following equation:

$$M_o + M_d = \sum_{i=1}^{n} L_{ci} D_{ci} W_{oi} + \sum_{j=1}^{m} L_{dj} D_{dj}$$ Equation (1)

(Sum Ldj Ddj will be 0 if no VOC-solvent is added to the coatings, as received)

where

n is the number of different coatings used during the month, and

m is the the number of different VOC solvents added to coatings during the calendar month.

(II) Calculate the total volume of coatings solids used (Ls) in the calendar month for each affected facility by the following equation:

$$L_s = \sum_{i=1}^{n} L_{ci} V_{si}$$ Equation (2)

where

n is the number of different coatings used during the calendar month.

(III) Select the appropriate transfer efficiency from Table 1. If the owner or operator can demonstrate to the satisfaction of the Technical Secretary that transfer efficiencies other than those shown are appropriate, the Technical Secretary will approve their use on a case-by-case basis. Transfer efficiencies for application methods not listed shall be determined by the Technical Secretary on a case-by-case basis. An owner or operator must submit sufficient data for the Technical Secretary to judge the accuracy of the transfer efficiency claims.

TABLE 1. - TRANSFER EFFICIENCIES

Application Method	Transfer efficiency (Tk)
Air-atomized spray	0.40
Airless spray	0.45
Manual electrostatic spray	0.60
Flow coat	0.85
Dip coat	0.85
Nonrotational automatic electrostatic spray	0.85
Rotating head automatic electrostatic spray	0.90
Electrodeposition	0.95

Where more than one application method is used within a single surface coating operation, the owner or operator shall determine the composition and volume of each coating applied by each method through a means acceptable to the Technical Secretary and compute the weighted average transfer efficiency by the following equation:

$$T = \frac{\sum_{i=1}^{n} L_{cik} V_{sik} T_k}{\sum_{k=1}^{p} L_s}$$ Equation (3)

where

n is the number of coatings (or input streams) used, and

m is the number of application methods used.

(IV) Calculate the volume-weighted average mass of VOC's consumed per unit volume of coating solids applied (G) during the calendar month for each affected facility by the following equation:

$$G = \frac{Mo + Md}{Ls\ T} \quad \text{Equation (4)}$$

(ii) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during the calendar month for each affected facility by the following equation:

$N = G$ Equation (5)

(iii) Where the volume-weighted average mass of VOC's discharged to the atmosphere per unit volume of coating solids applied (N) is equal to or less than 0.90 kilogram per liter, the affected facility is in compliance.

(iv) If each individual coating used by an effected facility has a VOC content, as received, which when divided by the lowest transfer efficiency at which the coating is applied, results in a value equal to or less than 0.90 kilogram per liter, the affected facility is in compliance, provided no VOC's are added to the coating during distribution or application.

2. An owner or operator shall use the following procedures for any affected facility that uses a capture system and a control device that destroys VOC's (e.g., incinerator) to comply with the emission limit specified under paragraph (3) of this rule.

(i) Determine the overall reduction efficiency (R) for the capture system and control device. For the initial performance test the overall reduction efficiency (R) shall be determined as prescribed in (I), (II), and (III) below. In subsequent months, the owner or operator may use the most recently determined overall reduction efficiency (R) for the performance test, providing control device and capture system operating conditions have not changed. The procedures in (I), (II), and (III) below, shall be repeated when directed by the Technical Secretary or when the owner or operator elects to operate the control device or capture system at conditions different from the initial performance test.

(I) Determine the fraction (F) of total VOC's emitted by an affected facility that enters the control device using the following equation:

$$F = \frac{\sum_{i=1}^{n} C_{bi} Q_{bi}}{\sum_{i=1}^{n} C_{bi} Q_{bi} + \sum_{k=1}^{p} C_{fk} Q_{fk}} \quad \text{Equation (6)}$$

Where

n is the number of gas streams entering the control device

p is the number of gas streams emitted directly to the atmosphere.

(II) Determine the destruction efficiency of the control device (E) using values of the volumetric flow rate of each of the gas streams and the VOC content (as carbon) of each of the gas streams in and out of the device by the following equation:

$$E = \frac{\sum_{i=1}^{n} Q_{bi} C_{bi} - \sum_{j=1}^{m} Q_{aj} C_{aj}}{\sum_{i=1}^{n} Q_{bi} C_{bi}}$$ Equation (7)

Where

n is the number of gas streams entering the control device, and

m is the number of gas streams leaving the control device and entering the atmosphere.

(III) Determine overall reduction efficiency (R) using the following equation:

R = EF Equation (8)

(ii) Calculate the volume-weighted average fo the total mass of VOC's per unit volume of applied coating solids (G) during each calendar month for each affected facility using equations (1), (2), (3) if applicable, and (4).

(iii) Calculate the volume weighted average of VOC emissions to the atmosphere (N) during each calendar month by the following equation:

N = G (1 - R) Equation (9)

(iv) If the volume-weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is equal to or less than 0.90 kilogram per liter of applied coating solids, the affected facility is in compliance.

3. An owner or operator shall use the following procedure for any affected facility that uses a control device for VOC recovery (e.g., carbon adsorber) to comply with the applicable emission limit specified under paragraph (3) of this rule.

(i) Calculate the total mass of VOC's consumed (Mo + Md) and the volume weighted average of the total mass of VOC's per unit volume of applied coating solids (G) during each calendar month for each affected facility using equations (1), (2), (3) if applicable, and (4).

(ii) Calculate the total mass of VOC's recovered (Mr) during each calendar month using the following equation:

Mr = Lr Dr Equation (10)

(iii) Calculate overall reduction efficiency of the control device (R) for each calendar month for each affected facility using the following equation:

$$R = \frac{Mr}{Mo + Md}$$ Equation (11)

(iv) Calculate the volume-weighted average mass of VOC's emitted to the atmosphere (N) for each calendar month for each affected facility using equation (9).

(v) If the volume-weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is equal to or less than 0.90 kilogram per liter of applied coating solids, the affected facility is in compliance. Each monthly calculation is considered a performance test.

(5) Monitoring of emissions and operations

(a) The owner or operator of an affected facility that uses a capture system and an incinerator to comply with the emission limits specified under paragraph (3) of this rule shall install, calibrate, maintain, and operate temperature measurement devices as prescribed below:

1. Where thermal incineration is used, a temperature measurement device shall be installed in the firebox. Where catalytic incineration is used, a temperature measurement device shall be installed in the gas stream immediately before and after the catalyst bed.

2. Each temperature measurement device shall be installed, calibrated, and maintained according to the manufacturer's specifications. The device shall have an accuracy of the greater of 0.75 percent of the temperature being measured expressed in degrees Celsius or ± 2.5°C.

3. Each temperature measurement device shall be equipped with a recording device so that a permanent continuous record is produced.

(6) Reporting and recordkeeping requirements

(a) The reporting requirements of 1200-3-16-.01(5)(a) apply only to the initial performance test. Each owner or operator subject to the provisions of this rule shall include the following data in the report of the initial performance test required under 1200-3-16-.01(5)(a):

1. Except as provided in part (a)2 of this paragraph, the volume weighted average mass of VOC's emitted to the atmosphere per volume of applied coating solids (N) for a period of 1 calendar month from each affected facility.

2. For each affected facility where compliance is determined under the provisions of subpart (4)(b)1(iv) of this rule, a list of the coatings used during a period of 1 calendar month, the VOC content of each coating calculated from data determined using Reference Method 24 (as specified in 1200-3-16-.01(5)(g)), or supplied by the coating manufacturer, and the minimum transfer efficiency of any coating application equipment used during the month.

3. For each affected facility where compliance is achieved through use of an incineration system, the following additional information will be reported:

(i) The proportion of total VOC's emitted that enters the control device (F),

(ii) The VOC reduction efficiency of the control device (E),

(iii) The average combustion temperature (or the average temperature upstream and downstream of the catalyst bed), and

(iv) A description of the method used to establish the amount of VOC's captured and sent to the incinerator.

4. For each affected facility where compliance is achieved through use of a solvent recovery system, the following additional information will be reported:

(i) The volume of VOC-solvent recovered (Lr), and

(ii) The overall VOC emission reduction achieved (R).

(b) Following the initial performance test, the owner or operator of an affected facility shall identify and record:

1. Each instance in which the volume weighted average of the total mass of VOC's emitted to the atmosphere per volume of applied coating solids (N) is greater than the limit specified under paragraph (3) of this rule.

2. Where compliance with paragraph (3) of this rule is achieved through use of thermal incineration, each 3-hour period of coating operation during which the average temperature

of the device was more than 28°C below the average temperature of the device during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule.

3. Where compliance with paragraph (3) of this rule is achieved through use of catalytic incineration, each 3-hour period of coating operation during which the average temperature recorded immediately before the catalyst bed is more than 28°C below the average temperature at the same location during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule. Additionally, all 3-hour periods of coating operations during which the average temperature difference across the catalyst bed is less than 80 percent of the average temperature difference across the catalyst bed during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule will be recorded.

(c) Each owner or operator subject to the provisions of this rule shall maintain at the source, for a period of at least 2 years, records of all data and calculations used to determine VOC emissions from each affected facility. Where compliance is achieved through the use of thermal incineration, each owner or operator shall maintain at the source daily records of the incinerator combustion chamber temperature. If catalytic incineration is used, the owner or operator shall maintain at the source daily records of the gas temperature, both upstream and downstream of the incinerator catalyst bed. Where compliance is achieved through the use of a solvent recovery system, the owner or operator shall maintain at the source daily records of the amount of solvent recovered by the system for each affected facility.

(7) Test methods and procedures

(a) The reference methods in 1200-3-16-.01(5)(g), except as provided under 1200-3-16-.01(5)(b), shall be used to determine compliance with paragraph (3) of this rule as follows:

1. Method 24 or formulation data supplied by the coating manufacturer to determine the VOC content of a coating. In the event of dispute, Reference Method 24 shall be the reference method. For determining compliance only, results of Method 24 analyses of waterborne coatings shall be adjusted as described in Subsection 4.4 of Method 24. Procedures to determine VOC emissions are provided in paragraph (4) of this rule.

2. Method 25 for the measurement of the VOC concentration in the gas stream vent.

3. Method 1 for sample and velocity traverses.

4. Method 2 for velocity and volumetric flow rate.

5. Method 3 for gas analysis.

6. Method 4 for stack gas moisture.

(b) For Method 24, the coating sample must be a 1-liter sample taken into a 1-liter container at a point where the sample will be representative of the coating material.

(c) For Method 25, the sample time for each of three runs is to be at least 60 minutes and the minimum sample volume is to be at least 0.003 dscm except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

(d) The Technical Secretary will approve sampling of representative stacks on a case-by-case basis if the owner or operator can demonstrate to the satisfaction of the Technical Secretary that the testing of representative stacks would yield results comparable to those that would be obtained by testing all stacks.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.37 Surface Coating of Metal Furniture

(1) Applicability

(a) The affected facility to which the provisions of this rule apply is each metal furniture surface coating operation in which organic coatings are applied.

(b) This rule applies to each affected facility identified in subparagraph (a) of this paragraph on which construction, modification, or reconstruction is commenced after November 6, 1988.

(2) Definitions and symbols

(a) Definitions

1. "Bake oven" means a device which uses heat to dry or cure coatings.

2. "Dip coating" means a method of applying coatings in which the part is submerged in a tank filled with the coatings.

3. "Electrodeposition (EDP)" means a method of applying coatings in which the part is submerged in a tank filled with the coatings and in which an electrical potential is used to enhance deposition of the coatings on the part.

4. "Electrostatic spray application" means a spray application method that uses an electrical potential to increase the transfer efficiency of the coatings.

5. "Flash-off area" means the portion of a surface coating operation between the coating application area and bake oven.

6. "Flow coating" means a method of applying coatings in which the part is carried through a chamber containing numerous nozzles which direct unatomized streams of coatings from many different angles onto the surface of the part.

7. "Organic coating" means any coating used in a surface coating operation, including dilution solvents, from which volatile organic compound emissions occur during the application or the curing process. For the purpose of this rule, powder coatings are not included in this definition.

8. "Powder coating" means any surface coating which is applied as a dry powder and is fused into a continuous coating film through the use of heat.

9. "Spray application" means a method of applying coatings by atomizing and directing the atomized spray toward the part to be coated.

10. "Surface coating operation" means the system on a metal furniture surface coating line used to apply and dry or cure an organic coating on the surface of the metal furniture part or product. The surface coating operation may be a prime coat or a top coat operation and includes the coating application station(s), flash-off area, and curing oven.

11. "Transfer efficiency" means the ratio of the amount of coating solids deposited onto the surface of a part or product to the total amount of coating solids used.

12. "VOC content" means the proportion of a coating that is volatile organic compounds (VOC's), expressed as kilograms of VOC's per liter of coating solids.

13. "VOC emissions" means the mass of volatile organic compounds (VOC's), expressed as kilograms of VOC's per liter of applied coating solids, emitted from a metal furniture surface coating operation.

(b) Symbols

~~Ca = the VOC concentration in each gas stream leaving the control device and entering the atmosphere (parts per million by volume, as carbon).~~

~~Cb = the VOC concentration in each gas stream entering the control device (parts per million by volume, as carbon).~~

~~Cf = the VOC concentration in each gas stream emitted directly to the atmosphere (parts per million by volume, as carbon).~~

~~Dc = density of each coating, as received (kilograms per liter).~~

~~Dd = density of each diluent VOC solvent (kilograms per liter).~~

~~Dr = density of VOC solvent recovered by an emission control device (kilograms per liter).~~

~~E = VOC destruction efficiency of the control device (fraction).~~

~~F = the proportion of total VOC's emitted by an affected facility that enters the control device (fraction).~~

~~G = the volume-weighted average mass of VOC's in coatings consumed in a calendar month per unit volume of coating solids applied (kilograms per liter).~~

~~Lc = the volume of each coating consumed, as received (liters).~~

~~Ld = the volume of each diluent VOC solvent added to coatings (liters).~~

~~Lr = the volume of VOC-solvent recovered by an emission control device (liters).~~

~~Ls = the volume of coating solids consumed (liters).~~

~~Md = the mass of diluent VOC solvent consumed (kilograms).~~

~~Mo = the mass of VOC's in coatings consumed, as received (kilograms).~~

~~Mr = the mass of VOC's recovered by an emission control device (kilograms).~~

~~N = the volume weighted average mass of VOC emissions to the atmosphere per unit volume of coating solids applied (kilograms per liter).~~

~~Qa = the volumetric flow rate of each gas stream leaving the control device and entering the atmosphere (dry standard cubic meters per hour).~~

~~Qb = the volumetric flow rate of each gas stream entering the control device (dry standard cubic meters per hour).~~

~~Qf = the volumetric flow rate of each gas stream emitted directly to the atmosphere (dry standard cubic meters per hour).~~

~~R = the overall VOC emission reduction achieved for an affected facility (fraction).~~

~~T = the transfer efficiency (fraction).~~

~~Vs = the proportion of solids in each coating (or input stream), as received (fraction by volume).~~

~~Wo = the proportion of VOC's in each coating (or input stream), as received (fraction by weight).~~

~~(3) Standard for volatile organic compounds (VOC)~~

(a) On and after the date on which the initial performance test required to be conducted by 1200-3-16-.01(5)(a) is completed, no owner or operator subject to the provisions of this rule shall cause the discharge into the atmosphere of VOC emissions from any metal furniture surface coating operation in excess of 0.90 kilogram of VOC per liter of coating solids applied.

(4) Performance tests and compliance provisions

(a) Subparagraphs 1200-3-16-.01(5)(d) and (f) do not apply to the performance test procedures required by this rule.

(b) The owner or operator of an affected facility shall conduct an initial performance test as required under 1200-3-16-.01(5)(a) and thereafter a performance test each calendar month for each affected facility according to the procedures in this paragraph.

(c) The owner or operator shall use the following procedures for determining monthly volume-weighted average emissions of VOC's in kilograms per liter of coating solids applied (G).

1. An owner or operator shall use the following procedures for any affected facility which does not use a capture system and control device to comply with the emissions limit specified under paragraph (3) of this rule. The owner or operator shall determine the composition of the coatings by formulation data supplied by the manufacturer of the coating or by an analysis of each coating, as received, using Reference Method 24 (as specified in 1200-3-16-.01(5)(g)). The Technical Secretary may require the owner or operator who uses formulation data supplied by the manufacturer of the coating to determine the VOC content of coatings using Reference Method 24. The owner or operator shall determine the volume of coating and the mass of VOC solvent used for thinning purposes from company records on a monthly basis. If a common coating distribution system serves more than one affected facility or serves both affected and existing facilities, the owner or operator shall estimate the volume of coating used at each facility by using the average dry weight of coating and the surface area coated by each affected and existing facility or by other procedures acceptable to the Technical Secretary.

(i) Calculate the volume-weighted average of the total mass of VOC's consumed per unit volume of coating solids applied (G) during each calendar month for each affected facility, except as provided under parts 2 and 3 of this subparagraph. Each monthly calculation is considered a performance test. Except as provided in subpart (iv) of this part, the volume-weighted average of the total mass of VOC's consumed per unit volume of coating solids applied (G) each calendar month will be determined by the following procedures.

(I) Calculate the mass of VOC's used (Mo + Md) during each calendar month for each affected facility by the following equation:

$$M_o + M_d = \sum_{i=1}^{n} L_{ci} D_{ci} W_{oi} + \sum_{j=1}^{m} L_{dj} D_{dj}$$

(SUM Ldj Ddj will be 0 if no VOC solvent is added to the coatings, as received.)

Where:

n is the number of different coatings used during the calendar month and m is the number of different diluent VOC-solvents used during the calendar month.

(II) Calculate the total volume of coating solids used (Ls) in each calendar month for each affected facility by the following equation:

$$L_s = \sum_{i=1}^{n} L_{ci} V_{si}$$

Where:

n is the number of different coatings used during the calendar month.

Select the appropriate transfer efficiency from Table 1. If the owner or operator can demonstrate to the satisfaction of the Technical Secretary that transfer efficiencies other than those shown are appropriate, the Technical Secretary will approve their use on a case by case basis. Transfer efficiency values for application methods not listed below shall be determined by the Technical Secretary on a case-by-case basis. An owner or operator must submit sufficient data for the Technical Secretary to judge the accuracy of the transfer efficiency claims.

TABLE 1. - Transfer Efficiencies

Application methods	Transfer efficiency (T)
Air atomized spray	0.25
Airless spray	.25
Manual electrostatic spray	.60
Nonrotational automatic electrostatic spray	.70
Rotating head electrostatic spray (manual and automatic)	.80
Dip coat and flow coat	.90
Electrodeposition	.95

Where more than one application method is used within a single surface coating operation, the owner or operator shall determine the composition and volume of each coating applied by each method through a means acceptable to the Technical Secretary and compute the weighted average transfer efficiency by the following equation:

$$T = \frac{\sum_{i=1}^{n} L_{cik} V_{sik} T_k}{\sum_{k=1}^{p} L_s}$$

Where:

n is the number of coatings used and p is the number of application methods used.

(III) Calculate the volume weighted average mass of VOC's consumed per unit volume of coating solids applied (G) during the calendar month for each affected facility by the following equation:

$$G = \frac{Mo + Md}{LsT}$$

(ii) Calculate the volume weighted average of VOC emissions to the atmosphere (N) during the calendar month for each affected facility by the following equation:

~~N = G~~

~~(iii) Where the volume-weighted average mass of VOC discharged to the atmosphere per unit volume of coating solids applied (N) is less than or equal to 0.90 kilogram per liter, the affected facility is in compliance.~~

~~(iv) If each individual coating used by an affected facility has a VOC content, as received, which when divided by the lowest transfer efficiency at which the coating is applied, results in a value equal to or less than 0.90 kilogram per liter, the affected facility is in compliance provided no VOC's are added to the coatings during distribution or application.~~

~~2. An owner or operator shall use the following procedures for any affected facility that uses a capture system and a control device that destroys VOC's (e.g., incinerator) to comply with the emission limit specified under paragraph (3) of this rule.~~

~~(i) Determine the overall reduction efficiency (R) for the capture system and control device. For the initial performance test the overall reduction efficiency (R) shall be determined as prescribed in items (i)(I), (II) and (III) of this part. In subsequent months, the owner or operator may use the most recently determined overall reduction efficiency (R) for the performance test providing control device and capture system operating conditions have not changed. The procedure in items (i)(I), (II) and (III) of this part shall be repeated when directed by the Technical Secretary or when the owner or operator elects to operate the control device or capture system at conditions different from the initial performance test.~~

~~(I) Determine the fraction (F) of total VOC's emitted by an affected facility that enters the control device using the following equation:~~

$$F = \frac{\sum_{i=1}^{n} C_{bi} Q_{bi}}{\sum_{i=1}^{n} C_{bi} Q_{bi} + \sum_{j=1}^{m} C_{fj} Q_{fj}}$$

~~Where:~~

~~n is the number of gas streams entering the control device and m is the number of gas streams emitted directly to the atmosphere.~~

~~(II) Determine the destruction efficiency of the control device (E) using values of the volumetric flow rate of each of the gas streams and the VOC content (as carbon) of each of the gas streams in and out of the device by the following equation:~~

$$E = \frac{\sum_{i=1}^{n} Q_{bi} C_{bi} - \sum_{j=1}^{m} Q_{aj} C_{aj}}{\sum_{i=1}^{n} Q_{bi} C_{bi}}$$

~~Where:~~

~~n is the number of gas streams entering the control device, and m is the number of gas streams leaving the control device and entering the atmosphere.~~

~~(III) Determine the overall reduction efficiency (R) using the following equation:~~

R = EF

(ii) Calculate the volume-weighted average of the total mass of VOC's per unit volume of coating solids applied (G) during each calendar month for each affected facility using equations in items 1(i)(I), (II) and (III) of this subparagraph.

(iii) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during each calendar month by the following equation:

N = G (1 - R)

(iv) If the volume-weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is less than or equal to 0.90 kilogram per liter of coating solids applied, the affected facility is in compliance. Each monthly calculation is a performance test.

3. An owner or operator shall use the following procedure for any affected facility which uses a control device that recovers the VOC's (e.g., carbon adsorber) to comply with the applicable emission limit specified under paragraph (3) of this rule.

(i) Calculate the total mass of VOC's consumed (Mo + Md) and the volume-weighted average of the total mass of VOC's per unit volume of coating solids applied (G) during each calendar month for each affected facility using equations in items 1(i)(I), (II) and (III) of this subparagraph.

(ii) Calculate the total mass of VOC's recovered (Mr) during each calendar month using the following equation:

Mr = Lr Dr

(iii) Calculate overall reduction efficiency of the control device (R) for each calendar month for each affected facility using the following equation:

$$R = \frac{Mr}{Mo + Md}$$

(iv) Calculate the volume-weighted average mass of VOC's emitted to the atmosphere (N) for each calendar month for each affected facility using the equation in subpart 2(iii) of this subparagraph.

(v) If the weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is less than or equal to 0.90 kilogram per liter of coating solids applied, the affected facility is in compliance. Each monthly calculation is a performance test.

(5) Monitoring of emissions and operations

(a) The owner or operator of an affected facility which uses a capture system and an incinerator to comply with the emission limits specified under paragraph (3) of this rule shall install, calibrate, maintain, and operate temperature measurement devices according to the following procedures:

1. Where thermal incineration is used a temperature measurement device shall be installed in the firebox. Where catalytic incineration is used, a temperature measurement device shall be installed in the gas stream immediately before and after the catalyst bed.

2. Each temperature measurement device shall be installed, calibrated, and maintained according to the manufacturer's specifications. The device shall have an accuracy of the greater of 0.75 percent of the temperature being measured expressed in degrees Celsius or ± 2.5°C.

3. Each temperature measurement device shall be equipped with a recording device so that a permanent continuous record is produced.

(b) The owner or operator of an affected facility which uses a capture system and a solvent recovery system to comply with the emission limits specified under paragraph (3) of this rule shall install the equipment necessary to determine the total volume of VOC solvent recovered daily.

(6) Reporting and recordkeeping requirements

(a) The reporting requirements of 1200-3-16-.01(5)(a) apply only to the initial performance test. Each owner or operator subject to the provisions of this rule shall include the following data in the report of the initial performance test required under 1200-3-16-.01(5)(a).

1. Except as provided in part (a)2 of this paragraph, the volume weighted average mass of VOC's emitted to the atmosphere per volume of applied coating solids (N) for a period of one calendar month from each affected facility.

2. For each affected facility where compliance is determined under the provisions of subpart (4)(c)1(iv) of this rule, a list of the coatings used during a period of one calendar month, the VOC content of each coating calculated from data determined using Reference Method 24 or supplied by the manufacturer of the coating, and the minimum transfer efficiency of any coating application equipment used during the month.

3. For each affected facility where compliance is achieved through the use of an incineration system, the following additional information will be reported:

(i) The proportion of total VOC's emitted that enters the control device (F),

(ii) The VOC reduction efficiency of the control device (E),

(iii) The average combustion temperature (or the average temperature upstream and downstream of the catalyst bed), and

(iv) A description of the method used to establish the amount of VOC's captured and sent to the incinerator.

4. For each affected facility where compliance is achieved through the use of a solvent recovery system, the following additional information will be reported:

(i) The volume of VOC-solvent recovered (Lr), and

(ii) The overall VOC emission reduction achieved (R).

(b) Following the initial performance test, the owner or operator of an affected facility shall identify and record:

1. Each instance in which the volume weighted average of the total mass of VOC's emitted to the atmosphere per volume of applied coating solids (N) is greater than the limit specified under paragraph (3) of this rule.

2. Where compliance with paragraph (3) of this rule is achieved through the use of thermal incineration, each 3-hour period when metal furniture is being coated during which the average temperature of the device was more than 28°C below the average temperature of the device during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule.

3. Where compliance with paragraph (3) of this rule is achieved through the use of catalytic incineration, each 3-hour period when metal furniture is being coated during which the average temperature of the device immediately before the catalyst bed is more than 28°C below the average temperature of the device immediately before the catalyst bed during the most recent performance test at which destruction efficiency was determined as

specified under paragraph (4) of this rule. Additionally, when metal furniture is being coated, all 3-hour periods during which the average temperature difference across the catalyst bed is less than 80 percent of the average temperature difference across the catalyst bed during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule will be recorded.

(c) Each owner or operator subject to the provisions of this rule shall maintain at the source, for a period of at least 2 years, records of all data and calculations used to determine VOC emissions from each affected facility. Where compliance is achieved through the use of thermal incineration, each owner or operator shall maintain, at the source, daily records of the incinerator combustion chamber temperature. If catalytic incineration is used, the owner or operator shall maintain at the source daily records of the gas temperature, both upstream and downstream of the incinerator catalyst bed. Where compliance is achieved through the use of a solvent recovery system, the owner or operator shall maintain at the source daily records of the amount of solvent recovered by the system for each affected facility.

(7) Test methods and procedures

(a) The reference methods in 1200-3-16-.01(5)(g) except as provided under 1200-3-16-.01(5)(b) shall be used to determine compliance with paragraph (3) of this rule as follows:

1. Method 24, or coating manufacturer's formulation data, for use in the determination of VOC content of each batch of coating as applied to the surface of the metal parts. In case of an inconsistency between the Method 24 results and the formulation data, the Method 24 results will govern.

2. Method 25 for the measurement of VOC concentration.

3. Method 1 for sample and velocity traverses.

4. Method 2 for velocity and volumetric flow rate.

5. Method 3 for gas analysis.

6. Method 4 for stack gas moisture.

(b) For Method 24, the coating sample must be at least a 1 liter sample in a 1 liter container taken at a point where the sample will be representative of the coating material as applied to the surface of the metal part.

(c) For Method 25, the minimum sampling time for each of 3 runs is 60 minutes and the minimum sample volume is 0.003 dry standard cubic meters except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

(d) The Technical Secretary will approve testing of representative stacks on a case-by-case basis if the owner or operator can demonstrate to the satisfaction of the Technical Secretary that testing of representative stacks yields results comparable to those that would be obtained by testing all stacks.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-3-16-.38 Metal Coil Surface Coating

(1) Applicability

(a) The provisions of this rule apply to the following affected facilities in a metal coil surface coating operation: each prime coat operation, each finish coat operation, and each prime and finish coat operation combined when the finish coat is applied wet on wet over the prime coat and both coatings are cured simultaneously.

(b) This rule applies to any facility identified in subparagraph (a) of this paragraph that commences construction, modification or reconstruction after November 6, 1988.

(2) Definitions and Symbols

(a) Definitions

1. "Coating" means any organic material that is applied to the surface of metal coil.

2. "Coating application station" means that portion of the metal coil surface coating operation where the coating is applied to the surface of the metal coil. Included as part of the coating application station is the flashoff area between the coating application station and the curing oven.

3. "Curing oven" means the device that uses heat or radiation to dry or cure the coating applied to the metal coil.

4. "Finish coat operation" means the coating application station, curing oven, and quench station used to apply and dry or cure the final coating(s) on the surface of the metal coil. Where only a single coating is applied to the metal coil, that coating is considered a finish coat.

5. "Metal coil surface coating operation" means the application system used to apply an organic coating to the surface of any continuous metal strip with thickness of 0.15 millimeter (mm) (0.006 in.) or more that is packaged in a roll or coil.

6. "Prime coat operation" means the coating application station, curing oven, and quench station used to apply and dry or cure the initial coating(s) on the surface of the metal coil.

7. "Quench station" means that portion of the metal coil surface coating operation where the coated metal coil is cooled, usually by a water spray, after baking or curing.

8. "VOC content" means the quantity, in kilograms per liter of coating solids, of volatile organic compounds (VOC) in a coating.

(b) Symbols

Ca = the VOC concentration in each gas stream leaving the control device and entering the atmosphere (parts per million by volume, as carbon).

Cb = the VOC concentration in each gas stream entering the control device (parts per million by volume, as carbon).

Cf = the VOC concentration in each gas stream emitted directly to the atmosphere (parts per million by volume, as carbon).

Dc = density of each coating, as received (kilograms per liter).

Dd = density of each VOC-solvent added to coatings (kilograms per liter).

Dr = density of VOC-solvent recovered by an emission control device (kilograms per liter).

E = VOC destruction efficiency of the control device (fraction).

F = the proportion of total VOC's emitted by an affected facility that enters the control device (fraction).

G = volume-weighed average mass of VOC's in coatings consumed in a calendar month per unit volume of coatings solids applied (kilograms per liter).

Lc = the volume of each coating consumed, as received (liters).

Ld = the volume of each VOC-solvent added to coatings (liters).

Lr = the volume of VOC-solvent recovered by an emission control device (liters).

Ls = the volume of coatings solids consumed (liters).

Md = the mass of VOC-solvent added to coatings (kilograms).

Mo = the mass of VOC's in coatings consumed, as received (kilograms).

Mr = the mass of VOC's recovered by an emission control device (kilograms).

N = the volume-weighted average mass of VOC emissions to the atmosphere per unit volume of coating solids applied (kilograms per liter).

Qa = the volumetric flow rate of each gas stream leaving the control device and entering the atmosphere (dry standard cubic meters per hour).

Qb = the volumetric flow rate of each gas stream entering the control device (dry standard cubic meters per hour).

Qf = the volumetric flow rate of each gas stream emitted directly to the atmosphere (dry standard cubic meters per hour).

R = the overall VOC emission reduction achieved for an affected facility (fraction).

S = the calculated monthly allowable emission limit (kilograms of VOC per liter of coating solids applied).

Vs = the proportion of solids in each coating, as received (fraction by volume).

Wo = the proportion of VOC's in each coating, as received (fraction by weight).

(3) Standards for volatile organic compounds

(a) On and after the date on which paragraph 1200-3-16-.01(5) requires a performance test to be completed, each owner or operator subject to this rule shall not cause to be discharged into the atmosphere more than:

1. 0.28 kilogram VOC per liter (kg VOC/l) of coating solids applied for each calendar month for each affected facility that does not use an emission control device(s); or

2. 0.14 kg VOC/1 of coating solids applied for each calendar month for each affected facility that continuously uses an emission control device(s) operated at the most recently demonstrated overall efficiency; or

3. 10 percent of the VOC's applied for each calendar month (90 percent emission reduction) for each affected facility that continuously uses an emission control device(s) operated at the most recently demonstrated overall efficiency; or

4. a value between 0.14 (or a 90-percent emission reduction) and 0.28 kg VOC/1 of coating solids applied for each calendar month for each affected facility that intermittently uses an emission control device operated at the most recently demonstrated overall efficiency.

(4) Performance test and compliance provisions

(a) Subparagraphs 1200-3-16-.01(5)(d) and (f) do not apply to the performance test.

(b) The owner or operator of an affected facility shall conduct an initial performance test as required under subparagraph 1200-3-16-.01(5)(a) and thereafter a performance test for each calendar

month for each affected facility according to the procedures in this paragraph.

(c) The owner or operator shall use the following procedures for determining monthly volume-weighted average emissions of VOC's in kg/1 of coating solids applied.

1. An owner or operator shall use the following procedures for each affected facility that does not use a capture system and control device to comply with the emission limit specified under part (3)(a)1 of this rule. The owner or operator shall determine the composition of the coatings by formulation data supplied by the manufacturer of the coating or by an analysis of each coating, as received, using Reference Method 24 (as specified in 1200-3-16-.01(5)(g)24). The Technical Secretary may require the owner or operator who uses formulation data supplied by the manufacturer of the coatings to determine the VOC content of coatings using Reference Method 24 or an equivalent or alternative method. The owner or operator shall determine the volume of coating and the mass of VOC solvent added to coatings from company records on a monthly basis. If a common coating distribution system serves more than one affected facility or serves both affected and existing facilities, the owner or operator shall estimate the volume of coating used at each affected facility by using the average dry weight of coating and the surface area coated by each affected and existing facility or by other procedures acceptable to the Technical Secretary.

(i) Calculate the volume-weighted average of the total mass of VOC's consumed per unit volume of coatings solids applied during each calendar month for each affected facility, except as provided under subpart (iv) of this part. The weighted average of the total mass of VOC's used per unit volume of coatings solids applied each calendar month is determined by the following procedures.

(I) Calculate the mass of VOC's used (Mo + Md) during each calendar month for each affected facility by the following equation:

$$M_o + M_d = \sum_{i=1}^{n} L_{ci} D_{ci} W_{oi} + \sum_{j=1}^{m} L_{dj} D_{dj} \qquad \text{EQUATION 1}$$

(SUM LdjDdj will be 0 if no VOC solvent is added to the coatings, as received)

Where:

n is the number of different coatings used during the calendar month, and

m is the number of different VOC solvents added to coatings used during the calendar month.

(II) Calculate the total volume of coating solids used (Ls) in each calendar month for each affected facility by the following equation:

$$L_s = \sum_{i=1}^{n} L_{ci} V_{si} \qquad \text{EQUATION 2}$$

Where:

n is the number of different coatings used during the calendar month.

(III) Calculate the volume-weighted average mass of VOC's used per unit volume of coatings solids applied (G) during the calendar month for each affected facility by the following equation:

$$G = \frac{M_o + M_d}{L_s}$$ EQUATION 3

(ii) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during the calendar month for each affected facility by the following equation:

N = G EQUATION 4

(iii) Where the volume-weighted average mass of VOC's discharged to the atmosphere per unit volume of coating solids applied (N) is equal to or less than 0.28 kg/1, the affected facility is in compliance.

(iv) If each individual coating used by an affected facility has a VOC content, as received, that is equal to or less than 0.28 kg/1 of coating solids, the affected facility is in compliance provided no VOC's are added to the coating during distribution or application.

2. An owner or operator shall use the following procedures for each affected facility that continuously uses a capture system and a control device that destroys VOC's (e.g. incinerator) to comply with the emission limit specified under part (3)(a)2 or 3

(i) Determine the overall reduction efficiency (R) for the capture system and control device. For the initial performance test, the overall reduction efficiency (R) shall be determined as prescribed in items (c)2(i) (I), (II) and (III) of this paragraph. In subsequent months, the owner or operator may use the most recently determined overall reduction efficiency (R) for the performance test, providing control device and capture system operating conditions have not changed. The procedure in items (c)2(i) (I), (II) and (III) of this paragraph shall be repeated when directed by the Technical Secretary or when the owner or operator elects to operate the control device or capture system at conditions different from the initial performance test.

(I) Determine the fraction (F) of total VOC's emitted by an affected facility that enters the control device using the following equation:

$$F = \frac{\sum_{i=1}^{l} C_{bi} Q_{bi}}{\sum_{i=1}^{l} C_{bi} Q_{bi} + \sum_{j=1}^{p} C_{fj} Q_{fj}}$$ EQUATION 5

Where:

1 is the number of gas streams entering the control device, and

p is the number of gas streams emitted directly to the atmosphere.

(II) Determine the destruction efficiency of the control device (E) using values of volumetric flow rate of each of the gas streams and the VOC content (as carbon) of each of the gas streams in and out of the device by the following equation:

$$E = \frac{\sum_{i=1}^{n} Q_{bi} C_{bi} - \sum_{j=1}^{m} Q_{aj} C_{aj}}{\sum_{i=1}^{n} Q_{bi} C_{bi}}$$ EQUATION 6

Where:

n is the number of gas streams entering the control device, and

m is the number of gas stream leaving the control device and entering the atmosphere.

The owner or operator of the affected facility shall construct the VOC emission reduction system so that all volumetric flow rates and total VOC emissions can be accurately determined by the applicable test methods and procedures specified in paragraph (7) of this rule. The owner or operator of the affected facility shall construct a temporary enclosure around the coating applicator and flashoff area during the performance test for the purpose of evaluating the capture efficiency of the system. The enclosure must be maintained at a negative pressure to ensure that all VOC emissions are measurable. If a permanent enclosure exists in the affected facility prior to the performance test and the Technical Secretary is satisfied that the enclosure is adequately containing VOC emissions, no additional enclosure is required for the performance test.

(III) Determine overall reduction efficiency (R) using the following equation:

$$R = EF \qquad \text{EQUATION 7}$$

If the overall reduction efficiency (R) is equal to or greater than 0.90, the affected facility is in compliance and no further computations are necessary. If the overall reduction efficiency (R) is less than 0.90, the average total VOC emissions to the atmosphere per unit volume of coating solids applied (N) shall be computed as follows:

(ii) Calculate the volume-weighted average of the total mass of VOC's per unit volume of coating solids applied (G) during each calendar month for each affected facility using equations in items (c)1(i)(I), (II) and (III) of this paragraph.

(iii) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during each calendar month by the following equation:

$$N = G\,(1 - R) \qquad \text{EQUATION 8}$$

(iv) If the volume-weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is less than or equal to 0.14 kg/1 of coating solids applied, the affected facility is in compliance. Each monthly calculation is a performance test.

3. An owner or operator shall use the following procedure for each affected facility that uses a control device that recovers the VOC's (e.g. carbon adsorber) to comply with the applicable emission limit specified under part (3)(a)2 or 3 of this rule.

(i) Calculate the total mass of VOC's consumed (Mo + Md) during each calendar month for each affected facility using Equation 1 in item (c)1(i)(I) of this paragraph.

(ii) Calculate the total mass of VOC's recovered (Mr) during each calendar month using the following equation:

$$Mr = Lr\ Dr \qquad \text{EQUATION 9}$$

(iii) Calculate the overall reduction efficiency of the control device (R) for each calendar month for each affected facility using the following equation:

$$R = \frac{Mr}{Mo + Md} \qquad \text{EQUATION 10}$$

If the overall efficiency (R) is equal to or greater than 0.90, the affected facility is in compliance and no further computations are necessary. If the overall efficiency (R)

is less than 0.90, the average total VOC emissions to the atmosphere per unit volume of coating solids applied (N) must be computed as follows.

(iv) Calculate the total volume of coating solids consumed (Ls) and the volume-weighted average of the total mass of VOC's per unit volume of coating solids applied (G) during each calendar month for each affected facility using equations in items (c)1(i)(II) and (III) of this paragraph.

(v) Calculate the volume-weighted average mass of VOC's emitted to the atmosphere (N) for each calendar month for each affected facility using the equation in subpart (c)2(iii).

(vi) If the weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is less than or equal to 0.14 kg/1 of coating solids applied, the affected facility is in compliance. Each monthly calculation is a performance test.

4. An owner or operator shall use the following procedures for each affected facility that intermittently uses a capture system and a control device to comply with the emission limit specified in part (3)(a)4 of this rule.

(i) Calculate the total volume of coating solids applied without the control device in operation (Lsn) during each calendar month for each affected facility using the following equation:

$$L_{sn} = \sum_{i=1}^{n} L_{ci} V_{si}$$ EQUATION 11

Where:

n is the number of coatings used during the calendar month without the control device in operation.

(ii) Calculate the total volume of coating solids applied with the control device in operation (Lsc) during each calendar month for each affected facility using the following equation:

$$L_{sc} = \sum_{i=1}^{m} L_{ci} V_{si}$$ EQUATION 12

Where:

m is the number of coatings used during the calendar month with the control device in operation.

(iii) Calculate the mass of VOC's used without the control device in operation (Mon + Mdn) during each calendar month for each affected facility using the following equation:

$$M_{on} + M_{dn} = \sum_{i=1}^{n} L_{ci} D_{ci} W_{oi} + \sum_{j=1}^{m} L_{dj} D_{dj}$$ EQUATION 13

Where:

n is the number of different coatings used without the control device in operation during the calendar month, and

m is the number of different VOC-solvents added to coatings used without the control device in operation during the calendar month.

(iv) Calculate the volume-weighted average of the total mass of VOC's consumed per unit volume of coating solids applied without the control device in operation (Gn) during each calendar month for each affected facility using the following equation:

$$Gn = \frac{Mon + Mdn}{Lsn} \quad \text{EQUATION 14}$$

(v) Calculate the mass of VOC's used with the control device in operation (Moc + Mdc) during each calendar month for each affected facility using the following equation:

$$M_{oc} + M_{dc} = \sum_{i=1}^{n} L_{ci} D_{ci} W_{oi} + \sum_{j=1}^{m} L_{dj} D_{dj} \quad \text{EQUATION 15}$$

Where:

n is the number of different coatings used with the control device in operation during the calendar month, and

m is the number of different VOC-solvents added to coatings used with the control device in operation during the calendar month.

(vi) Calculate the volume-weighted average of the total mass of VOC's used per unit volume of coating solids applied with the control device in operation (Gc) during each calendar month for each affected facility using the following equation:

$$Gc = \frac{Moc + Mdc}{Lsc} \quad \text{EQUATION 16}$$

(vii) Determine the overall reduction efficiency (R) for the capture system and control device using the procedures in items 2(i)(I), (II) and (III) or subparts 3(i),(ii) and (iii) of this subparagraph whichever is applicable.

(viii) Calculate the volume-weighted average of VOC emissions to the atmosphere (N) during each calendar month for each affected facility using the following equation:

$$N = \frac{GnLsn + GcLsc\ (1 - R)}{Lsn + Lsc} \quad \text{EQUATION 17}$$

(ix) Calculate the emission limit(s) for each calendar month for each affected facility using the following equation:

$$S = \frac{0.28\ Lsn + 0.1\ GcLsc}{Lsn + Lsc} \text{ or } \frac{0.28\ Lsn + 0.14\ Lsc}{Lsn + Lsc} \quad \text{EQUATION 18}$$

whichever is greater.

(x) If the volume-weighted average mass of VOC's emitted to the atmosphere for each calendar month (N) is less than or equal to the calculated emission limit (S) for the calendar month, the affected facility is in compliance. Each monthly calculation is a performance test.

(5) Monitoring of emissions and operations

(a) Where compliance with the numerical limit specified in part (3)(a)1 or 2 of this rule is achieved through the use of low VOC-content coatings without the use of emission control devices or through the use of higher VOC-content coatings in conjunction with emission control devices, the owner or operator shall compute and record the average VOC content of coatings applied during each calendar month for each affected facility, according to the equations provided in paragraph (4) of this rule.

(b) Where compliance with the limit specified in part (3)(a)4 of this rule is achieved through the intermittent use of emission control devices, the owner or operator shall compute and record for each affected facility the average VOC content of coatings applied during each calendar month according to the equations provided in paragraph (4) of this rule.

(c) If thermal incineration is used, each owner or operator subject to the provisions of this rule shall install, calibrate, operate, and maintain a device that continously records the combustion temperature of any effluent gases incinerated to achieve compliance with part (3)(a)2, 3 or 4 of this rule. This device shall have an accuracy of ± 2.5° C or ± 0.75 percent of the temperature being measured expressed in degrees Celsius, whichever is greater. Each owner or operator shall also record all periods (during actual coating operations) in excess of 3 hours during which the average temperature in any thermal incinerator used to control emissions from an affected facility remains more than 28°C (50°F) below the temperature at which compliance with part (3)(a)2, 3 or 4 of this rule was demonstrated during the most recent measurement of incinerator efficiency required by paragraph 1200-3-16-.01(5). The records required by 1200-3-16-.01(7) shall identify each such occurrence and its duration. If catalytic incineration is used, the owner or operator shall install, calibrate, operate, and maintain a device to monitor and record continuously the gas temperature both upstream and downstream of the incinerator catalyst bed. This device shall have an accuracy of ± 2.5°C or ± 0.75 percent of the temperature being measured expressed in degrees Celsius, whichever is greater. During coating operations, the owner or operator shall record all periods in excess of 3 hours where the average difference between the temperature upstream and downstream of the incinerator catalyst bed remains below 80 percent of the temperature difference at which compliance was demonstrated during the most recent measurements of incinerator efficiency or when the inlet temperature falls more than 28°C (50°F) below the temperature at which compliance with part (3)(a)2, 3 or 4 of this rule was demonstrated during the most recent measurement of incinerator efficiency required by paragraph 1200-3-16-.01(5). The records required by paragraph 1200-3-16-.01(7) shall identify each such occurrence and its duration.

(6) Reporting and recordkeeping requirements

(a) Where compliance with the numerical limit specified in part (3)(a)1, 2 or 4 of this rule is achieved through the use of low VOC-content coatings without emission control devices or through the use of higher VOC-content coatings in conjunction with emission control devices, each owner or operator subject to the provisions of this rule shall include in the initial compliance report required by paragraph 1200-3-16-.01(5) the weighted average of the VOC content of coatings used during a period of one calendar month for each affected facility. Where compliance with part (3)(a)4 of this rule is achieved through the intermittent use of a control device, reports shall include separate values of the weighted average VOC content of coatings used with and without the control device in operation.

(b) Where compliance with part (3)(a)2, 3 or 4 of this rule is achieved through the use of an emission control device that destroys VOC's, each owner or operator subject to the provisions of this rule shall include the following data in the initial compliance report required by paragraph 1200-3-16-.01(5).

1. The overall VOC destruction rate used to attain compliance with part (3)(a)2, 3 or 4 of this rule and the calculated emission limit used to attain compliance with part (3)(a)4 of this rule; and

2. The combustion temperature of the thermal incinerator or the gas temperature, both upstream and downstream of the incinerator catalyst bed, used to attain compliance with part (3)(a)2, 3 or 4 of this rule.

(c) Each owner or operator subject to the provisions of this rule shall maintain at the source, for a period of at least 2 years, records of all data and calculations used to determine monthly VOC emissions from each affected facility and to determine the monthly emission limit, where applicable. Where compliance is achieved through the use of thermal incineration, each owner or operator shall maintain, at the source, daily records of the incinerator combustion temperature. If catalytic incineration is used, the owner or operator shall maintain at the source daily records of the gas temperature, both upstream and downstream of the incinerator catalyst bed.

(7) Test methods and procedures

(a) The reference methods in subparagraph 1200-3-16-.01(5)(g) except as provided under subparagraph 1200-3-16-.01(5)(b) shall be used to determine compliance with paragraph (3) of this rule as follows:

1. Reference Method 24, or data provided by the formulator of the coating for determining the VOC content of each coating as applied to the surface of the metal coil. In the event of a dispute, Reference Method 24 shall be the reference method. When VOC content of waterborne coatings, determined by Reference Method 24, is used to determine compliance of affected facilities, the results of the Reference Method 24 analysis shall be adjusted as described in Section 4.4 of Reference Method 24;

2. Reference Method 25, both for measuring the VOC concentration in each gas stream entering and leaving the control device on each stack equipped with an emission control device and for measuring the VOC concentration in each gas stream emitted directly to the atmosphere;

3. Method 1 for sample and velocity traverses;

4. Method 2 for velocity and volumetric flow rate;

5. Method 3 for gas analysis; and

6. Method 4 for stack gas moisture.

(b) For Method 24, the coating sample must be at least a 1-liter sample taken at a point where the sample will be representative of the coating as applied to the surface of the metal coil.

(c) For Method 25, the sampling time for each of three runs is to be at least 60 minutes, and the minimum sample volume is to be at least 0.003 dry standard cubic meter (DSCM); however, shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

(d) The Technical Secretary will approve testing of representative stacks on a case-by-case basis if the owner or operator can demonstrate to the satisfaction of the Technical Secretary that testing of representative stacks yields results comparable to those that would be obtained by testing all stacks.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.39 Graphic Arts Industry: Publication Rotogravure Printing

(1) Applicability

(a) Except as provided in subparagraph (b) of this paragraph, the affected facility to which the provisions of this rule apply is each publication rotogravure printing press.

(b) The provisions of this rule do not apply to proof presses.

(c) Any facility under subparagraph (a) of this paragraph that commences construction, modification, or reconstruction after November 6, 1988 is subject to the requirements of this rule.

(2) Definitions and notations

(a) Definitions

1. "Automatic temperature compensator" means a device that continuously senses the temperature of fluid flowing through a metering device and automatically adjusts the registration of the measured volume to the corrected equivalent volume at a base

temperature.

2. "Base temperature" means an arbitrary reference temperature for determining liquid densities or adjusting the measured volume of a liquid quantity.

3. "Density" means the mass of a unit volume of liquid, expressed as grams per cubic centimeter, kilograms per liter, or pounds per gallon, at a specified temperature.

4. "Gravure cylinder" means a printing cylinder with an intaglio image consisting of minute cells or indentations specially engraved or etched into the cylinder's surface to hold ink when continuously revolved through a fountain of ink.

5. "Performance averaging period" means 30 calendar days, one calendar month, or four consecutive weeks as specified in paragraphs of this rule.

6. "Proof press" means any device used only to check the quality of the image formation of newly engraved or etched gravure cylinders and prints only nonsaleable items.

7. "Publication rotogravure printing press" means any number of rotogravure printing units capable of printing simultaneously on the same continuous web or substrate and includes any associated device for continuously cutting and folding the printed web, where the following saleable paper products are printed:

(i) Catalogues, including mail order and premium,

(ii) Direct mail advertisements, including circulars, letters, pamphlets, cards, and printed envelopes,

(iii) Display advertisements, including general posters, outdoor advertisements, car cards, window posters; counter and floor displays; point of purchase, and other printed display material,

(iv) Magazines,

(v) Miscellaneous advertisements, including brochures, pamphlets, catalogue sheets, circular folders, announcements, package inserts, book jackets, market circulars, magazine inserts, and shopping news,

(vi) Newspapers, magazine and comic supplements for newspapers, and preprinted newspaper inserts, including hi-fi and spectacolor rolls and sections,

(vii) Periodicals, and

(viii) Telephone and other directories, including business reference services.

8. "Raw ink" means all purchased ink.

9. "Related coatings" means all non-ink purchased liquids and liquid-solid mixtures containing VOC solvent, usually referred to as extenders or varnishes, that are used at publication rotogravure printing presses.

10. "Rotogravure printing unit" means any device designed to print one color ink on one side of a continuous web or substrate using a gravure cylinder.

11. "Solvent-borne ink systems" means ink and related coating mixtures whose volatile portion consists essentially of VOC solvent with not more than five weight percent water, as applied to the gravure cylinder.

12. "Solvent recovery system" means an air pollution control system by which VOC solvent vapors in air or other gases are captured and directed through a condenser(s) or a vessel(s) containing beds of activated carbon or other adsorbents. For the condensation

method, the solvent is recovered directly from the condenser. For the adsorption method, the vapors are adsorbed, then desorbed by steam or other media, and finally condensed and recovered.

13. "VOC" means volatile organic compound.

14. "VOC solvent" means an organic liquid or liquid mixture consisting of VOC components.

15. "Waterborne ink systems" means ink and related coating mixtures whose volatile portion consists of a mixture of VOC solvent and more than five weight percent water, as applied to the gravure cylinder.

(b) Symbols

DB = the density at the base temperature of VOC solvent used or recovered during one performance averaging period.

Dci = the density of each color of raw ink and each related coating (i) used at the subject facility (or facilities), at the coating temperature when the volume of coating used is measured.

Ddi = the density of each VOC solvent (i) added to the ink for dilution at the subject facility (or facilities), at the solvent temperature when the volume of solvent used is measured.

Dgi = the density of each VOC solvent (i) used as a cleaning agent at the subject facility (or facilities), at the solvent temperature when the volume of cleaning solvent used is measured.

Dhi = the density of each quantity of water (i) added at the subject facility (or facilities) for dilution of waterborne ink systems at the water temperature when the volume of dilution water used is measured.

Dmi = the density of each quantity of VOC solvent and miscellaneous solvent-borne waste inks and waste VOC solvents (i) recovered from the subject facility (or facilities), at the solvent temperature when the volume of solvent recovered is measured.

Doi = the density of the VOC solvent contained in each raw ink and related coating (i) used at the subject facility (or facilities), at the coating temperature when the volume of coating used is measured.

Dwi = the density of the water contained in each waterborne raw ink and related coating (i) used at the subject facility (or facilities), at the coating temperature when the volume of coating used is measured.

Lci = the measured liquid volume of each color of raw ink and each related coating (i) used at the facility of a corresponding VOC content, Voi or Woi, with a VOC density, Doi, and a coating density Dci.

Ldi = the measured liquid volume of each VOC solvent (i) with corresponding density Ddi, added to dilute the ink used at the subject facility (or facilities).

Lgi = the measured liquid volume of each VOC solvent (i) used as a cleaning agent at the subject facility (or facilities), at the solvent temperature when the volume of cleaning solvent used is measured.

Lhi = the measured liquid volume of each quantity of water (i) added at the subject facility (or facilities) for dilution of waterborne ink systems at the water temperature when the volume of dilution water used is measured.

Lmi = the measured liquid volume of each quantity of VOC solvent and miscellaneous solvent borne waste inks and waste VOC solvents (i) recovered from the subject facility (or facilities), at the solvent temperature when the volume of solvent recovered is measured.

Lo = the corrected liquid volume of VOC in the raw inks and related coatings used.

Lt = the total corrected liquid volume of VOC used.

Lr = the total corrected liquid volume of VOC solvent recovered.

Mci = the mass, determined by direct weighing, of each color of raw ink and each related coating (i) used at the subject facility (or facilities).

Md = the mass, determined by direct weighing, of VOC solvent added to dilute the ink used at the subject facility (or facilities) during one performance averaging period.

Mg = the mass, determined by direct weighing, of VOC solvent used as a cleaning agent at the subject facility (or facilities) during one performance averaging period.

Mh = the mass, determined by direct weighing, of water added for dilution with waterborne ink systems used at the subject facility (or facilities) during one performance averaging period.

Mm = the mass, determined by direct weighing, of VOC solvent and miscellaneous solvent borne waste inks and waste VOC solvents recovered from the subject facility (or facilities) during one performance averaging period.

Mo = the total mass of VOC solvent contained in the raw inks and related coatings used at the subject facility (or facilities) during one performance averaging period.

Mr = the total mass of VOC solvent recovered from the subject facility (or facilities) during one performance averaging period.

Mt = the total mass of VOC solvent used at the subject facility (or facilities) during one performance averaging period.

Mv = the total mass of water used with waterborne ink systems at the subject facility (or facilities) during one performance averaging period.

Mw = the total mass of water contained in the waterborne raw inks and related coatings used at the subject facility (or facilities) during one performance averaging period.

P = the average VOC emission percentage for the subject facility (or facilities) for one performance averaging period.

Pa = the average VOC emission percentage for the affected facility.

Pb = the average VOC emission percentage for both affected and existing facilities controlled in common by the same air pollution control equipment.

Pe = the average VOC emission percentage for the existing facility.

Pf = the average VOC emission percentage for all affected and existing facilities located within the same plant boundary.

Voi = the liquid VOC content, expressed as a volume fraction of VOC volume per total volume of coating, of each color of raw ink and related coating (i) used at the subject facility (or facilities).

Vwi = the water content, expressed as a volume fraction of water volume per total volume

of coating, of each color of waterborne raw ink and related coating (i) used at the subject facility (or facilities).

Woi = the VOC content, expressed as a weight fraction of mass of VOC per total mass of coating, of each color of raw ink and related coating (i) used at the subject facility (or facilities).

Wwi = the water content, expressed as a weight fraction of mass of water per total mass of coating, of each color of waterborne raw ink and related coating (i) used at the subject facility (or facilities).

(c) Subscripts

a = affected facility.

b = both affected and existing facilities controlled in common by the same air pollution control equipment.

e = existing facility.

f = all affected and existing facilities located within the same plant boundary.

(3) Standard for volatile organic compounds

During the period of the performance test required to be conducted by 1200-3-16-.01(5) and after the date required for completion of the test, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility VOC equal to more than 16 percent of the total mass of VOC solvent and water used at that facility during any one performance averaging period. The water used includes only that water contained in the waterborne raw inks and related coatings and the water added for dilution with waterborne ink systems.

(4) Performance test and compliance provisions

(a) The owner or operator of any affected facility (or facilities) shall conduct performance tests in accordance with 1200-3-16-.01(5) under the following conditions:

1. The performance averaging period for each test is 30 consecutive calendar days and not an average of three separate runs as prescribed under subparagraph 1200-3-16-.01(5)(f).

2. Except as provided under subparagraphs (f) and (g) of this paragraph, if affected facilities routinely share the same raw ink storage/handling system with existing facilities, then temporary measurement procedures for segregating the raw inks, related coatings, VOC solvent, and water used at the affected facilities must be employed during the test. For this case, an overall emission percentage for the combined facilities as well as for only the affected facilities must be calculated during the test.

3. For the purpose of measuring bulk storage tank quantities of each color of raw ink and each related coating used, the owner or operator of any affected facility shall install, calibrate, maintain, and continuously operate during the test one or more:

(i) Non-resettable totalizer metering device(s) for indicating the cumulative liquid volume used at each affected facility; or

(ii) Segregated storage tanks for each affected facility to allow determination of the liquid quantities used by measuring devices other than the press meters required under subpart (i) of this part; or

(iii) Storage tanks to serve more than one facility with the liquid quantities used determined by measuring devices other than press meters, if facilities are combined as described under subparagraph (d), (f) or (g) of this paragraph.

4. The owner or operator may choose to install an automatic temperature compensator with any liquid metering device used to measure the raw inks, related coatings, water or VOC solvent used, or VOC solvent recovered.

5. Records of the measured amounts used at the affected facility and the liquid temperature at which the amounts were measured are maintained for each shipment of all purchased material or on at least a weekly basis for:

(i) The raw inks and related coatings used;

(ii) The VOC and water content of each raw ink and related coatings used as determined according to paragraph (6) of this rule;

(iii) The VOC solvent and water added to the inks used;

(iv) The VOC solvent used as a cleaning agent; and

(v) The VOC solvent recovered.

6. The density variations with temperature of the raw inks, related coatings, VOC solvents used, and VOC solvent recovered are determined by the methods stipulated in subparagraph (6)(d) of this rule.

7. The calculated emission percentage may be reported as rounded-off to the nearest whole number.

8. Printing press startups and shutdowns are not included in the exemption provisions under 1200-3-16-.01(5)(c). Frequent periods of press startups and shutdowns are normal operations and constitute representative conditions for the purpose of a performance test.

(b) If an affected facility uses waterborne ink systems or a combination of waterborne and solvent-borne ink systems with a solvent recovery system, compliance is determined by the following procedures, except as provided in subparagraphs (d), (e), (f), and (g) of this paragraph.

1. The mass of VOC in the solvent-borne and waterborne raw inks and related coatings used is determined by the following equation:

$$(M_o)_a = \sum_{i=1}^{k}(M_{ci})_a(W_{oi})_a + \sum_{i=1}^{m}(L_{ci})_a(D_{ci})_a(W_{oi})_a + \sum_{i=1}^{n}(L_{ci})_a(V_{oi})_a(D_{oi})_a$$

Where:

k is the total number of raw inks and related coatings measured as used in direct mass quantities with different amounts of VOC content.

m is the total number of raw inks and related coatings measured as used by volume with different amounts of VOC content or different densities.

n is the total number of raw inks and related coatings measured as used by volume with different amounts of VOC content or different VOC solvent densities.

2. The total mass of VOC used is determined by the following equation:

$$(M_t)_a = (M_o)_a + \sum_{i=1}^{m}(L_{di})_a(D_{di})_a + (M_d)_a + \sum_{i=1}^{n}(L_{gi})_a(D_{gi})_a + (M_g)_a$$

Where "m" and "n" are the respective total numbers of VOC dilution and cleaning solvents measured as used by volume with different densities.

3. The mass of water in the waterborne raw inks and related coatings used is determined by the following equation:

$$(M_w)_a = \sum_{i=1}^{k}(M_{ci})_a(W_{wi})_a + \sum_{i=1}^{m}(L_{ci})_a(D_{ci})_a(W_{wi})_a + \sum_{i=1}^{n}(L_{ci})_a(V_{wi})_a(D_{wi})_a$$

k is the total number of raw inks and related coatings measured as used in direct mass quantities with different amounts of water content.

m is the total number of raw inks and related coatings measured as used by volume with different amounts of water content or different densities.

n is the total number of raw inks and related coatings measured as used by volume with different amounts of water content or different water densities.

4. The total mass of water used is determined by the following equation:

$$(M_v)_a = (M_w)_a + (M_h)_a + \sum_{i=1}^{m}(L_{hi})_a(D_{hi})_a$$

Where "m" is the total number of water dilution additions measured as used by volume with different densities.

5. The total mass of VOC solvent recovered is determined by the following equation:

$$(M_r)_a = (M_m)_a + \sum_{i=1}^{k}(L_{mi})_a(D_{mi})_a$$

Where "k" is the total number of VOC solvents, miscellaneous solvent borne waste inks, and waste VOC solvents measured as recovered by volume with different densities.

6. The average VOC emission percentage for the affected facility is determined by the following equation:

$$P_a = \left[\frac{((M_t)_a - (M_r)_a)}{((M_t)_a + (M_v)_a)}\right] \times 100$$

(c) If an affected facility controlled by a solvent recovery system uses only solvent-borne ink systems, the owner or operator may choose to determine compliance on a direct mass or a density-corrected liquid volume basis. Except as provided in subparagraphs (d), (e), (f) and (g) of this paragraph, compliance is determined as follows:

1. On a direct mass basis, compliance is determined according to subparagraph (b) of this paragraph, except that the water term, Mv, does not apply.

2. On a density-corrected liquid volume basis, compliance is determined by the following procedures:

(i) A base temperature corresponding to that for the largest individual amount of VOC solvent used or recovered from the affected facility, or other reference temperature, is chosen by the owner or operator.

(ii) The corrected liquid volume of VOC in the raw inks and related coatings used is determined by the following equation:

$$(L_o)_a = \sum_{i=1}^{k} \frac{(M_{ci})_a (W_{oi})_a}{DB} + \sum_{i=1}^{m} \frac{(L_{ci})_a (D_{ci})_a (W_{oi})_a}{DB} + \sum_{i=1}^{n} \frac{(L_{ci})_a (V_{oi})_a (D_{oi})_a}{DB}$$

Where:

k is the total number of raw inks and related coatings measured as used in direct mass quantities with different amounts of VOC content.

m is the total number of raw inks and related coatings measured as used by volume with different amounts of VOC content or different densities.

n is the total number of raw inks and related coatings measured as used by volume with different amounts of VOC content or different VOC solvent densities.

(iii) The total corrected liquid volume of VOC used is determined by the following equation:

$$(L_t)_a = (L_o)_a + \sum_{i=1}^{m} \frac{(L_{di})_a (D_{di})_a}{DB} + \frac{(M_d)_a}{DB} + \sum_{i=1}^{n} \frac{(L_{gi})_a (D_{gi})_a}{DB} + \frac{(M_g)_a}{DB}$$

Where "m" and "n" are the respective total numbers of VOC dilution and cleaning solvents measured as used by volume with different densities.

(iv) The total corrected liquid volume of VOC solvent recovered is determined by the following equation:

$$(L_r)_a = \frac{(M_m)_a}{DB} + \sum_{i=1}^{k} \frac{(L_{mi})_a (D_{mi})_a}{DB}$$

Where "k" is the total number of VOC solvents, miscellaneous solvent-borne waste inks, and waste VOC solvents measured as recovered by volume with different densities.

(v) The average VOC emission percentage for the affected facility is determined by the following equation:

$$Pe = \frac{(Lt)e - (Lr)e}{(Lt)e} \times 100$$

(d) If two or more affected facilities are controlled by the same solvent recovery system, compliance is determined by the procedures specified in subparagraph (b) or (c) of this paragraph, whichever applies, except that (Lt)a and (Lr)a, (Mt)a, (Mr)a, and (Mv)a, are the collective amounts of VOC solvent and water corresponding to all the affected facilities controlled by that solvent recovery system. The average VOC emission percentage for each of the affected facilities controlled by that same solvent recovery system is assumed to be equal.

(e) Except as provided under subparagraph (f) of this paragraph, if an existing facility (or facilities) and an affected facility (or facilities) are controlled in common by the same solvent recovery system, the owner or operator shall determine compliance by conducting a separate emission test on the existing facility (or facilities) and then conducting a performance test on the combined facilities as follows:

1. Before the initial startup of the affected facility (or facilities) and at any other time as requested by the Technical Secretary, the owner or operator shall conduct emission test(s) on the existing facility (or facilities) controlled by the subject solvent recovery system. The solvent recovery system must handle VOC emissions from only the subject existing facility (or facilities), not from affected facilities, during the emission test.

2. During the emission test, the affected facilities are subject to the standard stated in

paragraph (3) of this rule.

3. The emission test is conducted over a 30 consecutive calendar day averaging period according to the conditions stipulated in parts (a)1 through (a)5 of this paragraph except that the conditions pertain to only existing facilities instead of affected facilities.

4. The owner or operator of the existing facility (or facilities) shall provide the Technical Secretary at least 30 days prior notice of the emission test to afford the Technical Secretary the opportunity to have an observer present.

5. The emission percentage for the existing facility (or facilities) during the emission test is determined by one of the following procedures:

(i) If the existing facility (or facilities) uses a combination of waterborne and solvent-borne ink systems, the average VOC emission percentage must be determined on a direct mass basis according to subparagraph (b) or (d) of this paragraph, whichever applies, with the following equation:

$$Pe = \frac{(Mt)e - (Mr)e}{(Mt)e + (Mv)e} \times 100$$

where the water and VOC solvent amounts pertain to only existing facilities.

(ii) If the existing facility (or facilities) uses only solvent-borne ink systems, the owner or operator may choose to determine the emission percentage either on a direct mass basis or a density-corrected liquid volume basis according to subparagraph (c) or (d) of this paragraph, whichever applies. On a direct mass basis, the average VOC emission percentage is determined by the equation presented in subpart (i) of this part. On a density-corrected liquid volume basis, the average VOC emission percentage is determined by the following equation:

$$Pa = \frac{(Lt)a - (Lr)a}{(Lt)a} \times 100$$

where the VOC solvent amounts pertain to only existing facilities.

6. The owner or operator of the existing facility (or facilities) shall furnish the Technical Secretary a written report of the results of the emission test.

7. After completion of the separate emission test on the existing facility (or facilities), the owner or operator shall conduct performance test(s) on the combined facilities with the solvent recovery system handling VOC emissions from both the existing and affected facilities.

8. During performance test(s), the emission percentage for the existing facility (or facilities), Pe, is assumed to be equal to that determined in the latest emission test. The Technical Secretary may request additional emission tests if any physical or operational changes occur to any of the subject existing facilities.

9. The emission percentage for the affected facilty (or facilities) during performance test(s) with both existing and affected facilities connected to the solvent recovery system is determined by one of the following procedures:

(i) If any of the combined facilities uses both waterborne and solvent-borne ink systems, the average VOC emission percentage must be determined on a direct mass basis according to subparagraph (b) or (d) of this paragraph, whichever applies, with the following equation:

$$Pa = \frac{(Mt)b - (Mr)b - \frac{(Pe)}{100}((Mt)e + (Mv)e)}{} \times 100$$

~~(Mt)a + (Mv)a~~

~~where (Mt)a and (Mr)b are the collective VOC solvent amounts pertaining to all the combined facilities.~~

~~(ii) If all of the combined facilities use only solvent borne ink systems, the owner or operator may choose to determine performance of the affected facility (or facilities) either on a direct mass basis or a density corrected liquid volume basis according to subparagraph (c) or (d) of this paragraph, whichever applies. On a direct mass basis, the average VOC emission percentage is determined by the equation presented in subpart (i) of this part. On a density corrected liquid volume basis, the average VOC emission percentage is determined by the following equation:~~

$$Pa = \frac{(Lt)b - (Lr)e - (Pe))}{(Lt)a} \times \frac{}{100} \times 100$$

~~where (Lt)b and (Lr)b are the collective VOC solvent amounts pertaining to all the combined facilities.~~

~~(f) The owner or operator may choose to show compliance of the combined performance of existing and affected facilities controlled in common by the same solvent recovery system. A separate emission test for existing facilities is not required for this option. The combined performance is determined by one of the following procedures:~~

~~1. If any of the combined facilities uses both waterborne and solvent-borne ink systems, the combined average VOC emission percentage must be determined on a direct mass basis according to subparagraph (b) or (d) of this paragraph, whichever applies, with the following equation:~~

$$Pb = \frac{(Mt)b = (Mr)b}{(Mt)b + (Mv)b} \times 100$$

~~2. If all of the combined facilities use only solvent borne ink systems, the owner or operator may choose to determine performance either on a direct mass basis or a density corrected liquid volume basis according to subparagraph (c) or (d) of this paragraph, whichever applies. On a direct mass basis, the average VOC emission percentage is determined by the equation presented in part 1 of this subparagraph. On a density-corrected liquid volume basis, the average VOC emission percentage is determined by the following equation:~~

$$Pb = \frac{(Lt)b - (Lr)b}{(Lt)b} \times 100$$

~~(g) If all existing and affected facilities located within the same plant boundary use waterborne ink systems or solvent-borne ink systems with solvent recovery systems, the owner or operator may choose to show compliance on a plantwide basis for all the existing and affected facilities together. No separate emission tests on existing facilities and no temporary segregated liquid measurement procedures for affected facilities are required for this option. The plantwide performance is determined by one of the following procedures:~~

~~1. If any of the facilities use waterborne ink systems, the total plant average VOC emission percentage must be determined on a direct mass basis according to subparagraph (b) of this paragraph with the following equation:~~

$$Pf = \frac{(Mt)f - (Mr)a - (Mr)e - (Mr)b}{(Mt)f + (Mv)f} \times 100$$

~~where (Mt)f and (Mv)f are the collective VOC solvent and water amounts used at all the subject plant facilities during the performance test.~~

2. If all of the plant facilities use only solvent-borne ink systems, the owner or operator may choose to determine performance either on a direct mass basis or a density- corrected liquid volume basis according to subparagraph (c) of this paragraph. On a direct mass basis, the total plant average VOC emission percentage is determined by the equation presented in part 1 of this subparagraph. On a density corrected liquid volume basis, the total plant average VOC emission percentage is determined by the following equation:

$$Pf = \frac{(Lt)f - (Lr)a - (Lr)c - (Lr)b}{(Lt)f} \times 100$$

Where (Lt)f is the collective VOC solvent amount used at all the subject plant facilities during the performance test.

(5) Monitoring of operations and recordkeeping

(a) After completion of the performance test required under 1200-3-16-.01(5), the owner or operator of any affected facility using waterborne ink systems or solvent borne ink systems with solvent recovery systems shall record the amount of solvent and water used, solvent recovered, and estimated emission percentage for each performance averaging period and shall maintain these records for 2 years. The emission percentage is estimated as follows:

1. The performance averaging period for monitoring of proper operation and maintenance is a calendar month or 4 consecutive weeks, at the option of the owner or operator.

2. If affected facilities share the same raw ink storage/handling system with existing facilities, solvent and water used, solvent recovered, and emission percentages for the combined facilities may be documented. Separate emission percentages for only the affected facilities are not required in this case. The combined emission percentage is compared to the overall average for the existing and affected facilities' emission percentage determined during the most recent performance test.

3. Except as provided in part 4 of this subparagraph, temperatures and liquid densities determined during the most recent performance test are used to calculate corrected volumes and mass quantities.

4. The owner or operator may choose to measure temperatures for determination of actual liquid densities during each performance averaging period. A different base temperature may be used for each performance averaging period if desired by the owner or operator.

5. The emission percentage is calculated according to the procedures under subparagraphs (4)(b) through (g) of this rule, whichever applies, or by a comparable calculation which compares the total solvent recovered to the total solvent used at the affected facility.

(6) Test methods and procedures

(a) The owner or operator of any affected facility using solvent-borne ink systems shall determine the VOC content of the raw inks and related coatings used at the affected facility by:

1. Analysis using Reference Method 24A, of routine weekly samples of raw ink and related coatings in each respective storage tank; or

2. Analysis using Reference Method 24A of samples of each shipment of all purchased raw inks and related coatings; or

3. Determination of the VOC content from the formulation data supplied by the ink manufacturer with each shipment of raw inks and related coatings used.

(b) The owner or operator of any affected facility using solvent-borne ink systems shall use the results of verification analyses by Reference Method 24A to determine compliance when discrepancies with ink manufacturer's formulation data occur.

(c) The owner or operator of any affected facility using waterborne ink systems shall determine the VOC and water content of raw inks and related coatings used at the facility by:

1. Determination of the VOC and water content from the formulation data supplied by the ink manufacturer with each shipment of purchased raw inks and related coatings used; or

2. Analysis of samples of each shipment of purchased raw inks and related coatings using a test method approved by the Technical Secretary in accordance with 1200-3-16-.01(5)(b).

(d) The owner or operator of any affected facility shall determine the density of raw inks, related coatings, and VOC solvents by:

1. Making a total of three determinations for each liquid sample at specified temperatures using the procedure outlined in ASTM D 1475-60 (Reapproved 1980). It is available from the American Society of Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103 or by writing to the Tennessee Division of Air Pollution Control, 4th Floor, Customs House, 701 Broadway, Nashville, Tennessee 37219. Be sure and specify which method is desired. The temperature and density is recorded as the arithmetic average of three determinations; or

2. Using literature values, at specified temperatures, acceptable to the Technical Secretary.

(e) If compliance is determined according to subparagraph (4)(e), (f), or (g) of this rule, the existing as well as affected facilities are subject to the requirements of subparagraphs (a) through (d) of this paragraph.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.40 Beverage Can Surface Coating

(1) Applicability

(a) The provisions of this rule apply to the following affected facilities in beverage can surface coating lines: each exterior base coat operation, each overvarnish coating operation, and each inside spray coating operation.

(b) The provisions of this rule apply to each affected facility which is identified in subparagraph (a) of this paragraph and commences construction, modification, or reconstruction after November 6, 1988.

(2) Definitions and Symbols

(a) Definitions

1. "Beverage can" means any two-piece steel or aluminum container in which soft drinks or beer, including malt liquor, are packaged. The definition does not include containers in which fruit or vegetable juices are packaged.

2. "Exterior base coating operation" means the system on each beverage can surface coating line used to apply a coating to the exterior of a two-piece beverage can body. The exterior base coat provides corrosion resistance and a background for lithography or printing operations. The exterior base coat operation consists of the coating application station, flashoff area, and curing oven. The exterior base coat may be pigmented or clear (unpigmented).

3. "Inside spray coating operating" means the system on each beverage can surface coating line used to apply a coating to the interior of a two-piece beverage can body. This coating provides a protective film between the contents of the beverage can and the metal can body. The inside spray coating operation consists of the coating application station, flashoff area, and curing oven. Multiple applications of an inside spray coating are considered to

be a single coating operation.

4. "Overvarnish coating operation" means the system on each beverage can surface coating line used to apply a coating over ink which reduces friction for automated beverage can filling equipment, provides gloss, and protects the finished beverage can body from abrasion and corrosion. The overvarnish coating is applied to two-piece beverage can bodies. The overvarnish coating operation consists of the coating application station, flashoff area, and curing oven.

5. "Two-piece can" means any beverage can that consists of a body manufactured from a single piece of steel or aluminum and a top. Coatings for a two-piece can are usually applied after fabrication of the can body.

6. "VOC content" means all volatile organic compounds (VOC) that are in a coating. VOC content is expressed in terms of kilograms of VOC per litre of coating solids.

(b) Symbols

Ca = the VOC concentration in each gas stream leaving the control device and entering the atmosphere (parts per million as carbon)

Cb = the VOC concentration in each gas stream entering the control device (parts per million as carbon)

Dc = density of each coating, as received (kilograms per litre)

Dd = density of each VOC-solvent added to coatings (kilogram per litre)

Dr = density of VOC-solvent recovered by an emission control device (kilograms per litre)

E = VOC destruction efficiency of the control device (fraction)

F = the proportion of total VOC emitted by an affected facility which enters the control device to total emissions (fraction)

G = the volume-weighted average of VOC in coatings consumed in a calendar month per volume of coating solids applied (kilograms per litre of coating solids)

He = the fraction of VOC emitted at the coater and flashoff areas captured by a collection system

Hh = the fraction of VOC emitted at the cure oven captured by a collection system

Lc = the volume of each coating consumed, as received (litres)

Ld = the volume of each VOC-solvent added to coatings (litres)

Lr = the volume of VOC-solvent recovered by an emission control device (litres)

Ls = the volume of coating solids consumed (litres)

Md = the mass of VOC-solvent added to coatings (kilograms)

Mo = the mass of VOC-solvent in coatings consumed, as received (kilograms)

Mr = the mass of VOC-solvent recovered by emission control device (kilograms)

N = the volume-weighted average mass of VOC emissions to atmosphere per unit volume of coating solids applied (kilograms per litre of coating solids)

Qa = the volumetric flow rate of each gas stream leaving the control device and entering the atmosphere (dry standard cubic meters per hour)

Qb = the volumetric flow of each gas stream entering the control device (dry standard cubic meters per hour)

R = the overall emission reduction efficiency for an affected facility (fraction)

Se = the fraction of VOC in coating and diluent VOC-solvent emitted at the coater and flashoff area for a coating operation

Sh = the fraction of VOC in coating and diluent solvent emitted at the cure oven for a coating operation

Vs = the proportion of solids in each coating, as received (fraction by volume)

Wo = the proportion of VOC in each coating, as received (fraction by weight).

(3) Standards for volatile organic compounds

On or after the date on which the initial performance test required by 1200-3-16-.01(5)(a) is completed, no owner or operator subject to the provisions of this rule shall discharge or cause the discharge of VOC emissions to the atmosphere that exceed the following volume-weighted calendar-month average emissions:

(a) 0.29 kilogram of VOC per litre of coating solids from each two-piece can exterior base coating operation, except clear base coat;

(b) 0.46 kilogram of VOC per litre of coating solids from each two-piece can clear base coating operation and from each overvarnish coating operation; and

(c) 0.89 kilogram of VOC per litre of coating solids from each two-piece can inside spray coating operation.

(4) Performance test and compliance provisions

(a) 1200-3-16-.01(5)(d) does not apply to monthly performance tests and 1200-3-16-.01(5)(f) does not apply to the performance test procedures required by this rule.

(b) The owner or operator of an affected facility shall conduct an initial performance test as required under 1200-3-16-.01(5)(a) and thereafter a performance test each calendar month for each affected facility.

1. The owner or operator shall use the following procedures for each affected facility that does not use a capture system and a control device to comply with the emission limit specified under paragraph (3) of this rule. The owner or opertor shall determine the VOC-content of the coatings from formulation data supplied by the manufacturer of the coating or by an analysis of each coating, as received, using Reference Method 24 (as specified in rule 1200-3-16-.01(5)(g)24). The Technical Secretary may require the owner or operator who uses formulation data supplied by the manufacturer of the coating to determine the VOC content of coatings using Reference Method 24 or an equivalent or alternative method. The owner or operator shall determine from company records the volume of coating and the mass of VOC-solvent added to coatings. If a common coating distribution system serves more than one affected facility or serves both affected and exiting facilities, the owner or operator shall estimate the volume of coating used at each facility by using the average dry weight of coating, number of cans, and size of cans being processed by each affected and existing facility or by other procedures acceptable to the Technical Secretary.

(i) Calculate the volume-weighted average of the total mass of VOC per volume of coating solids used during the calendar month for each affected facility, except as provided under subpart (iv) of this part. The volume-weighted average of the total

mass of VOC per volume of coating solids used each calendar month will be determined by the following procedures.

(I) Calculate the mass of VOC used (Mo + Md) during the calendar month for the affected facility by the following equation:

$$M_o + M_d = \sum_{i=1}^{n} L_{ci} D_{ci} W_{oi} + \sum_{j=1}^{m} L_{dj} D_{dj} \qquad \text{Equation (1)}$$

(Sum Ldj Ddj will be 0 if no VOC solvent is added to the coatings, as received.) where n is the number of different coatings used during the calendar month and m is the number of different diluent VOC solvents used during the calendar month.

(II) Calculate the total volume of coating solids used (Ls) in the calendar month for the affected facility by the following equation:

$$L_s = \sum_{i=1}^{n} L_{ci} V_{si} \qquad \text{Equation (2)}$$

where n is the number of different coatings used during the calendar month.

(III) Calculate the volume-weighed average mass of VOC per volume of solids used (G) during the calendar month for the affected facility by the following equation:

$$G = \frac{Mo + Md}{Ls} \qquad \text{Equation (3)}$$

(ii) Calculate the volume-weighted average of VOC emissions discharged to the atmosphere (N) during the calendar month for the affected facility by the following equation:

$$N = G \qquad \text{Equation (4)}$$

(iii) Where the value of the volume-weighted average of mass of VOC per volume of solids discharged to the atmosphere (N) is equal to or less than the applicable emission limit specified under paragraph (3) of this rule, the affected facility is in compliance.

(iv) If each individual coating used by an affected facility has a VOC content equal to or less than the limit specified in paragraph (3) of this rule, the affected facility is in compliance provided no VOC solvents are added to the coating during distribution or application.

2. An owner or operator shall use the following procedures for each affected facility that uses a capture system and control device that destroys VOC (e.g., incinerator) to comply with emissions limit specified in paragraph (3) of this rule.

(i) Determine the overall reduction efficiency (R) for the capture system and control device.

For the initial performance test, the overall reduction efficiency (R) shall be determined as prescribed in items (I), (II), and (III) below. In subsequent months, the owner or opertor may use the most recently determined overall reduction efficiency for the performance test providing control device and capture system operating conditions have not changed. The procedure in items (I), (II) and (III) below, shall be repeated when directed by the Technical Secretary or when the

owner or operator elects to operate the control device or capture system at conditions different from the initial performance test.

(I) Determine the fraction (F) of total VOC used by the affected facility that enters the control device using the following equation:

F = Se He + Sh Hh Equation (5)

where He an Hh shall be determined by a method that has been previously approved by the Technical Secretary. The owner or operator may use the values of Se and Sh specified in Table 1 or other values determined by a method that has been previously approved by the Technical Secretary.

Table 1. – Distribution of VOC Emissions

Coating operation	Emission distribution Coater/Curing flashoff oven (Se)	(Sh)
Two-piece aluminum or steel can:		
Exterior base coat operation	0.75	0.25
Overvarnish coating operation	0.75	0.25
Inside spray coating operation	0.80	0.20

(II) Determine the destruction efficiency of the control device (E) using values of the volumetric flow rate of each of the gas streams and the VOC content (as carbon) of each of the gas streams in and out of the device by the following equation:

$$E = \frac{\sum_{i=1}^{n} Q_{bi} C_{bi} - \sum_{j=1}^{m} Q_{aj} C_{aj}}{\sum_{i=1}^{n} Q_{bi} C_{bi}}$$ Equation (6)

where n is the number of vents before the control device, and m is the number of vents after the control device.

(III) Determine overall reduction efficiency (R) using the following equation:

R = EF Equation (7)

(ii) Calculate the volume weighted average of the total mass of VOC per volume of coating solids (G) used during the calendar month for the affected facility using equations (1), (2) and (3).

(iii) Calculate the volume-weighted average of VOC emissions discharged to the atmosphere (N) during the calendar month by the following equation:

N = G *x* (1 – R) Equation (8)

(iv) If the volume weighted average of mass of VOC emitted to the atmosphere for the calendar month (N) is equal to or less than the applicable emission limit specified in paragraph (3) of this rule, the affected facility is in compliance.

3. An owner or operator shall use the following procedure for each affected facility that uses a capture system and a control device that recovers the VOC (e.g., carbon adsorber) to comply with the applicable emission limit specified in paragraph (3) of this rule.

(i) Calculate the volume weighted average of the total mass of VOC per unit volume of coating solids applied (G) used during the calendar month for the affected facility using equations (1), (2) and (3).

(ii) Calculate the total mass of VOC recovered (Mr) during each calendar month using the following equation:

$$Mr = Lr\ Dr \qquad \text{Equation (9)}$$

(iii) Calculate overall reduction efficiency of the control device (R) for the calendar month for the affected facility using the following equation:

$$R = \frac{Mr}{Mo + Md} \qquad \text{Equation (10)}$$

(iv) Calculate the volume-weighted average mass of VOC discharged to the atmosphere (N) for the calendar month for the affected facility using equation (8).

(v) If the weighted average of VOC emitted to the atmosphere for the calendar month (N) is equal to or less than the applicable emission limit specified in paragraph (3) of this rule, the affected facility is in compliance.

(5) Monitoring of emissions and operations

The owner or operator of an affected facility that uses a capture system and an incinerator to comply with the emission limits specified under paragraph (3) of this rule shall install, calibrate, maintain, and operate temperature measurement devices as prescribed below.

(a) Where thermal incineration is used, a temperature measurement device shall be installed in the firebox. Where catalytic incineration is used, temperature measurement devices shall be installed in the gas stream immediately before and after the catalyst bed.

(b) Each temperature measurement device shall be installed, calibrated, and maintained according to the manufacturer's specifications. This device shall have an accuracy the greater of ± 0.75 percent of the temperature being measured expressed in degrees Celsius or ± 2.5°C.

(c) Each temperature measuement device shall be equipped with a recording device so that a permanent continuous record is produced.

(6) Reporting and recordkeeping requirements

(a) The owner or operator of an affected facility shall include the following data in the initial compliance report required under rule 1200-3-16-.01(5)(a).

1. Where only coatings which individually have a VOC content equal to or less than the limits specified in paragraph (3) of this rule are used, and no VOC is added to the coating during the application or distribution process, the owner or operator shall provide a list of the coatings used for each affected facility and the VOC content of each coating calculated from data determined using either Reference Method 24 (as specified in 1200-3-16-.01(5)(g)24) or data supplied by the manufacturer of the coatings.

2. Where one or more coatings which individually have a VOC content greater than the limits specified under paragraph (3) of this rule are used or where VOC are added or used in the coating process, the owner or operator shall report for each affected facility the volume-weighted average of the total mass of VOC per volume of coating solids.

3. Where compliance is achieved through the use of incineration, the owner or operator shall include in the initial performance test required under 1200-3-16-.01(5)(a) the combustion temperature (or the gas temperature upstream and downstream of the catalyst bed), the total mass of VOC per volume of coating solids before and after the incinerator, capture efficiency, and the destruction of efficiency of the incinerator used to attain compliance with the applicable emission limit specified under paragraph (3) of this rule. The owner or operator shall also include a description of the method used to establish the amount of VOC captured by the capture system and sent to the control device.

(b) Following the initial performance test, each owner or operator shall submit for each semiannual period ending June 30 and December 31 a written report to the Technical Secretary of exceedances of VOC content and incinerator operating temperatures when compliance with paragraph (3) of this rule is achieved through the use of incineration. All semiannual reports shall be postmarked by the 30th day following the end of each semiannual period. For the purposes of these reports, exceedances are defined as:

1. Each performance period in which the volume-weighted average of the total mass of VOC per volume of coating solids, after the control device, if capture devices and control systems are used, is greater than the limit specified under paragraph (3) of this rule.

2. Where compliance with paragraph (3) of this rule is achieved through the use of thermal incineration, each 3-hour period when cans are processed, during which the average temperature of the device was more than 28°C below the average temperature of the device during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule.

3. Where compliance with paragraph (3) of this rule is achieved through the use of catalytic incineration, each 3-hour period when cans are being processed during which the average temperature of the device immediately before the catalyst bed is more than 28°C below the average temperature of the device immediately before the catalyst bed during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule and all 3-hour periods, when cans are being processed, during which the average temperature difference across the catalyst bed is less than 80 percent of the average temperature difference across the catalyst bed during the most recent performance test at which destruction efficiency was determined as specified under paragraph (4) of this rule.

(c) Each owner or operator subject to the provisions of this rule shall maintain at the source, for a period of at least 2 years, records of all data and calculations used to determine VOC emissions from each affected facility in the initial and monthly performance tests. Where compliance is achieved through the use of thermal incineration, each owner or operator shall maintain, at the source, daily records of the incinerator combustion chamber temperature. If catalytic incineration is used, the owner or operator shall maintain at the source daily records of the gas temperature, both upstream and downstream of the incinerator catalyst bed. Where compliance is achieved through the use of a solvent recovery system, the owner or operator shall maintain at the source daily records of the amount of solvent recovered by the system for each affected facility.

(7) Test methods and procedures

(a) The reference methods in 1200-3-16-.01(5)(g) except as provided in 1200-3-16-.01(5)(b), shall be used to conduct performance tests.

1. Reference Method 24 (as specified in 1200-3-16-.01(5)(g)24), an equivalent or alternative method approved by the Technical Secretary, or manufacturers formulation for data from which the VOC content of the coatings used for each affected facility can be calculated. In the event of dispute, Reference Method 24 shall be the reference method. When VOC content of waterborne coatings, determined from data generated by Reference Method 24, is used to determine compliance of affected facilities, the results of the Method 24 analysis shall be adjusted as described in Section 4.4 of Method 24.

2. Reference Method 25 or an equivalent or alternative method for the determination of the VOC concentration in the effluent gas entering and leaving the control device for each stack equipped with an emission control device. The owner or operation shall notify the Technical Secretary 30 days in advance of any test using Reference Method 25. The following reference methods are to be used in conjunction with Reference Method 25:

(i) Method 1 for sample and velocity traverses,

(ii) Method 2 for velocity and volumetric flow rate,

(iii) Method 3 for gas analysis, and

(iv) Method 4 for stack gas moisture.

(b) For Reference Method 24, the coating sample must be a 1 liter sample collected in a 1 liter container at a point where the sample will be representative of the coating material.

(c) For Reference Method 25, the sampling time for each of three runs must be at least 1 hour. The minimum sample volume must be 0.003 dscm except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary. The Technical Secretary will approve the sampling of representative stacks on a case-by-case basis if the owner or operator can demonstrate to the satisfaction of the Technical Secretary that the testing of representative stacks would yield results comparable to those that would be obtained by testing all stacks.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.41 Metallic Mineral Processing Plants

(1) Applicability

(a) The provisions of this rule are applicable to the following affected facilities in metallic mineral processing plants: Each crusher and screen in open-pit mines; each crusher, screen, bucket elevator, conveyor belt transfer point, thermal dryer, product packaging station, storage bin, enclosed storage area, truck loading station, truck unloading station, railcar loading station, and railcar unloading station at the mill or concentrator with the following exceptions. All facilities located in underground mines are exempted from the provisions of this rule. At uranium ore processing plants, all facilities subsequent to and including the beneficiation of uranium ore are exempted from the provisions of this rule.

(b) An affected facility under subparagraph (a) of this paragraph that commences construction or modification after November 6, 1988 is subject to the requirements of this rule.

(2) Definitions

(a) "Bucket elevator" means a conveying device for metallic minerals consisting of a head and foot assembly that supports and drives an endless single or double strand chain or belt to which buckets are attached.

(b) "Capture system" means the equipment used to capture and transport particulate matter generated by one or more affected facilities to a control device.

(c) "Control device" means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere from one or more affected facilities at a metallic mineral processing plant.

(d) "Conveyor belt transfer point" means a point in the conveying operation where the metallic mineral or metallic mineral concentrate is transferred to or from a conveyor belt except where the metallic mineral is being transferred to a stockpile.

(e) "Crusher" means a machine used to crush any metallic mineral and includes feeders or conveyors located immediately below the crushing surfaces. Crushers include, but are not limited to, the following types: jaw, gyratory, cone, and hammermill.

(f) "Enclosed storage area" means any area covered by a roof under which metallic minerals are stored prior to further processing or loading.

(g) "Metallic mineral concentrate" means a material containing metallic compounds in concentrations higher than naturally occurring in ore but requiring additional processing if pure metal is to be isolated. A metallic mineral concentrate contains at least one of the following metals in any of its

oxidation states and at a concentration that contributes to the concentrate's commercial value: aluminum, copper, gold, iron, lead, molybdenum, silver, titanium, tungsten, uranium, zinc, and zirconium. This definition shall not be construed as requiring that material containing metallic compounds be refined to a pure metal in order for the material to be considered a metallic mineral concentrate to be covered by the standards.

(h) "Metallic mineral processing plant" means any combination of equipment that produces metallic mineral concentrates for ore. Metallic mineral processing commences with the mining of ore and includes all operations either up to and including the loading of wet or dry concentrates or solutions of metallic minerals for transfer to facilities at nonadjacent locations that will subsequently process metallic concentrates into purified metals (or other products), or up to and including all material transfer and storage operations that precede the operations that produce refined metals (or other products) from metallic mineral concentrates at facilities adjacent to the metallic mineral processing plant. This definition shall not be construed as requiring that mining of ore be conducted in order for the combination of equipment to be considered a metallic mineral processing plant.

(i) "Process fugitive emissions" means particulate matter emissions from an affected facility that are not collected by a capture system.

(j) "Product packaging station" means the equipment used to fill containers with metallic compounds or metallic mineral concentrates.

(k) "Railcar loading station" means that portion of a metallic mineral processing plant where metallic minerals or metallic mineral concentrates are loaded by a conveying system into railcars.

(l) "Railcar unloading station" means that portion of a metallic mineral processing plant where metallic ore is unloaded from a railcar into a hopper, screen, or crusher.

(m) "Screen" means a device for separating material according to size by passing undersize material through one or more mesh surfaces (screens) in series and retaining oversize materials on the mesh surfaces (screens).

(n) "Stack emissions" means the particulate matter captured and released to the atmosphere through a stack, chimney, or flue.

(o) "Storage bin" means a facility for storage (including surge bins and hoppers) of metallic minerals prior to further processing or loading.

(p) "Surface moisture" means water that is not chemically bound to a metallic mineral or metallic mineral concentrate.

(q) "Thermal dryer" means a unit in which the surface moisture content of a metallic mineral or a metallic mineral concentrate is reduced by direct or indirect contact with a heated gas steam.

(r) "Truck loading station" means that portion of a metallic mineral processing plant where metallic minerals or metallic mineral concentrates are loaded by a conveying system into trucks.

(s) "Truck unloading station" means that portion of a metallic mineral processing plant where metallic ore is unloaded from a truck into a hopper, screen, or crusher.

(3) Standards

(a) On and after the date on which the performance test required to be conducted by paragraph 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from an affected facility any stack emissions that:

1. Contain particulate matter in excess of 0.05 grams per dry standard cubic meter.

2. Exhibit greater than 7 percent opacity, unless the stack emissions are discharged from an affected facility using a wet scrubbing emission control device.

(b) On and after the sixtieth day after achieving the maximum production rate at which the affected facility will be operated, but no later than 180 days after initial startup, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from an affected facility any process fugitive emissions that exhibit greater than 10 percent opacity.

(4) Reconstruction

(a) The cost of replacement of ore-contact surfaces on processing equipment shall not be considered in calculating either the "fixed capital cost of the new components" or the "fixed capital cost that would be required to construct a comparable new facility" under subparagraph 1200-3-16-.01(9)(b). Ore-contact surfaces are: Crushing surfaces; screen meshes, bars, and plates; conveyor belts; elevator buckets; and pan feeders.

(b) Under subparagraph 1200-3-16-.01(9)(b), the "fixed capital cost of the new components" includes the fixed capital cost of all depreciable components (except components specified in subparagraph (a) of this paragraph) that are or will be replaced pursuant to all continuous programs of component replacement commenced within any 2-year period following November 6, 1988.

(5) Monitoring

(a) The owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate a monitoring device for the continuous measurement of the change in pressure of the gas stream through the scrubber for any affected facility using a wet scrubbing emission control device. The monitoring device must be certified by the manufacturer to be accurate within ± 250 pascals (±1 inch water) gauge pressure and must be calibrated on an annual basis in accordance with manufacturer's instructions.

(b) The owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate a monitoring device for the continuous measurement of the scrubbing liquid flow rate to a wet scrubber for any affected facility using any type of wet scrubbing emission control device. The monitoring device must be certified by the manufacturer to be accurate within ± 5 percent of design scrubbing liquid flow rate and must be calibrated on at least an annual basis in accordance with manufacturer's instructions.

(6) Recordkeeping and reporting

(a) The owner or operator subject to the provisions of this rule shall conduct a performance test and submit to the Technical Secretary a written report of the results of the test as specified in subparagraph 1200-3-16-.01(5)(a).

(b) During the initial performance test of a wet scrubber, and at least weekly thereafter, the owner or operator shall record the measurements of both the change in pressure of the gas stream across the scrubber and the scrubbing liquid flow rate.

(c) After the initial performance test of a wet scrubber, the owner or operator shall submit semiannual reports to the Technical Secretary of occurrences when the measurements of the scrubber pressure loss (or gain) and liquid flow differ by more than ± 30 percent from those measurements recorded during the most recent performance test.

(d) The reports required under subparagraph (c) of this paragraph shall be postmarked within 30 days following the end of the second and fourth calendar quarters.

(7) Test methods and procedures

(a) Reference Methods in subparagraph 1200-3-16-.01(5)(g) except as provided under 1200-3-16.01(5)(b), shall be used to determine compliance with the standards prescribed under paragraph (3) of this rule as follows:

1. Method 5 or Method 17 for concentration of particulate matter and associated moisture content;

2. Method 1 for sample and velocity traverses;

3. Method 2 for velocity and volumetric flow rate;

4. Method 3 for gas analysis;

5. Method 9 for measuring opacity from stack emissions and process fugitive emissions.

(b) For Method 5, the following stipulations shall apply:

1. The sampling probe and filter holder may be operated without heaters if the gas stream being sampled is at ambient temperature;

2. For gas streams above ambient temperature, the sampling train shall be operated with a probe and filter temperature slightly above the effluent temperature (up to a maximum filter temperature of 121°C (250°F)) in order to prevent water condensation on the filter;

3. The minimum sample volume shall be 1.7 dscm (60 dscf).

(c) For Method 9, the following stipulation shall apply; the observer shall read opacity only when emissions are clearly identified as emanating solely from the affected facility being observed.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.42 Pressure Sensitive Tape and Label Surface Coating Operations

(1) Applicability

(a) The affected facility to which the provisions of this rule apply is each coating line used in the manufacture of pressure sensitive tape and label materials.

(b) Any affected facility which inputs to the coating process 45 Mg of VOC or less per 12 month period is not subject to the emission limits of subparagraph (3)(a) of this rule, however, the affected facility is subject to the requirements of all other applicable paragraphs of this rule. If the amount of VOC input exceeds 45 Mg per 12 month period, the coating line will become subject to subparagraph (3)(a) of this rule and all other paragraphs of this rule.

(c) This rule applies to any affected facility which begins construction, modification, or reconstruction after November 6, 1988.

(2) Definitions and Symbols

(a) Definitions

1. "Coating applicator" means an apparatus used to apply a surface coating to a continuous web.

2. "Coating line" means any number or combination of adhesive, release, or precoat coating applicators, flashoff areas, and ovens which coat a continuous web, located between a web unwind station and a web rewind station, to produce pressure sensitive tape and label materials.

3. "Coating solids applied" means the solids content of the coated adhesive, release, or precoat as measured by Reference Method 24 (as specified in 1200-3-16-.01(5)(g)24).

4. "Flashoff area" means the portion of a coating line after the coating applicator and usually before the oven entrance.

5. "Fugitive volatile organic compounds" means any volatile organic compounds which are emitted from the coating applicator and flashoff areas and are not emitted in the oven.

6. “Hood or enclosure” means any device used to capture fugitive volatile organic compounds.

7. “Oven” means a chamber which uses heat or irradiation to bake, cure, polymerize, or dry a surface coating.

8. “Precoat” means a coating operation in which a coating other than an adhesive or release is applied to a surface during the production of a pressure sensitive tape or label product.

9. “Solvent applied in the coating” means all organic solvent contained in the adhesive, release, and precoat formulations that is metered into the coating applicator from the formulation area.

10. “Total enclosure” means a structure or building around the coating applicator and flashoff area or the entire coating line for the purpose of confining and totally capturing fugitive VOC emissions.

11. “VOC” means volatile organic compound.

(b) Symbols

“a” means the gas stream vents exiting the emission control device.

“b” means the gas stream vents entering the emission control device.

“Caj” means the concentration of VOC (carbon equivalent) in each gas stream (j) exiting the emission control device, in parts per million by volume.

“Cbi” means the concentration of VOC (carbon equivalent) in each gas stream (i) entering the emission control device, in parts per million by volume.

“Cfk” means the concentration of VOC (carbon equivalent) in each gas stream (k) emitted directly to the atmosphere in parts per million by volume.

“C” means the calculated weighted average mass (kg) of VOC per mass (kg) of coating solids applied each calendar month.

“Mci” means the total mass (kg) of each coating (i) applied during the calendar month as determined from facility records.

“Mr” means the total mass (kg) of solvent recovered for a calendar month.

“Qaj” means the volumetric flow rate of each effluent gas stream (j) exiting the emission control device, in dry standard cubic meters per hour.

“Qbi” means the volumetric flow rate of each effluent gas stream (i) entering the emission control device, in dry standard cubic meters per hour.

“Qfk” means the volumetric flow rate of each effluent gas stream (k) emitted to the atmosphere, in dry standard cubic meters per hour.

“R” means the overall VOC emission reduction achieved for a calendar month (in percent).

“Rq” means the required overall VOC emission reduction (in percent).

“Woi” means the weight fraction of organics applied of each coating (i) applied during a calendar month as determined from Reference Method 24 or coating manufacturer’s formulation data.

“Wsi” means the weight fraction of solids applied of each coating (i) applied during a calendar month as determined from Reference Method 24 or coating manufacturer’s formulation

data.

(3) Standard for volatile organic compounds

(a) On and after the date on which the performance test required by paragraph 1200-3-16-.01(5) has been completed each owner or operator subject to this rule shall:

1. Cause the discharge into the atmosphere from an affected facility not more than 0.20 kg VOC/kg of coating solids applied as calculated on a weighted average basis for one calendar month; or

2. Demonstrate for each affected facility:

(i) a 90 percent overall VOC emission reduction as calculated over a calendar month; or

(ii) the percent overall VOC emission reduction specified in subparagraph (4)(b) of this rule as calculated over a calendar month.

(4) Compliance provisions

(a) To determine compliance with paragraph (3) of this rule the owner or operator of the affected facility shall calculate a weighted average of the mass of solvent used per mass of coating solids applied for a one calendar month period according to the following procedures:

1. Determine the weight fraction of organics and the weight fraction of solids of each coating applied by using Reference Method 24 (as specified in 1200-3-16-.01(5)(g)) or by the coating manufacturer's formulation data.

2. Compute the weighted average by the following equation:

$$G = \frac{\sum_{i=1}^{n} W_{oi} M_{ci}}{\sum_{i=1}^{n} W_{si} M_{ci}}$$

Where:

n = the number of coatings

3. For each affected facility where the value of G is less than or equal to 0.20 kg VOC per kg of coating solids applied, the affected facility is in compliance with part (3)(a)1 of this rule.

(b) To determine compliance with part (3)(a)2 of this rule, the owner or operator shall calculate the required overall VOC emission reduction according to the following equation:

$$R_q = \frac{G - 0.20}{G} \times 100$$

If Rq is less than or equal to 90 percent, then the required overall VOC emission reduction is Rq. If Rq is greater than 90 percent, then the required overall VOC emission reduction is 90 percent.

(c) Where compliance with the emission limits specified in part (3)(a)2 of this rule is achieved through the use of a solvent recovery system, the owner or operator shall determine the overall VOC emission reduction for a one calendar month period by the following equation:

$$R = \sum_{i=1}^{n} \frac{M_r}{W_{oi} M_{ci}} \times 100$$

Where:

n = the number of coatings

If the R value is equal to or greater than the Rq value specified in subparagraph (b) of this paragraph, then compliance with part (3)(a)2 of this rule is demonstrated.

(d) Where compliance with emission limit specified in part (3)(a)2 of this rule is achieved through the use of a solvent destruction device, the owner or operator shall determine calendar monthly compliance by comparing the monthly required overall VOC emission reduction specified in subparagraph (b) of this paragraph to the overall VOC emission reduction demonstrated in the most recent performance test which complied with part (3)(a)2 of this rule. If the monthly required overall VOC emission reduction is less than or equal to the overall VOC reduction of the most recent performance test, the affected facility is in compliance with part (3)(a)2 of this rule.

(e) Where compliance with part (3)(a)2 of this rule is achieved through the use of a solvent destruction device, the owner or operator shall continuously record the destruction device combustion temperature during coating operations for thermal incineration destruction devices or the gas temperature upstream and downstream of the incinerator catalyst bed during coating operations for catalytic incineration destruction devices. For thermal incineration destruction devices the owner or operator shall record all 3-hour periods (during actual coating operations) during which the average temperature of the device is more than 28°C (50°F) below the average temperature of the device during the most recent performance test complying with part (3)(a)2 of this rule. For catalytic incineration destruction devices, the owner or operator shall record all 3-hour periods (during actual coating operations) during which the average temperature of the device immediately before the catalyst bed is more than 28°C (50°F) below the average temperature of the device during the most recent performance test complying with part (3)(a)2 of this rule, and all 3-hour periods (during actual coating operations) during which the average temperature difference across the catalyst bed is less than 80 percent of the average temperature difference of the device during the most recent performance test complying with part (3)(a)2 of this rule.

(f) After the initial performance test required for all affected facilities under paragraph 1200-3-16-.01(5), compliance with the VOC emission limitation and percentage reduction requirements under paragraph (3) of this rule is based on the average emission reduction for one calendar month. A separate compliance test is completed at the end of each calendar month after the initial performance test, and a new calendar month's average VOC emission reduction is calculated to show compliance with the standard.

(g) If a common emission control device is used to recover or destroy solvent from more than one affected facility, the performance of that control device is assumed to be equal for each of the affected facilities. Compliance with part (3)(a)2 of this rule is determined by the methods specified in subparagraphs (c) and (d) of this paragraph and is performed simultaneously on all affected facilities.

(h) If a common emission control device is used to recover solvent from an existing facility (or facilities) as well as from an affected facility (or facilities), the overall VOC emission reduction for the affected facility (or facilities), for the purpose of compliance, shall be determined by the following procedures:

1. The owner or operator of the existing facility (or facilities) shall determine the mass of solvent recovered for a calendar month period from the existing facility (or facilities) prior to the connection of the affected facility (or facilities) to the emission control device.

2. The affected facility (or facilities) shall then be connected to the emission control device.

3. The owner or operator shall determine the total mass of solvent recovered from both the existing and affected facilities over a calendar month period. The mass of solvent determined in part (h)1 of this paragraph from the existing facility shall be subtracted from the total mass of recovered solvent to obtain the mass of solvent recovered from the affected facility (or facilities). The overall VOC emission reduction of the affected facility (or

facilities) can then be determined as specified in subparagraph (c) of this paragraph.

(i) If a common emission control devices is used to destruct solvent from an existing facility (or facilities) as well as from an affected facility (or facilities), the overall VOC emission reduction for the affected facility (or facilities), for the purpose of compliance, shall be determined by the following procedures:

1. The owner or operator shall operate the emission control device with both the existing and affected facilities connected.

2. The concentration of VOC (in parts per million by volume) after the common emission control device shall be determined as specified in subparagraph (5)(c) of this rule. This concentration is used in the calculation for both the existing and affected facilities.

3. The volumetric flow out of the common control device attribute to the affected facility (or facilities) shall be calculated by first determining the ratio of the volumetric flow entering the common control device attributable to the affected facility (facilities) to the total volumetric flow entering the common control device from both existing and affected facilities. The multiplication of this ratio by the total volumetric flow out of the common control device yields the flow attributable to the affected facility (facilities). Compliance is determined by the use of the equation specified in subparagraph (5)(c) of this rule.

(j) Startups and shutdowns are normal operation for this source category. Emissions from these operations are to be included when determining if the standard specified at part (3)(a)2 of this rule is being attained.

(5) Performance test procedures

(a) The performance test for affected facilities complying with paragraph (3) of this rule without the use of add-on controls shall be identical to the procedures specified in subparagraph (4)(a) of this rule.

(b) The performance test for affected facilities controlled by a solvent recovery device shall be conducted as follows:

1. The performance test shall be a one calendar month test and not the average of three runs as specified in subparagraph 1200-3-16-.01(5)(f).

2. The weighted average mass of VOC per mass of coating solids applied for a one calendar month period shall be determined as specified in parts (4)(a)1 and 2 of this rule.

3. Calculate the required percent overall VOC emission reduction as specified in subparagraph (4)(b) of this rule.

4. Inventory VOC usage and VOC recovery for a one calendar month period.

5. Determine the percent overall VOC emission reduction as specified in subparagraph (4)(c) of this rule.

(c) The performance test for affected facilities controlled by a solvent destruction device shall be conducted as follows:

1. The performance of the solvent destruction device shall be determined by averaging the results of three test runs as specified in subparagraph 1200-3-16-.01(5)(f).

2. Determine for each affected facility prior to each test run the weighted average mass of VOC per mass of coating solids applied being used at the facility. The weighted average shall be determined as specified in subparagraph (4)(a) of this rule. In this application the quantities of Woi, Wsi and Mci shall be determined for the time period of each test run and not a calendar month as specified in paragraph (2) of this rule.

3. Calculate the required percent overall VOC emission reduction as specified in

subparagraph (4)(b) of this rule.

4. Determine the percent overall VOC emission reduction of the solvent destruction device by the following equation and procedures:

$$R = \frac{\sum_{i=1}^{n} Q_{bi} C_{bi} - \sum_{j=1}^{m} Q_{aj} C_{aj}}{\sum_{i=1}^{n} Q_{bi} C_{bi} + \sum_{k=1}^{p} Q_{fk} C_{fk}} \times 100$$

Where:

m = the number of effluent gas streams (j) exiting the emission control device.

n = the number of effluent gas streams (i) entering the emission control device.

p = the number of effluent gas streams (k) that emit to the atmosphere.

(i) The owner or operator of the affected facility shall construct the overall VOC emission reduction system so that all volumetric flow rates and total VOC emissions can be accurately determined by the applicable test methods and procedures specified in subparagraph (7)(b) of this rule.

(ii) The owner or operator of an affected facility shall construct a temporary total enclosure around the coating line applicator and flashoff area during the performance test for the purpose of capturing fugitive VOC emissions. If a permanent total enclosure exists in the affected facility prior to the performance test and the Technical Secretary is satisfied that the enclosure is totally capturing fugitive VOC emissions, then no additional total enclosure will be required for the performance test.

(iii) For each affected facility where the value of R is greater than or equal to the value of Rq, calculated in subparagraph (4)(b) of this rule, compliance with part (3)(a)2 of this rule is demonstrated.

(6) Monitoring of operations and recordkeeping

(a) The owner or operator of an affected facility subject to this rule shall maintain a calendar month record of all coatings used and the results of the reference test method specified in subparagraph (7)(a) of this rule or the manufacturer's formulation data used for determining the VOC content of those coatings.

(b) The owner or operator of an affected facility controlled by a solvent recovery device shall maintain a calendar month record of the amount of solvent applied in the coating at each affected facility.

(c) The owner or operator of an affected facility controlled by a solvent recovery device shall install, calibrate, maintain, and operate a monitoring device for indicating the cumulative amount of solvent recovered by the device over a calendar month period. The monitoring device shall be accurate within ± 2.0 percent. The owner or operator shall maintain a calendar month record of the amount of solvent recovered by the device.

(d) The owner or operator of an affected facility operating at the conditions specified in subparagraph (1)(b) of this rule shall maintain a 12 month record of the amount of solvent applied in the coating at the facility.

(e) The owner or operator of an affected facility controlled by a thermal incineration solvent destruction device shall install, calibrate, maintain, and operate a monitoring device which continuously indicates and records the temperature of the solvent destruction device's exhaust gases. The monitoring device shall have an accuracy of the greater of ± 0.75 percent of the temperature being

measured expressed in degrees Celsius or ± 2.5°C.

(f) The owner or operator of an affected facility controlled by a catalytic incineration solvent destruction device shall install, calibrate, maintain, and operate a monitoring device which continuously indicates and records the gas temperature both upstream and downstream of the catalyst bed.

(g) The owner or operator of an affected facility controlled by a solvent destruction device which uses a hood or enclosure to capture fugitive VOC emissions shall install, calibrate, maintain, and operate a monitoring device which continuously indicates that the hood or enclosure is operating. No continuous monitor shall be required if the owner or operator can demonstrate that the hood or enclosure system is interlocked with the affected facility's oven recirculation air system.

(h) Records of the measurements required in paragraphs (4) and (6) of this rule must be retained for at least two years following the date of the measurements.

(7) Test methods and procedures

(a) The VOC content per unit of coating solids applied and compliance with part (3)(a)1 of this rule shall be determined by either Reference Method 24 and the equations specified in paragraph (4) of this rule or by manufacturer's formulation data. In the event of any inconsistency between a Method 24 test and manufacturer's formulation data, the Method 24 test will govern. The Technical Secretary may require an owner or operator to perform Method 24 tests during such months as he deems appropriate. For Reference Method 24, the coating sample must be a one liter sample taken into a one liter container at a point where the sample will be representative of the coating applied to the web substrate.

(b) Reference Method 25 shall be used to determine the VOC concentration, in parts per million by volume, of each effluent gas stream entering and exiting the solvent destruction device or its equivalent, and each effluent gas stream emitted directly to the atmosphere. Reference Methods 1, 2, 3, and 4 shall be used to determine the sampling location, volumetric flowrate, molecular weight, and moisture of all sampled gas streams. For Reference Method 25, the sampling time for each of three runs must be at least 1 hour. The minimum sampling volume must be 0.003 dscm except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

(8) Reporting requirements

(a) For all affected facilities subject to compliance with paragraph (3) of this rule, the performance test data and results from the performance test shall be submitted to the Technical Secretary as specified in subparagraph 1200-3-16-.01(5)(a).

(b) The owner or operator of each affected facility shall submit semiannual reports to the Technical Secretary of exceedances of the following:

1. The VOC emission limits specified in paragraph (3) of this rule; and

2. The incinerator temperature drops as defined under subparagraph (4)(e) of this rule. The reports required under subparagraph (b) shall be postmarked within 30 days following the end of the second and fourth calendar quarters.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.43 Reserved.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.44 Bulk Gasoline Terminals

(1) Applicability

(a) The affected facility to which the provisions of this rule apply is the total of all the loading racks at

a bulk gasoline terminal which deliver liquid product into gasoline tank trucks.

(b) Each facility under subparagraph (a) of this paragraph, the construction, reconstruction, or modification of which is commenced after November 6, 1988 is subject to the provisions of this rule.

(2) Definitions

(a) ''Bulk gasoline terminal'' means any gasoline facility which receives gasoline by pipeline, ship or barge, and has a gasoline throughput greater than 75,700 liters per day. Gasoline throughput shall be the maximum calculated design throughput as may be limited by compliance with an enforceable condition under Federal, State or local law and discoverable by the Technical Secretary and any other person.

(b) ''Continuous vapor processing system'' means a vapor processing system that treats total organic compounds vapors collected from gasoline tank trucks on a demand basis without intermediate accumulation in a vapor holder.

(c) ''Existing vapor processing system'' means a vapor processing system (capable of achieving emissions to the atmosphere no greater than 80 milligrams of total organic compounds per liter of gasoline loaded), the construction or refurbishment of which was commenced before November 6, 1988 and which was not constructed or refurbished after that date.

(d) ''Gasoline'' means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kilopascals or greater which is used as a fuel for internal combustion engines.

(e) ''Gasoline tank truck'' means a delivery tank truck used at bulk gasoline terminals which is loading gasoline or which has loaded gasoline on the immediately previous load.

(f) ''Intermittent vapor processing system'' means a vapor processing system that employs an intermediate vapor holder to accumulate total organic compounds vapors collected from gasoline tank trucks, and treats the accumulated vapors only during automatically controlled cycles.

(g) ''Loading rack'' means the loading arms, pumps, meters, shutoff valves, relief valves, and other piping and valves necessary to fill delivery tank trucks.

(h) ''Refurbishment'' means with reference to a vapor processing system replacement of components of, or addition of components to, the system within any 2-year period such that the fixed capital cost of the new components required for such component replacement or addition exceeds 50 percent of the cost of a comparable entirely new system.

(i) ''Total organic compounds'' means those compounds measured according to the procedures in paragraph (4) of this rule.

(j) ''Vapor collection system'' means any equipment used for containing total organic compounds vapors displaced during the loading of gasoline tank trucks.

(k) ''Vapor processing system'' means all equipment used for recovering or oxidizing total organic compounds vapors displaced from the affected facility.

(l) ''Vapor tight gasoline tank truck'' means a gasoline tank truck which has demonstrated within the 12 preceding months that its product delivery tank will sustain a pressure change of not more than 750 pascals (75 mm of water) within 5 minutes after it is pressurized to 4,500 pascals (450 mm of water). This capability is to be demonstrated using the pressure test procedure specified in Reference Method 27 (as specified in 1200-3-16-.01(5)(g)27).

(3) Standard for Volatile Organic Compound (VOC) emissions

On and after the date on which 1200-3-16-.01(5) requires a performance test to be completed, the owner or operator of each bulk gasoline terminal containing an affected facility shall comply with the requirements of this paragraph.

(a) Each affected facility shall be equipped with a vapor collection system designed to collect the total organic compounds vapors displaced from tank trucks during product loading.

(b) The emissions to the atmosphere from the vapor collection system due to the loading of liquid product into gasoline tank trucks are not to exceed 35 milligrams of total organic compounds per liter of gasoline loaded, except as noted in subparagraph (c) of this paragraph.

(c) For each affected facility equipped with an existing vapor processing system, the emissions to the atmosphere from the vapor collection system due to the loading of liquid product into gasoline tank trucks are not to exceed 80 milligrams of total organic compounds per liter of gasoline loaded.

(d) Each vapor collection system shall be designed to prevent any total organic compounds vapors collected at one loading rack from passing to another loading rack.

(e) Loadings of liquid product into gasoline tank trucks shall be limited to vapor-tight gasoline tank trucks using the following procedures:

1. The owner or operator shall obtain the vapor tightness documentation described in subparagraph (5)(b) of this rule for each gasoline tank truck which is to be loaded at the affected facility.

2. The owner or operator shall require the tank identification number to be recorded as each gasoline tank truck is loaded at the affected facility.

3. The owner or operator shall cross-check each tank identification number obtained in part (2) of this subparagraph with the file of tank vapor tightness documentation within 2 weeks after the corresponding tank is loaded.

4. The terminal owner or operator shall notify the owner or operator of each nonvapor-tight gasoline tank truck loaded at the affected facility within 3 weeks after the loading has occurred.

5. The terminal owner or operator shall take steps assuring that the nonvapor-tight gasoline tank truck will not be reloaded at the affected facility until vapor tightness documentation for that tank is obtained.

6. Alternate procedures to those described in parts 1 through 5 of this subparagraph for limiting gasoline tank truck loadings may be used upon application to, and approval by, the Technical Secretary.

(f) The owner or operator shall act to assure that loadings of gasoline tank trucks at the affected facility are made only into tanks equipped with vapor collection equipment that is compatible with the terminal's vapor collection system.

(g) The owner or operator shall act to assure that the terminal's and the tank truck's vapor collection systems are connected during each loading of a gasoline tank truck at the affected facility. Examples of actions to accomplish this include training drivers in the hookup procedures and posting visible reminder signs at the affected loading racks.

(h) The vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the delivery tank from exceeding 4,500 pascals (450 mm of water) during product loading. This level is not to be exceeded when measured by the procedures specified in subparagraph (4)(b) of this rule.

(i) No pressure-vacuum vent in the bulk gasoline terminal's vapor collection system shall begin to open at a system pressure less than 4,500 pascals (450 mm of water).

(j) Each calendar month, the vapor collection system, the vapor processing system, and each loading rack handling gasoline shall be inspected during the loading of gasoline tank trucks for total organic compounds liquid or vapor leaks. For purposes of this subparagraph, detection methods incorporating sight, sound, or smell are acceptable. Each detection of a leak shall be recorded and

the source of the leak repaired within 15 calendar days after it is detected.

(4) Test methods and procedures

(a) 1200-3-16-.01(5)(f) does not apply to the performance test procedures required by this rule.

(b) For the purpose of determining compliance with subparagraph (3)(h) of this rule, the following procedures shall be used:

1. Calibrate and install a pressure measurement device (liquid manometer, magnehelic gauge, or equivalent instrument), capable of measuring up to 500 mm of water gauge pressure with ± 2.5 mm of water precision.

2. Connect the pressure measurement device to a pressure tap in the terminal's vapor collection system, located as close as possible to the connection with the gasoline tank truck.

3. During the performance test, record the pressure every 5 minutes while a gasoline tank truck is being loaded, and record the highest instantaneous pressure that occurs during each loading. Every loading position must be tested at least once during the performance test.

(c) For the purpose of determining compliance with the mass emission limitations of subparagraphs (3)(b) and (c) of this rule, the following reference methods shall be used:

1. For the determination of volume at the exhaust vent:

(i) Method 2B (as specified in 1200-3-16-.01(5)(g)) for combustion vapor processing systems.

(ii) Method 2A for all other vapor processing systems.

2. For the determination of total organic compounds concentration at the exhaust vent, Method 25A or 25B. The calibration gas shall be either propane or butane.

(d) Immediately prior to a performance test required for determination of compliance with subparagraph (3)(b), (c) and (h) of this rule, all potential sources of vapor leakage in the terminal's vapor collection system equipment shall be monitored for leaks using Method 21. The monitoring shall be conducted only while a gasoline tank truck is being loaded. A reading of 10,000 ppmv or greater as methane shall be considered a leak. All leaks shall be repaired prior to conducting the performance test.

(e) The test procedure for determining compliance with subparagraphs (3)(b) and (c) of this rule is as follows:

1. All testing equipment shall be prepared and installed as specified in the appropriate test methods.

2. The time period for a performance test shall be not less than 6 hours, during which at least 300,000 liters of gasoline are loaded. If the throughput criterion is not met during the initial 6 hours, the test may be either continued until the throughput criterion is met, or resumed the next day with another complete 6 hours of testing. As much as possible, testing should be conducted during the 6-hour period in which the highest throughput normally occurs.

3. For intermittent vapor processing systems:

(i) The vapor holder level shall be recorded at the start of the performance test. The end of the performance test shall coincide with a time when the vapor holder is at its original level.

(ii) At least two startups and shutdowns of the vapor processor shall occur during the

performance test. If this does not occur under automatically controlled operation, the system shall be manually controlled.

4. The volume of gasoline dispensed during the performance test period at all loading racks whose vapor emissions are controlled by the processing system being tested shall be determined. This volume may be determined from terminal records or from gasoline dispensing meters at each loading rack.

5. An emission testing interval shall consist of each 5-minute period during the performance test. For each interval:

(i) The reading from each measurement instrument shall be recorded, and

(ii) The volume exhausted and the average total organic compounds concentration in the exhaust vent shall be determined, as specified in the appropriate test method. The average total organic compounds concentration shall correspond to the volume measurement by taking into account the sampling system response time.

6. The mass emitted during each testing interval shall be calculated as follows:

$$M_{ei} = 10^{-6} * K * V_{es} * C_e$$

where:

Mei = mass of total organic compounds emitted during testing interval i, mg.

Ves = volume of air vapor mixture exhausted, m^3, at standard conditions.

Ce = total organic compounds concentration (as measured) at the exhaust vent, ppmv.

K = density of calibration gas, mg/m^3, at standard conditions = 1.83 *x* 106, for propane; = 2.41 *x* 106 for butane.

s = standard conditions, 20°C and 760 mm Hg.

7. The total organic compounds mass emissions shall be calculated as follows:

$$E = \frac{\sum_{i=1}^{n} M_{ei}}{L}$$

where:

E = mass of total organic compounds emitted per volume of gasoline loaded, mg/liter.

Mei = mass of total organic compounds emitted during testing interval i, mg.

L = total volume of gasoline loaded, liters.

n = number of testing intervals.

(f) The owner or operator may adjust the emission results to exclude the methane and ethane content in the exhaust vent by any method approved by the Technical Secretary.

(5) Reporting and Recordkeeping

(a) The tank truck vapor tightness documentation required under part (3)(e)1 of this rule shall be kept

on file at the terminal in a permanent form available for inspection.

(b) The documentation file for each gasoline tank truck shall be updated at least once per year to reflect current test results as determined by Method 27. This documentation shall include, as a minimum, the following information:

1. Test Title: Gasoline Delivery Tank Pressure Test - EPA Reference Method 27.

2. Tank Owner and Address.

3. Tank Identification Number.

4. Testing Location.

5. Date of Test.

6. Tester Name and Signature.

7. Witnessing Inspector, if any: Name, Signature, and Affiliation.

8. Test Results: Actual Pressure Change in 5 minutes, mm of water (average for 2 runs).

(c) A record of each monthly leak inspection required under subparagraph (3)(j) of this rule shall be kept on file at the terminal for at least 2 years. Inspection records shall include, as a minimum, the following information:

1. Date of Inspection.

2. Findings (may indicate no leaks discovered; or location, nature and severity of each leak).

3. Leak determination method.

4. Corrective Action (date each leak repaired; reasons for any repair interval in excess of 15 days).

5. Inspector Name and Signature.

(d) The terminal owner or operator shall keep documentation of all notifications required under part (3)(e)4 of this rule on file at the terminal for at least 2 years.

(e) Reserved

(f) The owner or operator of an affected facility shall keep records of all replacements or additions of components performed on an existing vapor processing system for at least 3 years.

(6) Reconstruction

For purposes of this rule:

(a) The cost of the following frequently replaced components of the affected facility shall not be considered in calculating either the ''fixed capital cost of the new components'' or the ''fixed capital costs that would be required to construct a comparable entirely new facility'': pump seals, loading arm gaskets and swivels, coupler gaskets, overfill sensor couplers and cables, flexible vapor hoses, and grounding cables and connectors.

(b) The ''fixed capital cost of the new components'' includes the fixed capital of all depreciable components (except components specified in subparagraph (a) of this paragraph) which are or will be replaced pursuant to all continuous programs of component replacement which are commenced within any 2-year period following November 6, 1988. For purposes of this subparagraph, ''commenced'' means that an owner or operator has undertaken a continuous program of component replacement or that an owner or operator has entered into a contractual obligation to

undertake and complete within a reasonable time, a continuous program of component replacement.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.45 Synthetic Fiber Production Facilities

(1) Applicability

(a) Except as provided in subparagraph (b) this paragraph, the affected facility to which the provisions of the rule apply is each solvent spun synthetic fiber process that produces more than 500 megagrams of fiber per year.

(b) The provisions of this rule do not apply to any facility that uses the reaction spinning process to produce spandex fiber or the viscose process to produce rayon fiber.

(c) The provisions of this rule apply to each facility as identified in subparagraph (a) of this paragraph and that commences construction or reconstruction after November 6, 1988. The provisions of this rule do not apply to facilities that commence modification but not reconstruction after November 6, 1988.

(2) Definitions

(a) ''Acrylic fiber'' means a manufactured synthetic fiber in which the fiber forming substance is any long-chain synthetic polymer composed of at least 85 percent by weight of acrylonitrile units.

(b) ''Makeup solvent'' means the solvent introduced into the affected facility that compensates for solvent lost from the affected facility during the manufacturing process.

(c) ''Nongaseous losses'' means the solvent that is not volatilized during fiber production, and that escapes the process and is unavailable for recovery, or is in a form or concentration unsuitable for economical recovery.

(d) ''Polymer'' means any of the natural or synthetic compounds of usually high molecular weight that consist of many repeated links, each link being a relatively light and simple molecule.

(e) ''Precipitation bath'' means the water, solvent, or other chemical bath into which the polymer or prepolymer (partially reacted material) solution is extruded, and that causes physical or chemical changes to occur in the extruded solution to result in a semihardened polymer fiber.

(f) ''Rayon fiber'' means a manufactured fiber composed of regenerated cellulose, as well as manufactured fibers composed of regenerated cellulose in which substituents have replaced not more than 15 percent of the hydrogens of the hydroxyl groups.

(g) ''Reaction spinning process'' means the fiber-forming process where a prepolymer is extruded into a fluid medium and solidification takes place by chemical reaction to form the final polymeric material.

(h) ''Recovered solvent'' means the solvent captured from liquid and gaseous process streams that is concentrated in a control device and that may be purified for reuse.

(i) ''Solvent feed'' means the solvent introduced into the spinning solution preparation system or precipitation bath. This feed stream includes the combination of recovered solvent and makeup solvent.

(j) ''Solvent inventory variation'' means the normal changes in the total amount of solvent contained in the affected facility.

(k) ''Solvent recovery system'' means the equipment associated with capture, transportation, collection, concentration, and purification of organic solvents. It may include enclosures, hoods, ducting, piping, scrubbers, condensers, carbon absorbers, distillation equipment, and associated

storage vessels.

(l) "Solvent-spun synthetic fiber" means any synthetic fiber produced by a process that uses an organic solvent in the spinning solution, the precipitation bath, or processing of the spun fiber.

(m) "Solvent spun synthetic fiber process" means the total of all equipment having a common spinning solution preparation system or a common solvent recovery system, and that is used in the manufacture of solvent spun synthetic fiber. It includes spinning solution preparation, spinning, fiber processing and solvent recovery, but does not include the polymer production equipment.

(n) "Spandex fiber" means a manufactured fiber in which the fiber forming substance is a long chain synthetic polymer comprised of at least 85 percent of a segmented polyurethane.

(o) "Spinning solution" means the mixture of polymer, prepolymer, or copolymer and additives dissolved in solvent. The solution is prepared at a viscosity and solvent-to-polymer ratio that is suitable for extrusion into fibers.

(p) "Spinning solution preparation system" means the equipment used to prepare spinning solutions; the system includes equipment for mixing, filtering, blending, and storage of the spinning solutions.

(q) "Synthetic fiber" means any fiber composed partially or entirely of materials made by chemical synthesis, or made partially or entirely from chemically-modified naturally- occuring materials.

(r) "Viscose process" means the fiber forming process where cellulose and concentrated caustic soda are reacted to form soda or alkali cellulose. This reacts with carbon disulfide to form sodium cellulose xanthate, which is then dissolved in a solution of caustic soda. After ripening, the solution is spun into an acid coagulating bath. This precipitates the cellulose in the form of a regenerate cellulose filament.

(3) Standard for volatile organic compounds

(a) On and after the date on which the initial performance test required to be conducted by paragraph 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause the discharge into the atmosphere from any affected facility that produces acrylic fibers, VOC emissions that exceed 10 kilograms (kg) VOC per megagram (Mg) solvent feed to the spinning solution preparation system or precipitation bath. VOC emissions from affected facilities that produce both acrylic and nonacrylic fiber types shall not exceed 10 kg VOC per Mg solvent feed. VOC emissions from affected facilities that produce only nonacrylic fiber types shall not exceed 17 kg VOC per Mg solvent feed. Compliance with the emission limitations is determined on a 6-month rolling average basis as described in paragraph (4) of this rule.

(4) Performance test and compliance provisions

(a) Subparagraph 1200-3-16-.01(5)(f) does not apply to the performance test procedures required by this rule.

(b) Each owner or operator of an affected facility shall determine compliance with the applicable standard in subparagraph (3)(a) of this rule by determining and recording monthly the VOC emissions per Mg solvent feed from each affected facility for the current and preceding 5 consecutive calendar months and using these values to calculate the 6-month average emissions. Each calculation is considered a performance test. The owner or operator of an affected facility shall use the following procedure to determine VOC emissions for each calendar month:

1. Install, calibrate, maintain, and operate monitoring devices that continuously measure and permanently record for each calendar month the amount of makeup solvent and solvent feed. These values shall be used in calculating VOC emissions according to part (4)(b)2 of this rule. All monitoring devices, meters, and peripheral equipment shall be calibrated and any error recorded. Total compounded error of the flow measuring and recording devices shall not exceed 1 percent accuracy over the operating range. As an alternative to measuring solvent feed, the owner or operator may:

(i) Measure the amount of recovered solvent returned to the solvent feed storage tanks, and use the following equation to determine the amount of solvent feed:

Solvent Feed = Makeup Solvent + Recovered Solvent + Change in the Amount of Solvent Contained in the Solvent Feed Holding Tank.

(ii) Measure and record the amount of polymer introduced into the affected facility and the solvent-to-polymer ratio of the spinning solutions, and use the following equation to determine the amount of solvent feed:

$$\text{Solvent Feed} = \sum_{i=1}^{n} (\text{Polymer Used})_i \times (\text{Solvent-to-Polymer Ratio})_i$$

where subscript "i" denotes each particular spinning solution used during the test period; values of "i" vary from one to the total number of spinning solutions "n," used during the calendar month.

2. VOC emissions shall be determined each calendar month by use of the following equations:

$$E = \frac{M_W}{S_W} - N - I \quad \text{and} \quad M_W = M_V S_P D$$

$$SW = \frac{S_P S_V D}{1000} \quad \text{and} \quad I = \frac{I_E - I_S}{S_W}$$

where all values are for the calendar month only and where

E = Emissions in kg per Mg solvent feed;

Sv = Measured or calculated volume of solvent feed in liters;

S_W = Weight of solvent feed in Mg;

M_V = Measured volume of makeup solvent in liters;

M_W = Weight of makeup in kg;

N = Allowance for nongaseous losses per Mg solvent feed: (13 kg/Mg);

S_P = Fraction of measured volume that is actual solvent (excludes water);

D = Density of the solvent in kg/liter;

I = Allowance for solvent inventory variation or changes in the amount of solvent contained in the affected facility per Mg solvent feed (may be positive or negative);

I_S = Amount in kg of solvent contained in the affected facility at the beginning of test period, as determined by owner or operator;

I_E = Amount in kg of solvent contained in the affected facility at the close of test period, as determined by owner or operator.

(i) N, as used in the equation in this part, equals 13 kg per Mg solvent feed to the spinning solution preparation system and precipitation bath. This value shall be used in all cases unless an owner or operator demonstrates to the satisfaction of the Technical Secretary that greater nongaseous losses occur at the affected

facility. In this case, the greater value may be substituted in the equation.

(5) Reporting requirements

(a) The owner or operator of an affected facility shall submit a written report to the Technical Secretary of the following:

1. The results of the initial performance test; and

2. The results of subsequent performance tests that indicate that VOC emissions exceed the standards in paragraph (3) of this rule. These reports shall be submitted semiannually, at six month intervals after the initial performance test.

(b) Solvent spun synthetic fiber producing facilities exempted from these standards in subparagraph (1)(a) of this rule (those producing less that 500 megagrams annually) shall report to the Technical Secretary within 30 days whenever extruded fiber for the preceding 12 calendar months exceeds 500 megagrams.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.46 Lead Acid Battery Manufacturing Plants

(1) Applicability

(a) The provisions of this rule are applicable to the affected facilities listed in subparagraph (b) of this paragraph at any lead-acid battery manufacturing plant that produces or has the design capacity to produce in one day (24 hours) batteries containing an amount of lead equal to or greater than 5.9 Mg (6.5 tons).

(b) The provisions of this rule are applicable to the following affected facilities used in the manufacture of lead-acid storage batteries:

1. Grid casting facility.

2. Paste mixing facility.

3. Three-process operation facility.

4. Lead oxide manufacturing facility.

5. Lead reclamation facility.

6. Other lead-emitting operations.

(c) Any facility under subparagraph (b) of this paragraph the construction or modification of which is commenced after November 6, 1988, is subject to the requirements of this rule.

(2) Definitions

(a) "Grid casting facility" means the facility which includes all lead melting pots and machines used for casting the grid used in battery manufacturing.

(b) "Lead-acid battery manufacturing plant" means any plant that produces a storage battery using lead and lead compounds for the plates and sulfuric acid for the electrolyte.

(c) "Lead oxide manufacturing facility" means a facility that produces lead oxide from lead, including product recovery.

(d) "Lead reclamation facility" means the facility that remelts lead scrap and casts it into lead ingots for use in the battery manufacturing process, and which is not a furnace affected under rule 1200-3-16-.12.

(e) "Other lead-emitting operation" means any lead-acid battery manufacturing plant operation from which lead emissions are collected and ducted to the atmosphere and which is not part of a grid casting, lead oxide manufacturing, lead reclamation, paste mixing, or three-process operation facility, or a furnace affected under rule 1200-3-16-.12.

(f) "Paste mixing facility" means the facility including lead oxide storage, conveying, weighing, metering, and charging operations; paste blending, handling, and cooling operations; and plate pasting, takeoff, cooling, and drying operations.

(g) "Three-process operation facility" means the facility including those processes involved with plate stacking, burning or strap casting, and assembly of elements into the battery case.

(3) Standards for Lead

(a) On and after the date on which the performance test required to be conducted by paragraph 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere:

1. From any grid casting facility any gases that contain lead in excess of 0.40 milligram of lead per dry standard cubic meter of exhaust (0.000176 gr/dscf).

2. From any paste mixing facility any gases that contain in excess of 1.00 milligram of lead per dry standard cubic meter of exhaust (0.00044 gr/dscf).

3. From any three-process operation facility any gases that contain in excess of 1.00 milligram of lead per dry standard cubic meter of exhaust (0.00044 gr/dscf).

4. From any lead oxide manufacturing facility any gases that contain in excess of 5.0 milligrams of lead per kilogram of lead feed (0.010 lb/ton).

5. From any lead reclamation facility any gases that contain in excess of 4.50 milligrams of lead per dry standard cubic meter of exhaust (0.00198 gr/dscf).

6. From any other lead-emitting operation any gases that contain in excess of 1.00 milligram of lead per dry standard cubic meter of exhaust (0.00044 gr/dscf).

7. From any affected facility other than a lead reclamation facility any gases with greater than 0 percent opacity (measured according to Method 9 (as specified in 1200-3-16-.01(5)(g)), and rounded to the nearest whole percentage).

8. From any lead reclamation facility any gases with greater than 5 percent opacity (measured according to Method 9 and rounded to the nearest whole percentage).

(b) When two or more facilities at the same plant (except the lead oxide manufacturing facility) are ducted to a common control device, an equivalent standard for the total exhaust from the commonly controlled facilities shall be determined as follows:

$$S_e = \sum_{a=1}^{N} S_a \left(\frac{Q_{sd_a}}{Q_{sd_T}} \right)$$

Where:

Se = is the equivalent standard for the total exhaust stream.

Sa = is the actual standard for each exhaust stream ducted to the control device.

N = is the total number of exhaust streams ducted to the control device.

Qsda = is the dry standard volumetric flow rate of the effluent gas stream from each facility ducted to the control device.

QsdT = is the total dry standard volumetric flow rate of all effluent gas streams ducted to the control device.

(4) Monitoring of emissions and operations

The owner or operator of any lead-acid battery manufacturing facility subject to the provisions of this rule and controlled by a scrubbing system(s) shall install, calibrate, maintain, and operate a monitoring device(s) that measures and records the pressure drop across the scrubbing system(s) at least once every 15 minutes. The monitoring device shall have an accuracy of ± 5 percent over its operating range.

(5) Test methods and procedures

(a) Reference methods in subparagraph 1200-3-16-.01(5)(g), except as provided under subparagraph 1200-3-16-.01(5)(b), shall be used to determine compliance according to paragraph 1200-3-16-.01(5) as follows:

1. Method 12 for the measurement of lead concentrations,

2. Method 1 for sample and velocity traverses,

3. Method 2 for velocity and volumetric flow rate, and

4. Method 4 for stack gas moisture.

(b) For Method 12, the sampling time for each run shall be at least 60 minutes and the sampling rate shall be at least 0.85 dscm/h (0.53 dscf/min.), except that shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

(c) When different operations in a three process operation facility are ducted to separate control devices, the lead emission concentration from the facility shall be determined using the equation:

$$C_{pb_T} = \sum_{a=1}^{N} \frac{C_{pb_a} Q_{sd_a}}{Q_{sd_T}}$$

Where:

CpbT = is the facility emission concentration for the entire facility.

N = is the number of control devices to which separate operations in the facility are ducted.

Cpba = is the emission concentration from each control device.

Qsda = is the dry standard volumetric flow rate of the effluent gas stream from each control device.

QsdT = is the total dry standard volumetric flow rate from all of the control devices.

(d) For lead oxide manufacturing facilities, the average lead feed rate to a facility, expressed in kilograms per hour, shall be determined for each test run as follows:

1. Calculate the total amount of lead charged to the facility during the run by multiplying the number of lead pigs (ingots) charged during the run by the average mass of a pig in kilograms or by another suitable method.

2. Divide the total amount of lead charged to the facility during the run by the duration of the run in hours.

(c) Lead emissions from lead oxide manufacturing facilities, expressed in milligrams per kilogram of lead charged, shall be determined using the following equation:

Epb = Cpb Qsd / F

Where:

Epb = is the lead emission rate from the facility in milligrams per kilogram of lead charged.

Cpb = is the concentration of lead in the exhaust stream in milligrams per dry standard cubic meter as determined according to part (a)1 of this paragraph.

Qsd = is the dry standard volumetric flow rate in dry standard cubic meters per hour as determined according to part (a)3 of this paragraph.

F = is the lead feed rate to the facility in kilograms per hour as determined according to subparagraph (d) of this paragraph.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-3-16-.47 Equipment Leaks of VOC in Petroleum Refineries

(1) Applicability

(a) 1. The provisions of this rule apply to affected facilities in petroleum refineries.

2. The group of all equipment within a process unit is an affected facility.

3. A compressor is an affected facility.

(b) Any affected facility under subparagraph (a) of this paragraph that commences construction or modification after November 6, 1988, shall be subject to the requirements of this rule.

(c) Addition or replacement of equipment for the purpose of process improvement which is accomplished without a capital expenditure shall not by itself be considered a modification under this rule.

(d) Facilities subject to rule 1200-3-16-.43 are not subject to this rule.

(2) Definitions

(a) "Capital expenditure" means, in addition to the definition in part 1200-3-16-.01(4)(a)2, an expenditure for a physical or operational change to an existing facility that:

1. Exceeds P, the product of the facility's replacement cost, R, and an adjusted annual asset guideline repair allowance, A, as reflected by the following equation: P = R x A, where

(i) The adjusted annual asset guideline repair allowance, A, is the product of the percent of the replacement cost, Y, and the applicable basic annual asset guideline repair allowance, B, as reflected by the following equation: A = Y x (B 100);

(ii) The percent Y is determined from the following equation: Y = 1.0 - 0.575 log X, where X is 1982 minus the year of construction; and

(iii) The applicable basic annual asset guideline repair allowance, B, is 7.0.

(b) "Closed vent system" means a system that is not open to the atmosphere and that is composed of piping, connections, and if necessary, flow inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device.

(c) ''Connector'' means flanged, screwed, welded, or other joined fittings used to connect two pipe lines or a pipe line and a piece of process equipment.

(d) ''Control device'' means an enclosed combustion device, vapor recovery system or flare.

(e) ''Distance piece'' means an open or enclosed casing through which the piston rod travels, separating the compressor cylinder from the crankcase.

(f) ''Double block and bleed system'' means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

(g) ''Equipment'' means each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service. For the purpose of record-keeping and reporting only, compressors are considered equipment.

(h) ''First attempt at repair'' means to take rapid action for the purpose of stopping or reducing leakage of organic material to atmosphere using best practices.

(i) ''In gas/vapor service'' means that the piece of equipment contains process fluid that is in the gaseous state at operating conditions.

(j) ''In heavy liquid service'' means that the piece of equipment is not in gas/vapor service or in light liquid service.

(k) ''In Hydrogen Service'' means that a compressor contains a process fluid that meets the conditions specified in subparagraph (9)(b) of this rule.

(l) ''In Light Liquid Service'' means that the piece of equipment contains a liquid that meets the conditions specified in subparagraph (9)(d) of this rule.

(m) ''Liquids dripping'' means any visible leakage from the seal including spraying, misting, clouding, and ice formation.

(n) ''Open-ended valve or line'' means any valve, except safety relief valves, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.

(o) ''Petroleum'' means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

(p) ''Petroleum Refinery'' means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through the distillation of petroleum, or through the redistillation, cracking, or reforming of unfinished petroleum derivatives.

(q) ''Pressure release'' means the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device.

(r) ''Process improvement'' means routine changes made for safety and occupational health requirements, for energy savings, for better utility, for ease of maintenance and operation, for correction of design deficiencies, for bottleneck removal, for changing product requirements, or for environmental control.

(s) ''Process Unit'' means components assembled to produce intermediate or final products from petroleum, unfinished petroleum derivatives, or other intermediates; a process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.

(t) ''Process unit shutdown'' means a work practice or operational procedure that stops production from a process unit or part of a process unit. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a process unit shutdown. The use of spare equipment and technically feasible bypassing of

equipment without stopping production are not process unit shutdowns.

(u) ''Quarter'' means a 3-month period; the first quarter concludes on the last day of the last full month during the 180 days following initial startup.

(v) ''Repaired'' means that equipment is adjusted, or otherwise altered, in order to eliminate a leak as indicated by one of the following: an instrument reading of 10,000 ppm or greater, indication of liquids dripping, or indication by a sensor that a seal or barrier fluid system has failed.

(w) ''Replacement cost'' means the capital needed to purchase all the depreciable components in a facility.

(x) ''Sensor'' means a device that measures a physical quantity or the change in a physical quantity such as temperature, pressure, flow rate, pH, or liquid level.

(y) ''In-situ sampling systems'' means nonextractive samplers or in-line samplers.

(z) ''In vacuum service'' means that equipment is operating at an internal pressure which is at least 5 kilopascals (kPa) below ambient pressure.

(aa) ''In VOC Service'' means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight. (The provisions of subparagraph (6)(d) of this rule specify how to determine that a piece of equipment is not in VOC service.)

(3) Standards

(a) General

1. Each owner or operator subject to the provisions of this rule shall comply with the requirements of subparagraphs (3) (a) to (j) as soon as practicable, but no later than 180 days after initial startup.

2. An owner or operator may elect to comply with the requirements of subparagraphs (4)(a) and (b) of this rule.

3. An owner or operator may apply to the Technical Secretary for a determination of equivalency for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in this rule. In doing so, the owner or operator shall comply with requirements of paragraph (5) of this rule.

4. Each owner or operator subject to the provisions of this rule shall comply with the provisions of paragraph (6) of this rule except as provided in paragraph (9) of this rule.

5. Each owner or operator subject to the provisions of this rule shall comply with the provisions of paragraphs (7) and (8) of this rule.

6. Compliance with subparagraphs (3)(a) to (j) of this rule will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in paragraph (6) of this rule.

7. Equipment that is in vacuum service is excluded from the requirements of subparagraphs (3)(b) to (j) of this rule if it is identified as required in part (7)(e)5 of this rule.

(b) Pumps in light liquid service

1. (i) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in subparagraph (6)(b) of this rule, except as provided in part (3)(a)3 of this rule and parts 4, 5, and 6 of this subparagraph.

(ii) Each pump in light liquid service shall be checked by visual inspection each

calendar week for indications of liquids dripping from the pump seal.

2. (i) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(ii) If there are indications of liquids dripping from the pump seal, a leak is detected.

3. (i) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected except as provided in subparagraph (3)(i) of this rule.

(ii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

4. Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of part 1 of this rule, provided the following requirements are met:

(i) Each dual mechanical seal system is:

(I) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or

(II) Equipment with a barrier fluid degassing reservoir that is connected by a closed vent system to a control device that complies with the requirements of subparagraph (3)(j) of this rule; or

(III) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

(ii) The barrier fluid system is in heavy liquid service or is not in VOC service.

(iii) Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(iv) Each pump is checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(v) (I) Each sensor as described in subpart 4(iii) of this subparagraph is checked daily or is equipped with an audible alarm, and

(II) The owner or operator determines, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(vi) (I) If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined in item 4(v)(II) of this subparagraph, a leak is detected.

(II) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in subparagraph (3)(i) of this rule.

(III) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

5. Any pump that is designated, as described in parts (7)(e)1 and 2 of this rule, for no detectable emission, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of parts 1, 3, and 4 of this subparagraph, if the pump:

(i) Has no externally actuated shaft penetrating the pump housing.

(ii) Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in subparagraph (6)(c) of this rule, and

(iii) Is tested for compliance with subpart 5.(ii) of this subparagraph initially upon designation, annually, and at other times requested by the Technical Secretary.

6. If any pump is equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with the requirements of subparagraph (3)(j) of this rule, it is exempt from the parts 1 through 5 of this subparagraph.

(c) Compressors

1. Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in parts (3)(a)3 of this rule and parts 8 and 9 of this subparagraph.

2. Each compressor seal system as required in part 1 of this subparagraph shall be:

(i) Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or

(ii) Equipped with a barrier fluid system that is connected by a closed vent system to a control device that complies with the requirements of subparagraph (3)(j) of this rule; or

(iii) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

3. The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.

4. Each barrier fluid system as described in part 1 of this subparagraph shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

5. (i) Each sensor as required in part 4 of this subparagraph shall be checked daily or shall be equipped with an audible alarm.

(ii) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

6. If the sensor indicates failure of the seal system, the barrier system, or both based on the criterion determined under subpart 5(ii) of this subparagraph, a leak is detected.

7. (i) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in subparagraph (3)(i) of this rule.

(ii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

8. A compressor is exempt from the requirements of parts 1 and 2 of this subparagraph, if it is equipped with a closed vent system capable of capturing and transporting any leakage from the seal to a control device that complies with the requirements of subparagraph (3)(j) of this rule, except as provided in part 9 of this subparagraph.

9. Any compressor that is designated, as described in parts (7)(e)1 and 2 of this rule, for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above

background, is exempt from the requirements of parts 1 through 8 of this subparagraph, if the compressor:

(i) Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the methods specified in subparagraph (6)(c) of this rule; and

(ii) Is tested for compliance with subpart 9(i) of this subparagraph initially upon designation, annually, and at other times requested by the Technical Secretary.

10. Any existing reciprocating compressor in a process unit which becomes an affected facility under provisions of subparagraphs 1200-3-16-.01(9)(a) or (b) is exempt from parts (3)(c)1, 2, 3, 4, 5, and 8 of this rule, provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of parts 1, 2, 3, 4, 5, and 8 of this subparagraph.

(d) Pressure relief devices in gas/vapor service

1. Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in subparagraph (6)(c) of this rule.

2. (i) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in subparagraph (3)(i) of this rule.

(ii) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in subparagraph (6)(c) of this rule.

3. Any pressure relief device that is equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in subparagraph (3)(j) of this rule is exempted from the requirements of parts 1 and 2 of this subparagraph.

(e) Sampling connection systems

1. Each sampling connection system shall be equipped with a closed purge system or closed vent system, except as provided in part (3)(a)3 of this rule.

2. Each closed purge system or closed vent system as required in part 1 of this subparagraph shall:

(i) Return the purged process fluid directly to the process line with zero VOC emissions to the atmosphere; or

(ii) Collect and recycle the purged process fluid with zero VOC emissions to the atmosphere; or

(iii) Be designed and operated to capture and transport all the purged process fluid to a control device that complies with the requirements of subparagraph (3)(j) of this rule.

3. In-situ sampling systems are exempt from parts 1 and 2 of this subparagraph.

(f) Open-ended valves or lines

1. (i) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in part (3)(a)3 of this rule.

(ii) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.

2. Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

3. When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with part 1 of this subparagraph at all other times.

(g) Valves in gas/vapor service and light liquid service

1. Each valve shall be monitored monthly to detect leaks by the methods specified in subparagraph (6)(b) of this rule and shall comply with parts 2 through 5 of this subparagraph, except as provided in parts 6, 7, and 8 of this subparagraph, subparagraphs (4)(a) (b) of this rule, and part (3)(a)3 of this rule.

2. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

3. (i) Any valve for which a leak is not detected for 2 successive months may begin monitoring the first month of every quarter, beginning with the next quarter, until a leak is detected.

(ii) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.

4. (i) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in subparagraph (3)(i) of this rule.

(ii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

5. First attempts at repair include, but are not limited to, the following best practices where practicable:

(i) Tightening of bonnet bolts;

(ii) Replacement of bonnet bolts;

(iii) Tightening of packing gland nuts; and

(iv) Injection of lubricant into lubricated packing.

6. Any valve that is designated, as described in part (7)(c)2 of this rule, for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of part 1 of this subparagraph if the valve:

(i) Has no external actuating mechanism in contact with the process fluid,

(ii) Is operated with emissions less than 500 ppm above background as determined by the method specified in subparagraph (6)(c) of this rule, and

(iii) Is tested for compliance with subpart 6(ii) of this subparagraph initially upon designation, annually, and at other times requested by the Technical Secretary.

7. Any valve that is designated, as described in part (7)(f)1 of this rule, as an unsafe-to-monitor valve is exempt from the requirements of part 1 of this subparagraph if:

(i) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with part 1 of this subparagraph, and

(ii) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

8. Any valve that is designated, as described in part (7)(f)2 of this rule, as a difficult to monitor valve is exempt from the requirements of part 1 of this subparagraph if:

(i) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

(ii) The process unit within which the valve is located becomes an affected facility through subparagraphs 1200-3-16-.01(9)(a) or (b), or the owner or operator designates less than 3.0 percent of the total number of valves as difficult to monitor and

(iii) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

(h) Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors.

1. Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors shall be monitored within 5 days by the method specified in subparagraph (6)(b) of this rule if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.

2. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

3. (i) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in subparagraph (3)(i) of this rule.

(ii) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

4. First attempts at repair include, but are not limited to, the best practices described under part (3)(g)5 of this rule.

(i) Delay of repair

1. Delay of repair of equipment for which leaks have been detected will be allowed if the repair is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown.

2. Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.

3. Delay of repair for valves will be allowed if:

(i) The owner or operator demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and

(ii) When repair procedures are affected, the purged material is collected and

destroyed or recovered in a control device complying with subparagraph (3)(j) of his rule.

4. Delay of repair for pumps will be allowed if:

(i) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and

(ii) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

5. Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

(j) Closed vent systems and control devices

1. Owners or operators of closed vent systems and control devices used to comply with provisions of this rule shall comply with the provisions of this subparagraph.

2. Vapor recovery systems (for example, condensers and adsorbers) shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater.

3. Enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816°C.

4. (i) Flares shall be designed for and operated with no visible emissions as determined by the methods specified in subparagraph (6)(g) of this rule, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(ii) Flares shall be operated with a flame present at all times, as determined by the methods specified in subparagraph (6)(g) of this rule.

(iii) Flares shall be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in subparagraph (6)(g) of this rule.

(iv) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in part (6)(g)4 of this rule, less than 18m/sec (60 ft/sec).

(v) Flares used to comply with this rule shall be steam-assisted, air-assisted, or nonassisted.

(vi) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity, Vmax as determined by the methods specified in part (6)(g)5 of this rule.

5. Owners or operators of control devices used to comply with the provisions of this rule shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.

6. (i) Closed vent systems shall be designed and operated with no detectable

emissions, as indicated by an instrument reading of less than 500 ppm above background and visual inspections, as determined by the methods specified in subparagraph (6)(c) of this rule.

(ii) Closed vent systems shall be monitored to determine compliance with this subparagraph initially in accordance with paragraph 1200-3-16-.01(5), annually and at other times requested by the Technical Secretary.

7. Closed vent systems and control devices used to comply with provisions of this rule shall be operated at all times when emissions may be vented to them.

(4) Alternative standards for valves

(a) Allowable percentage of valves leaking

1. An owner or operator may elect to comply with an allowable percentage of valves leaking of equal to or less than 2.0 percent.

2. The following requirements shall be met if an owner or operator wishes to comply with an allowable percentage of valves leaking:

(i) An owner or operator must notify the Technical Secretary that the owner or operator has elected to comply with the allowable percentage of valves leaking before implementing this alternative standard, as specified in subparagraph (8)(d) of this rule.

(ii) A performance test as specified in part 3 of this subparagraph shall be conducted initially upon designation, annually, and at other times requested by the Technical Secretary.

(iii) If a valve leak is detected, it shall be repaired in accordance with parts (3)(g)4 and 5 of this rule.

3. Performance tests shall be conducted in the following manner:

(i) All valves in gas/vapor and light liquid service within the affected facility shall be monitored within 1 week by the methods specified in subparagraph (6)(b) of this rule.

(ii) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(iii) The leak percentage shall be determined by dividing the number of valves for which leaks are detected by the number of valves in gas/vapor and light liquid service within the affected facility.

4. Owners and operators who elect to comply with this alternative standard shall not have an affected facility with a leak percentage greater than 2.0 percent.

(b) Skip period leak detection and repair:

1. (i) An owner or operator may elect to comply with one of the alternative work practices specified in subparts 2(ii) and (iii) of this subparagraph.

(ii) An owner or operator must notify the Technical Secretary before implementing one of the alternative work practices, as specified in subparagraph (8)(d) of this rule.

2. (i) An owner or operator shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in subparagraph (3)(g) of this rule.

(ii) After 2 consecutive quarterly leak detection periods with the percent of valves

leaking equal to or less than 2.0, an owner or operator may begin to skip 1 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(iii) After 5 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 3 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(iv) If the percent of valves leaking is greater than 2.0, the owner or operator shall comply with the requirements of subparagraph (3)(g) of this rule but can again elect to use this subparagraph.

(v) The percent of valves leaking shall be determined by dividing the sum of valves found leaking during current monitoring and valves for which repair has been delayed by the total number of valves subject to the requirements of subparagraph (4)(b) of this rule.

(vi) An owner or operator must keep a record of the percent of valves found leaking during each leak detection period.

(5) Equivalence of means of emission limitation

(a) Each owner or operator subject to the provisions of this rule may apply to the Technical Secretary for determination of equivalance for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in this rule.

(b) Determination of equivalence to the equipment, design, and operational requirements of this rule will be evaluated by the following guidelines:

1. Each owner or operator applying for an equivalence determination shall be responsible for collecting and verifying test data to demonstrate equivalence of means of emission limitation.

2. The Technical Secretary will compare test data for the means of emission limitation to test data for the equipment, design, and operational requirements.

3. The Technical Secretary may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the equipment, design, and operational requirements.

(c) Determination of equivalence to the required work practices in this rule will be evaluated by the following guidelines:

1. Each owner or operator applying for a determination of equivalence shall be responsible for collecting and verifying test data to demonstrate equivalence of an equivalent means of emission limitation.

2. For each affected facility for which a determination of equivalence is requested, the emission reduction achieved by the required work practice shall be demonstrated.

3. For each affected facility, for which a determination of equivalence is requested, the emission reduction achieved by the equivalent means of emission limitation shall be demonstrated.

4. Each owner or operator applying for a determination of equivalence shall commit in writing to work practices(s) that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practice.

5. The Technical Secretary will compare the demonstrated emission reduction for the equivalent means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in part (c)4 of this paragraph.

6. The Technical Secretary may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the required work practice.

(d) An owner or operator may offer a unique approach to demonstrate the equivalence of any equivalent means of emission limitation.

(6) Test methods and procedures

(a) Each owner or operator subject to the provisions of this rule shall comply with the test method and procedure requirements provided in this paragraph.

(b) Monitoring, as required in paragraphs (3), (4), and (5) of this rule, shall comply with the following requirements:

1. Monitoring shall comply with Reference Method 21 as specified in 1200-3-16-.01(5)(g)21.

2. The detection instrument shall meet the performance criteria of Reference Method 21.

3. The instrument shall be calibrated before use on each day of its use by the methods specified in Method 21.

4. Calibration gases shall be:

(i) Zero air (less than 10 ppm of hydrocarbon in air); and

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

5. The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(c) When equipment is tested for compliance with no detectable emissions as required in parts (3)(b)5, (c)9, (g)6, and (j)5 and subparagraph (3)(d) of this rule, the test shall comply with the following requirements:

1. The requirements of parts (b)1 through 4 of this paragraph shall apply.

2. The background level shall be determined, as set forth in Reference Method 21.

3. The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

4. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(d) 1. Each piece of equipment within a process unit is presumed to be in VOC service unless an owner or operator demonstrates that the piece of equipment is not in VOC service. For a piece of equipment to be considered not in VOC service, it must be determined that the percent VOC content can be reasonably expected never to exceed 10 percent by weight. For purposes of determining the percent VOC content in the process fluid that is contained in or contacts equipment, procedures that conform to the general methods described in ASTM E-260, E-168, E-169 shall be used. (Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are availabe for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired.)

2. If an owner or operator decides to exclude non-reactive organic compounds from the total quantity of organic compounds in determining the percent VOC content of the process fluid,

the exclusion will be allowed if:

(i) Those substances excluded are those considered as having negligible photochemical reactivity by the Technical Secretary; and

(ii) The owner or operator demonstrates that the percent organic content, excluding non-reactive organic compounds, can be reasonably expected never to exceed 10 percent by weight.

3. (i) An owner or operator may use engineering judgment rather than the procedures in parts (d)1 and 2 of this paragraph to demonstrate that the percent VOC content does not exceed 10 percent by weight, provided that the engineering judgment demonstrates that the VOC content clearly does not exceed 10 percent by weight. When an owner or operator and the Technical Secretary do not agree on whether a piece of equipment is not in VOC service, however, the procedures in parts (d)1 and 2 of this paragraph shall be used to resolve the disagreement.

(ii) If an owner or operator determines that a piece of equipment is in VOC service, the determination can be revised only after following the procedures in parts (d)1 and 2 of this paragraph.

(e) Equipment is in light liquid service if the following conditions apply:

1. The vapor pressure of one or more of the components is greater than 0.3 kPa at 20°C. Vapor pressures may be obtained from standard reference texts or may be determined by ASTM D 2879. (Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired.)

2. The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20°C is equal to or greater than 20 percent by weight and

3. The fluid is a liquid at operating conditions.

(f) Samples used in conjunction with subparagraphs (d), (e), and (g) of this paragraph shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare.

(g) 1. Reference Method 22 as specified in rule 1200-3-16-.01(5)(g) shall be used to determine the compliance of the flares with the visible emission provisions of this rule.

2. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

3. The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^{n} C_i H_i$$

Where:

H_T = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20.

K = Constant, 1.740×10^{-7} $\frac{1}{\text{g mole}} \frac{\text{MJ}}{\text{scm}}$

ppm scm kcal.

Where the standard temperature for g mole is 20°C
scm

Ci = Concentration of sample component i in ppm, as measured by Reference Method 18 and ASTM D2504-67 (reapproved 1977).

i = Net heat of combustion of sample component i, kcal/g mole. The heats of combustion may be determined using ASTM D2382-76 if published values are not available or cannot be calculated.

4. The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Reference Method 2 or 2A, as appropriate; by the unobstructed (free) cross sectional area of the flare tip.

5. The maximum permitted velocity, Vmax for air-assisted flares shall be determined by the following equation:

Vmax = 8.706 + 0.7084 (HT)

Vmax = Maximum permitted velocity, m/sec.

8.706 = Constant.

0.7084 = Constant,

H_T = The net heating value as determined in part (g)3 of this paragraph.

(7) Record-keeping requirements

(a) 1. Each owner or operator subject to the provisions of this rule shall comply with the record-keeping requirements of this paragraph.

2. An owner or operator of more than one affected facility subject to the provisions of this rule may comply with the record-keeping requirements for these facilities in one record-keeping system if the system identifies each record by each facility.

(b) When each leak is detected as specified in subparagraphs (3)(b), (c), (g), (h), and (4)(b) of this rule, the following requirements apply:

1. A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

2. The identification on a valve may be removed after it has been monitored for 2 successive months as specified in part (3)(g)3 of this rule and no leak has been detected during those 2 months.

3. The identification on equipment, except on a valve, may be removed after it has been repaired.

(c) When each leak is detected as specified in subparagraphs (3)(b), (c), (g), (h), and (4)(b) of this rule, the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:

1. The instrument and operator identification numbers and the equipment identification number.

2. The date the leak was detected and the dates of each attempt to repair the leak.

3. Repair methods applied in each attempt to repair the leak.

4. ''Above 10,000'' if the maximum instrument reading measured by the methods specified in subparagraph (6)(a) of this rule after each repair attempt is equal to or greater than 10,000 ppm.

5. ''Repair delayed'' and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

6. The signature of the owner or operator (or designate) whose decision it was that repair could not be affected without a process shutdown.

7. The expected date of successful repair of the leak if a leak is not repaired within 15 days.

8. Dates of process unit shutdown that occur while the equipment is unrepaired.

9. The date of successful repair of the leak.

(d) The following information pertaining to the design requirements for closed vent systems and control devices described in subparagraph (3)(j) of this rule shall be recorded and kept in a readily accessible location:

1. Detailed schematics, design specifications, and piping and instrumentation diagrams.

2. The dates and descriptions of any changes in the design specifications.

3. A description of the parameter or parameters monitored, as required in part (3)(j)5 of this rule, to ensure that control devices are operated andmaintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

4. Periods when the closed vent systems and control devices required in subparagraphs (3)(b), (c), (d), and (e) of this rule are not operated as designed, including periods when a flare pilot light does not have a flame.

5. Dates of startups and shutdowns of the closed vent systems and control devices required in subparagraphs (3)(b), (c), (d), and (e) of this rule.

(e) The following information pertaining to all equipment subject to the requirements in subparagraphs (3)(a) to (j) of this rule shall be recorded in a log that is kept in a readily accessible location:

1. A list of identification numbers for equipment subject to the requirements of this rule.

2. (i) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of parts (3)(b)5, (c)9 and (g)6 of this rule.

(ii) The designation of equipment as subject to the requirements of parts (3)(b)5, (c)9, and (g)6 of this rule shall be signed by the owner or operator.

3. A list of equipment identification numbers for pressure relief devices required to comply with subparagraph (3)(d) of this rule.

4. (i) The dates of each compliance test as required in parts (3)(b)5 and (c)9, subparagraph (3)(d), and part (3)(g)6 of this rule.

(ii) The background level measured during each compliance test.

(iii) The maximum instrument reading measured at the equipment during each compliance test.

5. A list of identification numbers for equipment in vacuum service.

(f) The following information pertaining to all valves subject to the requirements of parts (3)(g)7 and 8 of this rule shall be recorded in a log that is kept in a readily accessible location:

1. A list of identification numbers for valves that are designated as unsafe-to-monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve.

2. A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve.

(g) The following information shall be recorded for valves complying with subparagraph (4)(b) of this rule:

1. A schedule of monitoring.

2. The percent of valves found leaking during each monitoring period.

(h) The following information shall be recorded in a log that is kept in a readily accessible location:

1. Design criterion required in subparts (3)(b)4(v) and (3)(c)5(ii) of this rule and explanation of the design criterion; and

2. Any changes to this criterion and the reasons for the changes.

(i) The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in subparagraph (1)(d) of this rule:

1. An analysis demonstrating the design capacity of the affected facility,

2. A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol, and

3. An analysis demonstrating that equipment is not in VOC service.

(j) Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.

(k) The provisions of subparagraphs 1200-3-16-.01(7)(b) and (d) do not apply to affected facilities subject to this rule.

(8) Reporting requirements

(a) Each owner or operator subject to the provisions of this rule shall submit semiannual reports to the Technical Secretary beginning six months after the initial start up date.

(b) The initial semiannual report to the Technical Secretary shall include the following information:

1. Process unit identification.

2. Number of valves subject to the requirements of subparagraph (3)(g) of this rule, excluding those valves designated for no detectable emissions under the provisions of part (3)(g)6 of this rule.

3. Number of pumps subject to the requirements of subparagraph (3)(b) of this rule, excluding those pumps designated for no detectable emissions under the provisions of part (3)(b)5 of this rule and those pumps complying with part (3)(b)6 of this rule.

4. Number of compressors subject to the requirements of subparagraph (3)(c) of this rule, excluding those compressors designated for no detectable emissions under the provisions

of part (3)(c)9 of this rule and those compressors complying with part (3)(c)8 of this rule.

(c) All semiannual reports to the Technical Secretary shall include the following information, summarized from the information in paragraph (7) of this rule:

1. Process unit identification.

2. For each month during the semiannual reporting period,

(i) Number of valves for which leaks were detected as described in part (3)(g)2 or subparagraph (4)(b) of this rule,

(ii) Number of valves for which leaks were not repaired as required in subpart (3)(g)4(i) of this rule,

(iii) Number of pumps for which leaks were detected as described in part (3)(b)2 and item (3)(b)4(vi)(I) of this rule,

(iv) Number of pumps for which leaks were not repaired as required in subpart (3)(b)3(i) and item (3)(b)4(vi)(II) of this rule,

(v) Number of compressors for which leaks were detected as described in part (3)(c)6 of this rule,

(vi) Number of compressors for which leaks were not repaired as required in subpart (3)(c)7(i) of this rule, and

(vii) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.

3. Dates of process unit shutdowns which occurred within the semiannual reporting period.

4. Revisions to items reported according to subparagraph (b) of this paragraph if changes have occurred since the initial report or subsequent revisions to the initial report.

(d) An owner or operator electing to comply with the provisions of subparagraphs (4)(a) and (b) of this rule shall notify the Technical Secretary of the alternative standard selected 90 days before implementing either of the provisions.

(e) An owner or operator shall report the results of all performance tests in accordance with paragraph 1200-3-16-.01(5). The provisions of subparagraph 1200-3-16-.01(5)(d) do not apply to affected facilities subject to the provisions of this rule except that an owner or operator must notify the Technical Secretary of the schedule for the initial performance tests at least 30 days before the initial performance tests.

(9) Exceptions

(a) Each owner or operator subject to the provisions of this rule may comply with the following exceptions.

(b) 1. Compressors in hydrogen service are exempt from the requirements of paragraph (3) of this rule if an owner or operator demonstrates that a compressor is in hydrogen service.

2. Each compressor is presumed not to be in hydrogen service unless an owner or operator demonstrates that the piece of equipment is in hydrogen service. For a piece of equipment to be considered in hydrogen service, it must be determined that the percent hydrogen content can be reasonably expected always to exceed 50 percent by volume. For purposes of determining the percent hydrogen content in the process fluid that is contained in or contacts a compressor, procedures that conform to the general method described in ASTM E-260, E-168, or E-169 shall be used. (Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are available for purchase

by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired.)

3. (i) An owner or operator may use engineering judgment rather than procedures in part 2 of this subparagraph to demonstrate that the percent content exceeds 50 percent by volume, provided the engineering judgment demonstrates that the content clearly exceeds 50 percent by volume. When an owner or operator and the Technical Secretary do not agree on whether a piece of equipment is in hydrogen service, however, the procedures in part 2 of this subparagraph shall be used to resolve the disagreement.

(ii) If an owner or operator determines that a piece of equipment is in hydrogen service, the determination can be revised only after following the procedures in part 2 of this subparagraph.

(c) Any existing reciprocating compressor that becomes an affected facility under provisions of subparagraphs 1200-3-16-.01(9)(a) and (b) is exempt from subparagraphs (3)(a), (b), (c), (d), (e), and (h) of this rule provided the owner or operator demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of subparagraphs (3)(a), (b), (c), (d), (e), and (h) of this rule.

(d) An owner or operator may use the following provision in addition to subparagraph (6)(e) of this rule: Equipment is in light liquid service if the percent evaporated is greater than 10 percent at 15° C as determined by ASTM Method D-86.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.48 Flexible Vinyl and Urethane Coating and Printing

(1) Applicability

(a) The affected facility to which the provisions of this rule apply is each rotogravure printing line used to print or coat flexible vinyl or urethane products.

(b) This rule applies to any affected facility which begins construction, modification, or reconstruction after November 6, 1988.

(c) For facilities controlled by a solvent recovery emission control device, the provisions of subparagraph (5)(a) of this rule requiring monitoring of operations will not apply until performance specifications for the continuous monitoring system have been promulgated. After the promulgation of performance specifications, these provisions will apply to each affected facility under subparagraph (b) of this paragraph. Facilities controlled by a solvent recovery emission control device that become subject to the standard prior to promulgation of performance specifications must conduct performance tests in accordance with subparagraph 1200-3-16-.01(8)(b) after performance specifications are promulgated.

(2) Definitions and symbols

(a) Definitions

1. ''Emission control device'' means any solvent recovery or solvent destruction device used to control volatile organic compounds (VOC) emissions from flexible vinyl and urethane rotogravure printing lines.

2. ''Emission control system'' means the combination of an emission control device and a vapor capture system for the purpose of reducing VOC emissions from flexible vinyl and urethane rotogravure printing lines.

3. ''Flexible vinyl and urethane products'' mean those products, except for resilient floor coverings (1977 Standard Industry Code 3996) and flexible packaging, that are more than

50 micrometers (0.002 inches) thick, and that consist of or contain a vinyl or urethane sheet or a vinyl or urethane coated web.

4. "Gravure cylinder" means a plated cylinder with a printing image consisting of minute cells or indentations, specifically engraved or etched into the cylinder's surface to hold ink when continuously revolved through a fountain of ink.

5. "Ink" means any mixture of ink, coating solids, organic solvents including dilution solvent, and water that is applied to the web of flexible vinyl or urethane on a rotogravure printing line.

6. "Ink solids" means the solids content of an ink as determined by Method 24 (as specified in rule 1200-3-16-.01(5)(g), ink manufacturer's formulation data, or plant blending records.

7. "Inventory system" means a method of physically accounting for the quantity of ink, solvent, and solids used at one or more affected facilities during a time period. The system is based on plant purchase or inventory records.

8. "Plant blending records" means those records which document the weight fraction of organic solvents and solids used in the formulation or preparation of inks at the vinyl or urethane printing plant where they are used.

9. "Rotogravure print station" means any device designed to print or coat inks on one side of a continuous web or substrate using the intaglio printing process with a gravure cylinder.

10. "Rotogravure printing line" means any number of rotogravure print stations and associated dryers capable of printing or coating simultaneously on the same continuous vinyl or urethane web or substrate, which is fed from a continuous roll.

11. "Vapor capture system" means any device or combination of devices designed to contain, collect, and route organic solvent vapors emitted from the flexible vinyl or urethane rotogravure printing line.

(b) Symbols

1. "a" means the gas stream vents exiting the emission control device.

2. "b" means the gas stream vents entering the emission control device.

3. "f" means the gas stream vents which are not directed to an emission control device.

4. "Caj" means the concentration of VOC in each gas stream (j) for the time period exiting the emission control device, in parts per million by volume.

5. "Cbi" means the concentration of VOC in each gas stream (i) for the time period entering the emission control device, in parts per million by volume.

6. "Cfk" means the concentration of VOC in each gas stream (k) for the time period which is not directed to an emission control device, in parts per million by volume.

7. "G" means the weighted average mass of VOC per mass of ink solids applied in kilograms per kilogram.

8. "Mci" means the total mass of each ink (i) applied in the time period as determined from plant records, in kilograms.

9. "Mdj" means the total mass of each dilution solvent (j) added at the print line in the time period determined from plant records, in kilograms.

10. "Qaj" means the volumetric flow rate of each effluent gas stream (j) exiting the emission

control device, in standard cubic meters per hour.

11. "Qbi" means the volumetric flow rate of each effluent gas stream (i) entering the emission control device, in standard cubic meters per hour.

12. "Qfk" means the volumetric flow rate of each effluent gas stream (k) not directed to an emission control device, in standard cubic meters per hour.

13. "E" means the VOC emission reduction efficiency (as a fraction) of the emission control device during performance testing.

14. "F" means the VOC emission capture efficiency (as a fraction) of the vapor capture system during performance testing.

15. "Woi" means the weight fraction of VOC in each ink (i) used in the time period as determined from Reference Method 24, manufacturer's formulation data, or plant blending records, in kilograms per kilogram.

16. "Wsi" means the weight fraction of solids in each ink (i) used in the time period as determined from Reference Method 24, manufacturer's formulation data, or plant blending records, in kilograms per kilogram.

17. "Woj" means the weight fraction of VOC in each dilution solvent (j) added at the print line in the time period determined from Reference Method 24, manufacturer's formulation data, or plant blending records, in kilograms per kilogram.

18. "n" = the number of different inks (i) used.

19. "m" = the number of different dilution solvents (j) added at the print line.

20. "p" = the number of effluent gas streams (k) not directed to an emissions control device.

(3) Standard

(a) On and after the date on which the performance test required by paragraph 1200-3-16-.01(5) has been completed, each owner or operator subject to this rule shall either:

1. Use inks with a weighted average VOC content less than 1.0 kilogram VOC per kilogram ink solids at each affected facility, or

2. Reduce VOC emissions to the atmosphere by 85 percent from each affected facility.

(4) Test methods and procedures

(a) Reference Methods as specified in rule 1200-3-16-.01(5)(g), except as provided under subparagraph 1200-3-16-.01(5)(b), shall be used to determine compliance with subparagraph (3)(a) of this rule as follows:

1. Method 24 for analysis of inks. If nonphotochemically reactive solvents are used in the inks, standard gas chromatographic techniques may be used to identify and quantify these solvents. The results of Reference Method 24 may be adjusted to subtract these solvents from the measured VOC content.

2. Method 25A for VOC concentration (the calibration gas shall be propane);

3. Method 1 for sample and velocity traverses;

4. Method 2 for velocity and volumetric flow rates;

5. Method 3 for gas analysis;

6. Method 4 for stack gas moisture.

(b) To demonstrate compliance with part (3)(a)1 of this rule, the owner or operator of an affected facility shall determine the weighted average VOC content of the inks according to the following procedures:

1. Determine and record the VOC content and amount of each ink used at the print head, including the VOC content and amount of diluted solvent, for any time periods when VOC emission control equipment is not used.

2. Compute the weighted average VOC content by the following equation:

$$G = \frac{\sum_{i=1}^{n} M_{ci} W_{oi} + \sum_{j=1}^{m} W_{oj} M_{dj}}{\sum_{i=1}^{n} M_{ci} W_{si}}$$

3. The weighted average VOC content of the inks shall be calculated over a period that does not exceed one calendar month, or four consecutive weeks. A facility that uses an accounting system based on quarters consisting of two 28 calendar day periods and one 35 calendar day period may use an averaging period of 35 calendar days four times per year, provided the use of such an accounting system is documented in the initial performance test.

4. Each determination of the weighted average VOC content shall constitute a performance test for any period when VOC emission control equipment is not used. Results of the initial performance test must be reported to the Technical Secretary. Reference Method 24 or ink manufacturer's formulation data along with plant blending records (if plant blending is done) may be used to determine VOC content. The Technical Secretary may require the use of Reference Method 24 if there is a question concerning the accuracy of the ink manufacturer's data or plant blending records.

5. If, during the time periods when emission control equipment is not used, all inks used contain less than 1.0 kilogram VOC per kilogram ink solids, the owner or operator is not required to calculate the weighted average VOC content, but must verify and record the VOC content of each ink (including any added dilution solvent) used as determined by Referenced Method 24, ink manufacturers' formulation data, or plant blending records.

(c) To demonstrate compliance with part (3)(a)1 of this rule, the owner or operator may determine the weighted average VOC content using an inventory system.

1. The inventory system shall accurately account to the nearest kilogram for the VOC content of all inks and dilution solvent used, recycled, and discarded for each affected facility during the averaging period. Separate records must be kept for each affected facility.

2. To determine VOC content of inks and dilution solvent used or recycled, Reference Method 24 or ink manufacturers' formulation data must be used in combination with plant blending records (if plant blending is done) or inventory records or purchase records for new inks or dilution solvent.

3. For inks to be discarded, only Reference Method 24 shall be used to determine the VOC content. Inks to be discarded may be combined prior to measurement of volume or weight and testing by Reference Method 24.

4. The Technical Secretary may require the use of Reference Method 24 if there is a question concerning the accuracy of the ink manufacturer's data or plant records.

5. The Technical Secretary shall approve the inventory system of accounting for VOC content prior to the initial performance test.

(d) To demonstrate compliance with part (3)(a)2 of this rule, the owner or operator of an affected facility controlled by a solvent recovery emission control device or an incineration control device shall conduct a performance test to determine overall VOC emission control efficiency according to the following procedures:

1. The performance test shall consist of three runs. Each test run must last a minimum of 30 minutes and shall continue until the printing operation is interrupted or until 180 minutes of continuous operation occurs. During each test run, the print line shall be printing continuously and operating normally. The VOC emission reduction efficiency achieved for each test run is averaged over the entire test run period.

2. VOC concentration values at each site shall be measured simultaneously.

3. The volumetric flow rate shall be determined from one Method 2 measurement for each test run conducted immediately prior to, during, or after that test run. Volumetric flow rates at each site do not need to be measured simultaneously.

4. In order to determine capture efficiency from an affected facility, all fugitive VOC emissions from the affected facility shall be captured and vented through stacks suitable for measurement. During a performance test, the owner or operator of an affected facility located in an area with other sources of VOC shall isolate the affected facility from other sources of VOC. These two requirements shall be accomplished using one of the following methods:

(i) Build a permanent enclosure around the affected facility;

(ii) Build a temporary enclosure around the affected facility and duplicate, to an extent that is reasonably feasible, the ventilation conditions that are in effect when the affected facility is not enclosed (one way to do this is to divide the room exhaust rate by the volume of the room and then duplicate that quotient or 20 air changes per hour, whichever is smaller, in the temporary enclosure); or

(iii) Shut down all other sources of VOC and continue to exhaust fugitive emissions from the affected facility through any building ventilation system and other room exhausts such as print line ovens and embossers.

5. For each affected facility, compliance with part (3)(a)2 of this rule has been demonstrated if the average value of the overall control efficiency (EF) for the three runs is equal to or greater than 85 percent. An overall control efficiency is calculated for each run as follows:

(i) For efficiency of the emission control device:

$$E = \frac{\sum_{i=1}^{n} Q_{bi} C_{bi} - \sum_{j=1}^{m} Q_{aj} C_{aj}}{\sum_{i=1}^{n} Q_{bi} C_{bi}}$$

(ii) For efficiency of the vapor capture system.

$$F = \frac{\sum_{i=1}^{n} Q_{bi} C_{bi}}{\sum_{i=1}^{n} Q_{bi} C_{bi} + \sum_{k=1}^{p} Q_{fk} C_{fk}}$$

(5) Monitoring of operations and record keeping requirements:

(a) The owner or operator of an affected facility controlled by a solvent recovery emission control device shall install, calibrate, operate, and maintain a monitoring system which continuously

measures and records the VOC concentration of the exhaust vent stream from the control device and shall comply with the following requirements:

1. The continuous monitoring system shall be installed in a location that is representative of the VOC concentration in the exhaust vent, at least two equivalent stack diameters from the exhaust point, and protected from interferences due to wind, weather, or other processes.

2. During the performance test, the owner or operator shall determine and record the average exhaust vent VOC concentration in parts per million by volume. After the performance test, the owner or operator shall determine and, in addition to the record made by the continuous monitoring device, record the average exhaust vent VOC concentration for each 3-hour clock period of printing operation when the average concentration is greater than 50 ppm and more than 20 percent greater than the average concentration value demonstrated during the most recent performance test.

(b) The owner or operator of an affected facility controlled by a thermal incineration emission control device shall install, calibrate, operate, and maintain a monitoring device that continuously measures and records the temperature of the control device exhaust gases and shall comply with the following requirements:

1. The continuous monitoring device shall be calibrated annually and have an accuracy of ± 0.75 percent of the temperature being measured or ± 2.5°C, whichever is greater.

2. During the performance test, the owner or operator shall determine and record the average temperature of the control device exhaust gases. After the performance test, the owner or operator shall determine and record, in addition to the record made by the continuous monitoring device, the average temperature for each 3-hour clock period of printing operation when the average temperature of the exhaust gases is more than 28°C below the average temperature demonstrated during the most recent performance test.

(c) The owner or operator of an affected facility controlled by a catalytic incineration emission control device shall install, calibrate, operate, and maintain monitoring devices that continuously measure and record the gas temperatures both upstream and downstream of the catalyst bed and shall comply with the following requirements:

1. Each continuous monitoring device shall be calibrated annually and have an accuracy of ± 0.75 percent of the temperature being measured or ± 2.5°C, whichever is greater.

2. During the performance test, the owner or operator shall determine and record the average gas temperature both upstream and downstream of the catalyst bed. After the performance test, the owner or operator shall determine and record, in addition to the record made by the continuous monitoring device, the average temperatures for each 3-hour clock period of printing operation when the average temperature of the gas stream before the catalyst bed is more than 28°C below the average temperature demonstrated during the most recent performance or the average temperature difference across the catalyst bed is less than 80 percent of the average temperature difference of the device during the most recent performance test.

(d) The owner or operator of an affected facility shall record time periods of operation when an emission control device is not in use.

(6) Reporting requirements

(a) For all affected facilities subject to compliance with paragraph (3) of this rule, the performance test shall be submitted to the Technical Secretary as specified in subparagraph 1200-03-16-.01(5)(a).

(b) The owner or operator of each affected facility shall submit semiannual reports to the Technical Secaretary of occurrences of the following:

1. Exceedances of the weighted average VOC content specified in part (3)(a)1 of this rule;

2. Exceedances of the average value of the exhaust vent VOC concentration as defined under part (5)(a)2 of this rule;

3. Drops in the incinerator temperature as defined under part (5)(b)2 of this rule; and

4. Drops in the average temperature of the gas stream immediately before the catalyst bed or drops in the average temperature across the catalyst bed as defined under part (5)(c)2 of this rule.

(c) The reports required under subparagraph (b) of this paragraph shall be postmarked within 30 days following the end of the second and fourth calendar quarters.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.49 Petroleum Dry Cleaners

(1) Applicability

(a) The provisions of this rule are applicable to the following affected facilities located at a petroleum dry cleaning plant with a total manufacturers' rated dryer capacity equal to or greater than 38 kilograms (84 pounds): Petroleum solvent dry cleaning dryers, washers, filters, stills, and settling tanks.

1. When the affected facility is installed in an existing plant that is not expanding the manufacturers' rated capacity of its petroleum solvent dryer(s), the total manufacturers' rated dryer capacity is the summation of the manufacturer's rated capacity for each existing petroleum solvent dryer.

2. When the affected facility is installed in a plant that is expanding the manufacturers' rated capacity of its petroleum solvent dryers, the total manufacturers' rated dryer capacity is the summation of the manufacturers' rated dryer capacity for each existing and proposed new petroleum solvent dryer.

3. When the affected facility is installed in a new plant, the total manufacturers' rated dryer capacity is the summation of the manufacturers' rated dryer capacity for each proposed new petroleum solvent dryer.

4. The petroleum solvent dryers considered in the determination of the total manufacturers' rated dryer capacity are those new and existing dryers in the plant that will be in service at any time after the proposed new source or modification commences operation.

(b) Any facility under subparagraph (a) of this paragraph that commences construction or modification after November 6, 1988 is subject to the requirements of this rule.

(2) Definitions

(a) ''Cartridge filter'' means a discrete filter unit containing both filter paper and activated carbon that traps and removes contaminants from petroleum solvent, together with the piping and ductwork used in the installation of this device.

(b) ''Dryer'' means a machine used to remove petroleum solvent from articles of clothing or other textile or leather goods, after washing and removing of excess petroleum solvent, together with the piping and ductwork used in the installation of this device.

(c) ''Manufacturers' rated dryer capacity'' means the dryer's rated capacity of articles, in pounds or kilograms of clothing articles per load, dry basis, that is typically found on each dryer on the manufacturer's name-plate or in the manufacturer's equipment specifications.

(d) ''Perceptible leaks'' means any petroleum solvent vapor or liquid leaks that are conspicuous from visual observation or that bubble after application of a soap solution, such as pools or droplets of

liquid, open containers or solvent, or solvent laden waste standing open to the atmosphere.

(e) ''Petroleum dry cleaner'' means a dry cleaning facility that uses petroleum solvent in a combination of washers, dryers, filters, stills, and settling tanks.

(f) ''Settling tank'' means a container that gravimetrically separates oils, grease, and dirt from petroleum solvent, together with the piping and ductwork used in the installation of this device.

(g) ''Solvent filter'' means a discrete solvent filter unit containing a porous medium that traps and removes contaminants from petroleum solvent, together with the piping and ductwork used in the installation of this device.

(h) ''Solvent recovery dryer'' means a class of dry cleaning dryers that employs a condenser to condense and recover solvent vapors evaporated in a closed-loop stream of heated air, together with the piping and ductwork used in the installation of this device.

(i) ''Still'' means a device used to volatilize, separate, and recover petroleum solvent from contaminated solvent, together with the piping and ductwork used in the installation of this device.

(j) ''Washer'' means a machine which agitates fabric articles in a petroleum solvent bath and spins the articles to remove the solvent, together with the piping and ductwork used in the installation of this device.

(3) Standards

(a) Each affected petroleum solvent dry cleaning dryer that is installed at a petroleum dry cleaning plant shall be a solvent recovery dryer. The solvent recovery dryer(s) shall be properly installed, operated, and maintained.

(b) Each affected petroleum solvent filter that is installed at a petroleum dry cleaning plant shall be a cartridge filter. Cartridge filters shall be drained in their sealed housings for at least 8 hours prior to their removal.

(c) Each manufacturer of an affected petroleum solvent dryer shall include leak inspection and leak repair cycle information in the operating manual and on a clearly visible label posted on each affected facility. Such information should state:

To protect against fire hazards, loss of valuable solvents, and emissions of solvent to the atmosphere, periodic inspection of this equipment for evidence of leaks and prompt repair of any leaks is recommended. The U.S. Environmental Protection Agency recommends that the equipment be inspected every 15 days and all vapor or liquid leaks be repaired within the subsequent 15 day period.

(4) Equivalent Equipment and Procedures

Upon written application from any person, the Technical Secretary may approve the use of equipment or procedures that have been demonstrated to his satisfaction to be equivalent, in terms of reducing VOC emissions to the atmosphere, to those prescribed for compliance within a specified subparagraph of this rule. The application must contain a complete description of the equipment or procedure, the testing method, the date, time and location of the test, and a description of the test results. Written applications shall be submitted to the Technical Secretary.

(5) Test Methods and Procedures

Each owner or operator of an affected facility subject to the provisions of subparagraph (3)(a) of this rule shall perform an initial test to verify that the flow rate of recovered solvent from the solvent recovery dryer at the termination of the recovery cycle is no greater than 0.05 liters per minute. This test shall be conducted for a duration of no less than 2 weeks during which no less than 50 percent of the dryer loads shall be monitored for their final recovered solvent flow rate. The suggested point for measuring the flow rate of recovered solvent is from the outlet of the solvent water separator. Near the end of the recovery cycle, the entire flow of recovered solvent should be diverted to a graduated cylinder. As the recovered solvent

collects in the graduated cylinder, the elapsed time is monitored and recorded in periods of greater than or equal to 1 minute. At the same time, the volume of solvent in the graduated cylinder is monitored and recorded to determine the volume of recovered solvent that is collected during each time period. The recovered solvent flow rate is calculated by dividing the volume of solvent collected per period by the length of time elapsed during the period and converting the result with appropriate factors into units of liters per minute. The recovery cycle and the monitoring procedure should continue until the flow rate of solvent is less than or equal to 0.05 liter per minute. The type of articles cleaned and the total length of the cycle should then be recorded.

(6) Recordkeeping Requirements

Each owner or operator of an affected facility subject to the provisions of this rule shall maintain a record of the performance test required under paragraph (5) of this rule.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.50 Phosphate Rock Plants

(1) Applicability

(a) The provisions of this rule are applicable to the following affected facilities used in phosphate rock plants which have a maximum plant production capacity greater than 3.6 megagrams per hour (4 tons/hr): dryers, calciners, grinders, and ground rock handling and storage facilities, except those facilities producing or preparing phosphate rock solely for consumption in elemental phosphorus production.

(b) Any facility under subparagraph (a) of this paragraph which commences construction, modification, or reconstruction after November 6, 1988 is subject to the requirements of this rule.

(2) Definitions

(a) "Phosphate rock plant" means any plant which produces or prepares phosphate rock product by any or all of the following processes: Mining, beneficiation, crushing, screening, cleaning, drying, calcining, and grinding.

(b) "Phosphate rock feed" means all material entering the process unit including, moisture and extraneous material as well as the following ore minerals: Fluorapatite, hydroxylapatite, chlorapatite, and carbonateapatite.

(c) "Dryer" means a unit in which the moisture content of phosphate rock is reduced by contact with a heated gas stream.

(d) "Calciner" means a unit in which the moisture and organic matter of phosphate rock is reduced within a combustion chamber.

(e) "Grinder" means a unit which is used to pulverize dry phosphate rock to the final product size used in the manufacture of phosphate fertilizer and does not include crushing devices used in mining.

(f) "Ground phosphate rock handling and storage system" means a system which is used for the conveyance and storage of ground phosphate rock from grinders at phosphate rock plants.

(g) "Beneficiation" means the process of washing the rock to remove impurities or to separate size fractions.

(3) Standards

(a) On and after the date on which the performance test required to be conducted by paragraph 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere:

1. From any phosphate rock dryer any gases which:

(i) Contain particulate matter in excess of 0.030 kilogram per megagram of phosphate rock feed (0.06 lb/ton), or

(ii) Exhibit greater than 10 percent opacity.

2. From any phosphate rock calciner processing unbeneficiated rock or blends of beneficiated and unbeneficiated rock, any gases which:

(i) Contains particulate matter in excess of 0.12 kilogram per megagram of phosphate rock feed (0.23 lb/ton), or

(ii) Exhibit greater than 10 percent opacity.

3. From any phosphate rock calciner processing beneficiated rock any gases which:

(i) Contain particulate matter in excess of 0.055 kilogram per megagram of phosphate rock feed (0.11 lb/ton), or

(ii) Exhibit greater than 10 percent opacity.

4. From any phosphate rock grinder any gases which:

(i) Contain particulate matter in excess of 0.006 kilogram per megagram of phosphate rock feed (0.012 lb/ton), or

(ii) Exhibit greater than zero-percent opacity.

5. From any ground phosphate rock handling and storage system any gases which exhibit greater than zero percent opacity.

(4) Monitoring of emissions and operations

(a) Any owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate a continuous monitoring system, except as provided in subparagraphs (b) and (c) of this paragraph, to monitor and record the opacity of the gases discharged into the atmosphere from any phosphate rock dryer, calciner, or grinder. The span of this system shall be set at 40 percent opacity.

(b) For ground phosphate rock storage and handling systems, continuous monitoring systems for measuring opacity are not required.

(c) The owner or operator of any affected phosphate rock facility using a wet scrubbing emission control device shall not be subject to the requirements in subparagraph (a) of this paragraph, but shall install, calibrate, maintain, and operate the following continuous monitoring devices:

1. A monitoring device for the continuous measurement of the pressure loss of the gas stream through the scrubber. The monitoring device must be certified by the manufacturer to be accurate within ± 250 pascals (± 1 inch water) gauge pressure.

2. A monitoring device for the continuous measurement of the scrubbing liquid supply pressure to the control device. The monitoring device must be accurate within ± 5 percent of design scrubbing liquid supply pressure.

(d) For the purpose of conducting a performance test under paragraph 1200-3-16-.01(5), the owner or operator of any phosphate rock plant subject to the provisions of this rule shall install, calibrate, maintain, and operate a device for measuring the phosphate rock feed to any affected dryer, calciner, or grinder. The measuring device used must be accurate to within ± 5 percent of the mass rate over its operating range.

(e) For the purpose of reports required under subparagraph 1200-3-16-.01(7)(c), periods of excess

emissions that shall be reported are defined as all 6-minute periods during which the average opacity of the plume from any phosphate rock dryer, calciner, or grinder subject to subparagraph (a) of this paragraph exceeds the applicable opacity limit.

(f) Any owner or operator subject to the requirements under subparagraph (c) of this paragraph shall report for each calendar quarter all measurement results that are less than 90 percent of the average levels maintained during the most recent performance test conducted under paragraph 1200-3-16-.01(5) in which the affected facility demonstrated compliance with the standard under paragraph (3) of this rule.

(5) Test methods and procedures

(a) Reference methods, (as specified in rule 1200-3-16-.01(5)(g)) except as provided under subparagraph 1200-3-16-.01(5)(b), shall be used to determine compliance with paragraph (3) of this rule as follows:

1. Method 5 for the measurement of particulate matter and associated moisture content,

2. Method 1 for sample and velocity traverses,

3. Method 2 for velocity and volumetric flow rates,

4. Method 3 for gas analysis, and

5. Method 9 for the measurement of the opacity of emissions.

(b) For Method 5, the sampling time for each run shall be at least 60 minutes and have a minimum sampled volume of 0.84 dscm (30 dscf). However, shorter sampling times and smaller sample volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.

(c) For each run, the average phosphate rock feed rate in megagrams per hour shall be determined using a device meeting the requirements of subparagraph (4)(d) of this rule.

(d) For each run, emissions expressed in kilograms per megagram of phosphate rock feed shall be determined using the following equation:

$$E = \frac{(C_s Q_s) * 10^{-6}}{M}$$

where:

E = Emissions of particulates in kg/Mg of phosphate rock feed.

Cs = Concentration of particulates in mg/dscm as measured by Method 5.

Qs = Volumetric flow rate in dscm/hr as determined by Method 2.

10^{-6} = Conversion factor for milligrams to kilograms.

M = Average phosphate rock feed rate in Mg/hr.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.51 Equipment Leaks of VOC from Onshore Natural Gas Processing Plants

(1) Applicability and designation of affected facility

(a) 1. The provisions of this rule apply to affected facilities in onshore natural gas processing plants.

2. A compressor in VOC service or in wet gas service is an affected facility.

3. The group of all equipment except compressors (defined in paragraph (2) of this rule) within a process unit is an affected facility.

(b) Any affected facility under subparagraph (a) of this paragraph that commences construction, reconstruction, or modification after November 6, 1988 is subject to the requirements of this rule.

(c) Addition or replacement of equipment (defined in paragraph (2) of this rule) for the purpose of process improvement that is accomplished without a capital expenditure shall not by itself be considered a modification under this rule.

(d) Facilities covered by rule 1200-3-16-.43 or rule 1200-3-16-.47 are excluded from this rule.

(e) A compressor station, dehydration unit, sweetening unit, underground storage tank, field gas gathering system, or liquefied natural gas unit is covered by this rule if it is located at an onshore natural gas processing plant. If the unit is not located at the plant site, then it is exempt from the provisions of this rule.

(2) Definitions

(a) Terms not defined in this paragraph shall have the meanings given in rule 1200-3-16-.43.

(b) "Equipment" means each pump, pressure relief device, open-ended valve or line, valve, compressor, and flange or other connector that is in VOC service or in wet gas service, and any device or system required by this rule.

(c) "Field gas" means feedstock gas entering the natural gas processing plant.

(d) "In light liquid service" means that the piece of equipment contains a liquid that meets the conditions specified in 1200-3-16-.43(6)(e) or part (4)(h)2 of this rule.

(e) "Natural gas liquids" means the hydrocarbons, such as ethane, propane, butane, and pentane, that are extracted from field gas.

(f) "Natural gas processing plant" (gas plant) means any processing site engaged in the extraction of natural gas liquids from field gas, fractionation of mixed natural gas liquids to natural gas products, or both.

(g) "Nonfractionating plant" means any gas plant that does not fractionate mixed natural gas liquids into natural gas products.

(h) "Onshore" means all facilities except those that are located in the territorial seas or on the outer continental shelf.

(i) "Process unit" means equipment assembled for the extraction of natural gas liquids from field gas, the fractionation of the liquids into natural gas products, or other operations associated with the processing of natural gas products. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the products.

(j) "Reciprocating compressor" means a piece of equipment that increases the pressure of a process gas by positive displacement, employing linear movement of the driveshaft.

(k) "In wet gas service" means that a piece of equipment contains or contacts the field gas before the extraction step in the process.

(3) Standards

(a) Each owner or operator subject to the provisions of this rule shall comply with the requirements of 1200-3-16-.43(3)(a)1, 2, and 4 and 1200-3-16-.43(3)(b) through (j), except as provided in

paragraph (4) of this rule, as soon as practicable, but no later than 180 days after initial startup.

(b) An owner or operator may elect to comply with the requirements of 1200-3-16-.43(4)(a) and (b).

(c) An owner or operator may apply to the Technical Secretary for permission to use an alternative means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to that achieved by the controls required in this rule. In doing so, the owner or operator shall comply with requirements of paragraph (5) of this rule.

(d) Each owner or operator subject to the provisions of this rule shall comply with the applicable test methods and procedures specified in 1200-3-16-.43(6) except as provided in subparagraph (4)(f) of this rule.

(e) Each owner or operator subject to the provisions of this rule shall comply with the provisions of 1200-3-16-.43(7) and (8) except as provided in paragraphs (4), (6), and (7) of this rule.

(f) An owner or operator shall use the following provision instead of the provisions of 1200-3-16-.43(6)(d)1: Each piece of equipment is presumed to be in VOC service or in wet gas service unless an owner or operator demonstrates that the piece of equipment is not in VOC service or in wet gas service. For a piece of equipment to be considered not in VOC service, it must be determined that the percent VOC content can be reasonably expected never to exceed 10.0 percent by weight. For a piece of equipment to be considered in wet gas service, it must be determined that it contains or contacts the field gas before the extraction step in the process. For purposes of determining the percent VOC content of the process fluid that is contained in or contacts a piece of equipment, procedures that conform to the methods described in ASTM Methods E169, E168, or E260 shall be used. (Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired.)

(4) Exceptions

(a) Each owner or operator subject to the provisions of this rule may comply with the following exceptions to the provisions of rule 1200-3-16-.43.

(b) 1. Each pressure relief device in gas/vapor service may be monitored quarterly and within 5 days after each pressure release to detect leaks by the methods specified in subparagraph 1200-3-16-.43(6)(b) except as provided in subparagraph (3)(c) and part (4)(b)4 of this rule and 1200-3-16-.43(3)(d)1 through 1200-3-16-.43(3)(d)3.

2. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

3. (i) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after it is detected, except as provided in 1200-3-16-.43(3)(i).

(ii) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

4. (i) Any pressure relief device that is located in a nonfractionating plant that is monitored only by nonplant personnel may be monitored after a pressure release the next time the monitoring personnel are on site, instead of within 5 days as specified in part (b)1 of this paragraph and rule 1200-3-16-.43(3)(d)2(ii).

(ii) No pressure relief device described in subpart (b)4(i) of this paragraph shall be allowed to operate for more than 30 days after a pressure release without monitoring.

(c) Sampling connection systems are exempt from the requirements of 1200-3-16-.43(3)(e).

(d) Pumps in light liquid service, valves in gas/vapor and light liquid service, and pressure relief devices in gas/vapor service that are located at a nonfractionating plant that does not have the design capacity to process 283,000 standard cubic meters per day (scmd) (10 million standard cubic feet per day (scfd)) or more of field gas are exempt from the routine monitoring requirements of 1200-3-16-.43(3)(b)1(i), 1200-3-16-.43(3)(g)1 and part (b)1 of this paragraph.

(e) Reserved

(f) Reciprocating compressors in wet gas service are exempt from the compressor control requirements of 1200-3-16-.43(3)(c).

(g) Flares used to comply with this rule shall comply with the requirements of 1200-3-16-.01(11).

(h) An owner or operator may use the following provisions instead of 1200-3-16-.43(6)(e):

1. Equipment is in heavy liquid service if the weight percent evaporated is 10 percent or less at 15° C as determined by ASTM Method D86. (Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired.)

2. Equipment is in light liquid service if the weight percent evaporated is greater than 10 percent at 150°C as determined by ASTM Method D86.

(5) Alternative means of emission limitation

(a) If, in the Technical Secretary's judgment, an alternative means of emission limitation will achieve a reduction in VOC emissions at least equivalent to the reduction in VOC emissions achieved under any design, equipment, work practice or operational standard, this alternative means may be allowed in lieu of means listed in this rule. The Technical Secretary may condition permission to use alternate means on requirements related to the operation and maintenance of the alternative means.

(b) The method of approving any alternate means by the provisions of this paragraph shall be by revision of the state implementation plan.

(c) The Technical Secretary will consider applications under this paragraph from either owners or operators of affected facilities, or manufactures of control equipment.

(d) The Technical Secretary will treat applications under this paragraph according to the following criteria, except in cases where he concludes that other criteria are appropriate:

1. The applicant must collect, verify and submit test data, covering a period of at least 12 months, necessary to support the finding in subparagraph (a) of this paragraph, and

2. If the applicant is an owner or operator of an affected facility, he must commit in writing to operate and maintain the alternative means so as to acheive a reduction in VOC emissions at least equivalent to the reduction in VOC emissions achieved under the design, equipment, work practice or operational standard.

(6) Recordkeeping requirements

(a) Each owner or operator subject to the provisions of this rule shall comply with the requirements of subparagraphs (b) and (c) of this paragraph in addition to the requirements of 1200-3-16-.43(7).

(b) The following recordkeeping requirements shall apply to pressure relief devices subject to the requirements of part (4)(b)1 of this rule.

1. When each leak is detected as specified in part (4)(b)2 of this rule, a weatherproof and readily visible identification, marked with the equipment identification number, shall be

attached to the leaking equipment. The identification on the pressure relief device may be removed after it has been repaired.

2. When each leak is detected as specified in part (4)(b)2 of this rule, the following information shall be kept for 2 years in a readily accessible location:

(i) The instrument and operator identification numbers and the equipment identification number.

(ii) The date the leak was detected and the dates of each attempt to repair the leak.

(iii) Repair methods applied in each attempt to repair the leak.

(iv) "Above 10,000 ppm" if the maximum instrument reading measured by the methods specified in subparagraph (a) of this paragraph after each repair attempt is 10,000 ppm or greater.

(v) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(vi) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.

(vii) The expected date of successful repair of the leak if a leak is not repaired within 15 days.

(viii) Dates of process unit shutdowns that occur while the equipment is unrepaired.

(ix) The date of successful repair of the leak.

(x) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of 1200-3-16-.43(3)(d)1. The designation of equipment subject to the provisions of 1200-3-16-.43(3)(d)1 shall be signed by the owner or operator.

(c) An owner or operator shall comply with the following requirement in addition to the requirement of 1200-3-16-.43(7)(j): Information and data used to demonstrate that a reciprocating compressor is in wet gas service to apply for the exemption in subparagraph (4)(f) of this rule shall be recorded in a log that is kept in a readily accessible location.

(7) Reporting requirements

(a) Each owner or operator subject to the provisions of this rule shall comply with the requirements of subparagraphs (b) and (c) of this paragraph in addition to the requirements of 1200-3-16-.43(8).

(b) An owner or operator shall include the following information in the initial semiannual report in addition to the information required in 1200-3-16-.43(8)(b)1 through 1200-3-16-.43(8)(b)4: number of pressure relief devices subject to the requirements of subparagraph (4)(b) of this rule except for those pressure relief devices designated for no detectable emissions under the provisions of 1200-3-16-.43(3)(d)1 and those pressure relief devices complying with 1200-3-16-.43(3)(d)3.

(c) An owner or operator shall include the following information in all semiannual reports in addition to the information required in 1200-3-16-.43(8)(c)2(i) through 1200-3-16-.43(8)(c)2(vi):

1. Number of pressure relief devices for which leaks were detected as required in part (4)(b)2 of this rule, and

2. Number of pressure relief devices for which leaks were not repaired as required in part (4)(b)3 of this rule.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.52 Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels

(1) Applicability and designation of affected facility

(a) The provisions of this rule are applicable to the following affected facilities in steel plants that produce carbon, alloy, or specialty steels: electric arc furnaces, argon-oxygen decarburization vessels, and dust handling systems.

(b) The provisions of this rule apply to each affected facility identified in subparagraph (a) of this paragraph that commences construction, modification, or reconstruction after November 6, 1988.

(2) Definitions

(a) As used in this rule, all terms not defined herein shall have the meaning given them in paragraph (4) of rule 1200-3-16-.01.

1. "Argon-oxygen decarburization vessel" (AOD vessel) means any closed-bottom, refractory-lined converter vessel with submerged tuyeres through which gaseous mixtures containing argon and oxygen or nitrogen may be blown into molten steel for further refining.

2. "Capture system" means the equipment (including ducts, hoods, fans, dampers, etc.) used to capture or transport particulate matter generated by an electric arc furnace or AOD vessel to the air pollution control device.

3. "Charge" means the addition of iron and steel scrap or other materials into the top of an electric arc furnace or the addition of molten steel or other materials into the top of an AOD vessel.

4. "Control device" means the air pollution control equipment used to remove particulate matter from the effluent gas stream generated by an electric arc furnace or AOD vessel.

5. "Direct-shell evacuation control system" (DEC System) means a system that maintains a negative pressure within the electric arc furnace above the slag or metal and ducts emissions to the control device.

6. "Dust handling system" means equipment used to handle particulate matter collected by the control device for an electric arc furnace or AOD vessel subject to this rule. For the purposes of this rule, the dust handling system shall consist of the control device dust hoppers, the dust conveying equipment, any central dust storage equipment, the dust treating equipment (e.g., pug mill, pelletizer), dust transfer equipment (from storage to truck), and any secondary control devices used with the dust transfer equipment (from storage to truck), and any secondary control devices used with the dust transfer equipment.

7. "Electric arc furnace" (EAF) means a furnace that produces molten steel and heats the charge materials with electric arcs from carbon electrodes. For the purposes of this rule, an EAF shall consist of the furnace shell and roof and the transformer. Furnaces that continuously feed direct-reduced iron ore pellets as the primary source of iron are not affected facilities within the scope of this definition.

8. "Heat cycle" means the period beginning when scrap is charged to an empty EAF and ending when the EAF tap is completed or beginning when molten steel is charged to an empty AOD vessel and ending when the AOD vessel tap is completed.

9. "Melting" means that phase of steel production cycle during which the iron and steel scrap is heated to the molten state.

10. "Negative-pressure fabric filter" means a fabric filter with the fans on the downstream side of the filter bags.

11. “Positive-pressure fabric filter” means a fabric filter with the fans on the upstream side of the filter bags.

12. “Refining” means that phase of the steel production cycle during which undesirable elements are removed from the molten steel and alloys are added to reach the final metal chemistry.

13. “Shop” means the building which houses one or more EAF’s or AOD vessels.

14. “Shop opacity” means the arithmetic average of 24 observations of the opacity of emissions from the shop taken in accordance with Method 9.

15. “Tap” means the pouring of molten steel from an EAF or AOD vessel.

(3) Standard for particulate matter

(a) On and after the date of which the performance test required to be conducted by paragraph 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from an EAF or an AOD vessel and gases which:

1. Exit from a control device and contain particulate matter in excess of 12 mg/dscm (0.0052 gr/dscf);

2. Exit from a control device and exhibit 3 percent opacity or greater; and

3. Exit from a shop and, due solely to the operations of any affected EAF(s) or AOD vessel(s), exhibit 6 percent opacity or greater.

(b) On and after the date on which the performance test required to be conducted by paragraph 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from the dust-handling system any gases that exhibit 10 percent opacity or greater.

(4) Emission monitoring

(a) Except as provided under subparagraphs (b) and (c) of this paragraph, a continuous monitoring system for the measurement of the opacity of emissions discharged into the atmosphere from the control device(s) shall be installed, calibrated, maintained, and operated by the owner or operator subject to the provisions of this rule.

(b) No continuous monitoring system shall be required on any control device serving the dust handling system.

(c) No continuous monitoring system shall be required on modular, multiple-stack, negative-pressure or positive-pressure fabric filters if observations of the opacity of the visible emissions from the control device are performed by a certified visible emission observer.

(5) Monitoring of operations

(a) The owner or operator subject to the provisions of this rule shall maintain records of the following information:

1. All data obtained under subparagraph (b) of this paragraph.

2. All monthly operational status inspections performed under subparagraph (c) of this paragraph.

(b) Except as provided under subparagraph (d) of this paragraph, the owner or operator subject to the provisions of this rule shall check and record on a once per shift basis the furnace static pressure (if DEC system is in use) and either (1) check and record the control system fan motor amperes and damper position on a once-per-shift basis; or (2) install, calibrate, and maintain a monitoring

device that continuously records the volumetric flow rate through each separately ducted hood. The monitoring device(s) may be installed in any appropriate location in the exhaust duct such that reproducible flow rate monitoring will result. The flow rate monitoring device(s) shall have an accuracy of ± 10 percent over its normal operating range and shall be calibrated according to the manufacturer's instructions. The Technical Secretary may require the owner or operator to demonstrate the accuracy of the monitoring device(s) relative to Methods 1 and 2 (as specified in 1200-3-16-.01(5)(g)).

(c) When the owner or operator of an affected facility is required to demonstrate compliance with the standards of paragraph (3)(a)3 of this rule, and at any other time the Technical Secretary may require that either the control system fan motor amperes and all damper positions or the volumetric flow rate through each separately ducted hood shall be determined during all periods in which a hood is operated for the purpose of capturing emissions from the affected facility subject to the provisions of subparagraph (b) of this paragraph. The owner or operator may petition the Technical Secretary for reestablishment of these parameters whenever the owner or operator can demonstrate to the Technical Secretary's satisfaction that the affected facility operating conditions upon which the parameters were previously established are no longer applicable. The values of these parameters determined during the most recent demonstration of compliance shall be maintained at the appropriate level for each applicable period. Operation at other than baseline values may be subject to the requirements of subparagraph 1200-3-16-.52(7)(c).

(d) The owner or operator shall perform monthly operational status inspections of the equipment that is important to the performance of the total capture system (i.e., pressure sensors, dampers, and damper switches). This inspection shall include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork and fan erosion). Any deficiencies shall be noted and proper maintenance performed.

(e) The owner or operator may petition the Technical Secretary to approve any alternative to monthly operational status inspections that will provide a continuous record of the operation of each emission capture system.

(f) If emissions during any phase of the heat time are controlled by the use of a DEC system, the owner or operator shall install, calibrate, and maintain a monitoring device that allows the pressure in the free space inside the EAF to be monitored. The monitoring device may be installed in any appropriate location in the EAF or DEC duct prior to the introduction of ambient air such that reproducible results will be obtained. The pressure monitoring device shall have an accuracy of ± 5mm of water gauge over its normal operating range and shall be calibrated according to the manufacturer's instructions.

(g) When the owner or operator of an EAF controlled by a DEC is required to demonstrate compliance with the standard under part rule 1200-3-16-.52(3)(a)3 and at any other time the Technical Secretary may require the pressure in the free space inside the furnace shall be determined during the melting and refining period(s) using the monitoring device required under subparagraph (f) of this paragraph. The owner or operator may petition the Technical Secretary for reestablishment of the 15-minute integrated average of the pressure whenever the owner or operator can demonstrate to the Technical Secretary's satisfaction that the EAF operating conditions upon which the pressures were previously established are no longer applicable. The pressure determined during the most recent demonstration of compliance shall be maintained at all times when the EAF is operating in a meltdown and refining period. Operation at higher pressures may be considered by the Technical Secretary to be unacceptable operation and maintenance of the affected facility.

(h) During any performance test required under paragraph 1200-3-16-.01(5), and for any report thereof required by subparagraph (6)(d) of this rule, or to determine compliance with part (3)(a)3 of this rule, the owner or operator shall monitor the following information for all heats covered by the test:

1. Charge weights and materials, and tap weights and materials;

2. Heat times, including start and stop times, and a log of process operation, including periods of no operation during testing and the pressure inside an EAF when direct-shell evacuation

control systems are used;

3. Control device operation log; and

4. Continuous monitor or Reference Method 9 (as specified in 1200-3-16-.01(5)(g)) data.

(6) Test methods and procedures

(a) Reference methods in 1200-3-16-.01(5)(g), except as provided under 1200-3-16-.01(5)(b), shall be used to determine compliance with the standards prescribed under paragraph 1200-3-16-.52(3) as follows:

1. Method 1 for sample and velocity traverses;

2. Method 2 for velocity and volumetric flow rate;

3. Method 3 (as specified in 1200-3-16-.01(5)(g)) for gas analysis;

4. Either Method 5 (as specified in 1200-3-16-.01(5)(g)) for negative-pressure fabric filters and other types of control devices or Method 5D for positive-pressure fabric filters for concentration of particulate matter and associated moisture content; and

5. Method 9 (as specified in 1200-3-16-.01(5)(g)) for the opacity of visible emissions.

(b) For Method 5 or 5D, the sampling time for each run shall be at least 4 hours. When a single EAF or AOD vessel is sampled, the sampling time for each run shall also include an integral number of heats. Shorter sampling times, when necessitated by process variables or other factors, may be approved by the Technical Secretary. For Method 5 or 5D, the minimum sample volume shall be 4.5 dscm (160 dscf).

(c) Visible emissions observations of modular, multiple-stack, negative-pressure or positive-pressure fabric filters shall occur at least once per day of operation. The observations shall occur when the furnace or vessel is operating in the melting or refining phase of a heat cycle. These observations shall be taken in accordance with Method 9, and, for at least three 6-minute periods, the opacity shall be recorded for any point(s) where visible emissions are observed. Where it is possible to determine that a number of visible emission sites relate to only one incident of the visible emissions, only one set of three 6-minute observations will be required. In this case, Reference Method 9 observations must be made for the site of highest opacity that directly relates to the cause (or location) of visible emissions observed during a single incident. Records shall be maintained of any 6-minute average that is in excess of the emission limit specified in subparagraph 1200-3-16-.52(3)(a).

(d) For the purpose of this rule, the owner or operator shall conduct the demonstration of compliance with subparagraph 1200-3-16-.52(3)(a) and furnish the Technical Secretary a written report of the results of the test. This report shall include the following information:

1. Facility name and address;

2. Plant representative;

3. Make and model of process, control device, and continuous monitoring equipment;

4. Flow diagram of process and emission capture equipment including other equipment or process(es) ducted to the same control device;

5. Rated (design) capacity of process equipment;

6. Those data required under subparagraph (h) of this rule;

(i) List of charge and tap weights and materials;

(ii) Heat times and process log;

(iii) Control device operation log; and

(iv) Continuous monitor or Reference Method 9 data.

7. Test dates and test times;

8. Test company;

9. Test company representative;

10. Test observers from outside agency;

11. Description of test methodology used, including any deviation from standard reference methods;

12. Schematic of sampling location;

13. Number of sampling points;

14. Description of sampling equipment;

15. Listing of sampling equipment calibrations and procedures;

16. Field and laboratory data sheets;

17. Description of sample recovery procedures;

18. Sampling equipment leak check results;

19. Description of quality assurance procedures;

20. Description of analytical procedures;

21. Notation of sample blank corrections; and

22. Sample emission calculations.

(e) During any performance test required under 1200-3-16-.01(5), no gaseous diluents may be added to the effluent gas stream after the fabric in any pressurized fabric filter collector, unless the amount of dilution is separately determined and considered in the determination of emissions.

(f) When more than one control device serves the EAF(s) or AOD vessel(s) being tested, the concentration of particulate matter shall be determined using the following equation:

$$C = \frac{\sum_{n=1}^{N} (CQ)_n}{\sum_{n=1}^{N} (Q)_n}$$

where

C = concentration of particulate matter in mg/dscm (gr/dscf) as determined by Method 5 or 5D.

N = total number of control devices tested.

Q = volumetric flow rate of the effluent gas stream in dscm/h (dscf/h) as determined

by Method 2.

(CQ)n, (Q)n = value of the applicable parameter for each control device tested.

(g) Any control device subject to the provisions of this rule shall be designed and constructed to allow measurement of emissions using applicable test methods and procedures.

(h) Where emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to the provisions of this rule but controlled by a common capture system and control device, the owner or operator may use any of the following procedures during a performance test:

1. Base compliance on control of the combined emissions;

2. Utilize a method acceptable to the Technical Secretary that compensates for the emissions from the facilities not subject to the provisions of this rule or;

3. Any combination of the criteria of subparagraphs (h)1 and (h) 2 of this paragraph.

(i) Where emissions from any EAF(s) or AOD vessel(s) are combined with emissions from facilities not subject to the provisions of this rule, determinations of compliance with 1200-03-16-.52(3)(a)3 will only be based upon emissions originating from the affected facility(ies).

(j) Unless the presence of inclement weather makes concurrent testing infeasible, the owner or operator shall conduct concurrently the performance tests required under 1200-3-16-.01(5) to demonstrate compliance with 1200-3-16-.52(3)(a)1, 2 and 3.

(7) Recordkeeping and reporting requirements

(a) Records of the measurements required in paragraph (5) of this rule must be retained for at least 2 years following the date of the measurement.

(b) Each owner or operator shall submit a written report of exceedances of the control device opacity to the Technical Secretary semi-annually. For the purposes of these reports exceedances are defined as all 6-minute periods during which the average opacity is 3 percent or greater.

(c) Operation at a furnace static pressure that exceeds the value established under subparagraph (5)(g) of this rule and either operation of control system fan motor amperes at values exceeding ± 15 percent of the value established under paragraph (5)(c) of this rule or operation at flow rates lower than those established under paragraph (5)(c) of this rule may be considered by the Technical Secretary to be unacceptable operation and maintenance of the affected facility. Operation at such values shall be reported to the Technical Secretary semi-annually.

(d) When the owner or operator of an EAF or AOD is required to demonstrate compliance under parts 1200-3-16-.52(6)(h)2 or 3, the owner or operator shall obtain approval from the Technical Secretary of the procedure(s) that will be used to determine compliance. Notification of the procedure(s) to be used must be postmarked 30 days prior to the performance test.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.53 Reserved

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-3-16-.54 Onshore Natural Gas Processing: SO_2 Emissions

(1) Applicability and designation of affected facilities

(a) The provisions of this rule are applicable to the following affected facilities that process natural gas: each sweetening unit, and each sweetening unit followed by a sulfur recovery unit.

(b) Facilities that have a design capacity less than 2 long tons per day (LT/D) of hydrogen sulfide (H_2S)

in the acid gas (expressed as sulfur) are required to comply with subparagraph (8)(c) of this rule but are not required to comply with paragraphs (3) through (7) of this rule.

(c) The provisions of this rule are applicable to facilities located on land and include facilities located onshore which process natural gas produced from either onshore or offshore wells.

(d) The provisions of this rule apply to each affected facility identified in subparagraph (a) of this paragraph which commences construction or modification after November 6, 1988.

(e) The provisions of this rule do not apply to sweetening facilities producing acid gas that is completely reinjected into oil or gas bearing geologic strata or that is otherwise not released into the atmosphere.

(2) Definitions

(a) "Acid gas" means a gas stream of hydrogen sulfide (H_2S) and carbon dioxide (CO_2) that has been separated from sour natural gas by a sweetening unit.

(b) "Natural gas" means a naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface. The principal hydrocarbon constituent is methane.

(c) "Onshore" means all facilities except those that are located in the territorial seas or on the outercontinental shelf.

(d) "Reduced sulfur compounds" means H_2S, carbonyl sulfide (COS), and carbondisulfide (CS_2).

(e) "Sulfur production rate" means the rate of liquid sulfur accumulation from the sulfur recovery unit.

(f) "Sulfur recovery unit" means a process device that recovers element sulfur from acid gas.

(g) "Sweetening unit" means a process device that separates the H_2S and CO_2 contents from the sour natural gas stream.

(h) "Total SO_2 equivalents" means the sum of volumetric or mass concentrations of the sulfur compounds obtained by adding the quantity existing as SO_2 to the quantity of SO_2 that would be obtained if all reduced sulfur compounds were converted to SO_2 (ppmv or kg/DSCM).

(i) "E" = the sulfur emission rate expressed as elemental sulfur, kilograms per hour (kg/hr) rounded to one decimal place.

(j) "R" = the sulfur emission reduction efficiency achieved in percent, carried to one decimal place.

(k) "S" = the sulfur production rate in kilograms per hour (kg/hr) rounded to one decimal place.

(l) "X" = the sulfur feed rate, i.e., the H_2S in the acid gas (expressed as sulfur) from the sweetening unit, expressed in long tons per day (LT/D) of sulfur rounded to one decimal place.

(m) "Y" = the sulfur content of the acid gas from the sweetening unit, expressed as mole percent H2S (dry basis) rounded to one decimal place.

(n) "Z" = the minimum required sulfur dioxide (SO_2) emission reduction efficiency, expressed as percent carried to one decimal place. Zi refers to the reduction efficiency required at the initial performance test. Zc refers to the reduction efficiency required on a continuous basis after compliance with Zi has been demonstrated.

(3) Standards for sulfur dioxide

(a) During the initial performance test required by paragraph 1200-3-16-.01(5)(g), each owner or operator shall achieve at a minimum, an SO_2 emission reduction efficiency (Zi) to be determined from Table 1 based on the sulfur feed rate (X) and the sulfur content of the acid gas (Y) of the

affected facility.

(b) After demonstrating compliance with the provisions of subparagraph (a) of this paragraph, the owner or operator shall achieve at a minimum, an SO_2 emission reduction efficiency (Zc) to be determined from Table 2 based on the sulfur feed rate (X) and the sulfur content of the acid gas (Y) of the affected facility.

Table 1
Required Minimum Intial SO_2 Emmision Reduction Efficiency (Z_i)

H_2S, content of acid gas (Y), %	Sulfur feed rate (X), LT/D			
	2.0≤X≤5.0	5.0<X≤15.0	15.0<X≤300.0	X>300.0
Y≥50	79.0	$88.51X^{0.0101}Y^{0.0125}$ or 99.8, whichever is smaller		
20≤Y<50	79.0	$88.51X^{0.0101}Y^{0.0125}$ or 97.9, whichever is smaller	97.9	
10≤Y<20	79.0	$88.51X^{0.0101}Y^{0.0125}$ or 93.5, whichever is smaller	93.5	93.5
Y <10	79.0	79.0	79.0	79.0

Table 2
Required Minimum SO_2 Emmision Reduction Efficiency (Z_c)

H_2S, content of acid gas (Y), %	Sulfur feed rate (X), LT/D			
	2.0≤X≤5.0	5.0<X≤15.0	15.0<X≤300.0	X>300.0
Y≥50	74.0	$85.35X^{0.0144}Y^{0.0128}$ or 99.8, whichever is smaller		
20≤Y<50	74.0	$85.35X^{0.0144}Y^{0.0128}$ or 97.5, whichever is smaller	97.5	
10<Y<20	74.0	$85.35X^{0.0144}Y^{0.0128}$ or 90.3hichever is smaller	90.8	90.8
Y <10	74.0	74.0	74.0	74.0

(4) Compliance Provision

(a) 1. To determine compliance with the standards for sulfur dioxide specified in subparagraph (3)(a) of this rule during the initial performance test as required by paragraph 1200-3-16-.01(5), the minimum required sulfur dioxide emission reduction efficiency (Z) is compared

to the emission reduction efficiency (R) achieved by the sulfur recovery technology.

(i) If R is greater than or equal to Zi, the affected facility is in compliance.

(ii) If R is less than Zi, the affected facility is not in compliance.

2. Following the initial determination of compliance as required by paragraph 1200-3-16-.01(5), any subsequent compliance determinations that may be required by the Technical Secretary would compare to R to Zc.

(b) The emission reduction efficiency (R) achieved by the sulfur recovery technology is calculated by using the equation:

$$R = \frac{S}{S + E} x \ 100$$

"S" and "E" are determined using the procedures and the test methods specified in paragraphs (5) and (6) of this rule.

(5) Performance test procedures

(a) During a performance test required by paragraph 1200-3-16-.01(5) the minimum required sulfur dioxide emission reduction efficiency (Zi) required by subparagraph (3)(a) of this rule, and the minimum required SO_2 emission reduction efficiency (Zc) required by subparagraph (3)(b) of this rule are determined as follows:

1. Collect and analyze at least one sample per hour (at equally spaced intervals during the performance test of the acid gas from the sweetening unit using the method specified in part 1200-3-16-.54(6)(a)8.

The units of the result from the Tutwiler procedure can be converted to volume percent using the following equation:

$Y = (1.62 \times 10^{-3}) \times (\text{grains/100 scf})$

Where:

Y = H_2S concentration, volume percent

1.62×10^{-3} = volume percent per grains/100 scf; and grains/100 scf = Tutwiler result basis.

2. Calculate the arithmetic mean of all samples to determine the average H_2S concentration (Y) in mole percent (dry basis) in the acid gas.

3. Determine the average volumetric flow rate of the acid gas from the sweetening unit by continuous measurements made with the process flow meter. Express the results as dry standard cubic feet per day (dscf/day).

4. Calculate the average sulfur feed rate (X) in long tons per day of elemental sulfur from the average volumetric flow rate and the average H_2S content by the equation:

$$X = \frac{(\text{average volumetric acid gas flow, dscf/day})(Y/100)(32 \text{ lb/lb mole})}{(385.36 \text{ standard cubic feet/lb mole})(2{,}240 \text{ lbs/long ton})}$$

5. Determine the minimum required SO_2 removal efficiency (Zi or Zc) in accordance with the provisions of the standards in subparagraph (3) (a) or (b) of this rule as appropriate.

(b) The actual sulfur emission reduction efficiency (R) achieved by the control technology during the performance test is determined as follows:

1. Measure the liquid sulfur accumulation rate in the product storage tanks using level indicators or manual soundings. Record the level reading at the beginning and end of each test run. Convert the level readings to mass (kilograms) of sulfur in the storage tanks, using the tank geometry and the sulfur density at the temperature of storage. Divide the change in mass by the test duration (hours and fractions of hours) to determine the sulfur production rate in kilograms per hour for each run.

2. Calculate the arithmetic mean of the rate for each run to determine the average sulfur production rate (S) to use in subparagraph (4)(b) of this rule.

3. Measure the concentrations of sulfur dioxide and total reduced sulfur compounds in the incinerator (or other final processing unit) exhaust gas using the methods specified in parts (6)(a)5 through 7 of this rule. The minimum sampling time for each run shall be 4 hours. For each run the SO_2 and TRS concentrations shall be combined to calculate the total SO_2 equivalent concentration as follows:

Total SO_2 equivalent, (kg/dscm) = 0.001 (SO_2 concentration mg/dscm from Method 6) + 2.704 x 10^{-6} (SO_2 equivalents in ppmv, dry from Method 15 or from Method 16A)

4. Measure the incinerator (or other final processing unit) exhaust gas velocity, molecular weight, and moisture content using the methods specified in parts (6)(a)1 through 4 of this rule. Calculate the volumetric flow rate of the exhaust gas at dry standard conditions using equation 2-10 in Method 2.

5. Calculate the equivalent sulfur emission rate as elemental sulfur for each run as follows:

Sulfur emission rate = (total SO_2 equivalent kg/dscm) (gas flow rate, dscm/hr) (0.50)

Calculate the arithmetic mean of the sulfur emission rate for each run to determine the average sulfur emission rate (E) to use in subparagraph (4)(b) of this rule.

(6) Performance Test Methods

(a) For the purpose of determining compliance with subparagraphs (3)(a) or (b) of this rule, the following reference methods shall be used:

1. Method 1 for velocity traverse points selection.

2. Method 2 for determination of stack gas velocity and calculation of the volumetric flow rate.

3. Method 3 for determination of stack gas molecular weight.

4. Method 4 for determination of the stack gas moisture content.

5. Method 6 for determination of SO_2 concentration.

6. Method 15 for determination of the TRS concentration from reduction type devices or where the oxygen content of the stack gas is less than 1.0 percent by volume.

7. Method 16A for determination of the TRS concentration from oxidation type devices or where the oxygen content of the stack gas is greater than 1.0 percent by volume.

8. The Tutwiler procedure, as specified in Federal Register, Vol. 50, No.190, October 1, 1985, pp. 40165 and 40166, or a chromatographic procedure following ASTM E-260, for determination of the H2S concentration in the acid gas feed from the sweetening unit.

(b) The sampling location for Methods 3, 4, 6, 15 and 16A shall be the same as that used for velocity measurement by Method 2. The sampling point in the duct shall be at the centroid of the cross-section if the area is less than 5 m^2 (54 ft^2) or at a point no closer to the walls than 1 m (39 inches) if the cross-sectional area is 5 m^2 or more, and the centroid is more than one meter from the wall.

For Methods 3, 4, 6 and 16A, the sample shall be extracted at a rate proportional to the gas velocity at the sampling point. For Method 15, the minimum sampling rate shall be 3 liters/minute (0.1 ft^3/minute) to insure minimum residence time in the sample line.

(c) For Methods 6 and 16A the minimum sampling time for each run shall be 4 hours. Either one sample or a number of separate samples may be collected for each run so long as the total sample time is 4 hours. Where more than one sample is collected per run, the average result for the run is calculated by:

$$C_s = \sum_{i=1}^{n} (C_{si}) \left(\frac{T_{si}}{T} \right)$$

Where:

Cs = time-weighted average SO_2 or TRS concentration for the run, (mg/dscm or ppmv, dry).

n = number of samples collected during the run.

Csi = SO_2 or TRS concentration for sample i, (mg/dscm or ppmv, dry).

tsi = sampling time for sample i, (minutes).

T = total sampling time for all samples in the run (minutes).

(d) For Method 15, each run shall consist of 16 samples taken over a minimum of 4 hours. The equivalent SO_2 concentration for each run shall be calculated as the arithmetic average of the SO_2 equivalent concentration for each sample.

(e) For Method 2, a velocity traverse shall be conducted at the beginning and end of each run. The arithmetic average of the two measurements shall be used to calculate the volumetric flow rate for each run.

(f) For Method 3, a single sample may be integrated over the 4-hour run interval and analysis, or grab samples at 1-hour intervals may be collected, analyzed, and averaged to determine the stack gas composition.

(g) For Method 4, each run shall consist of 2 samples; one collected at the beginning of the 4-hour test period, and one near the end of the period. For each sample the minimum sample volume shall be 0.1 dscm (0.35 dscf) and the minimum sample time shall be 10 minutes.

(7) Monitoring of emissions and operations

(a) The owner or operator subject to the provisions of subparagraphs (3)(a) or (b) of this rule shall install, calibrate, maintain, and operate monitoring devices or perform measurements to determine the following operations information on a daily basis:

1. The accumulation of sulfur product over each 24-hour period: The monitoring method may incorporate the use of an instrument to measure and record the liquid sulfur production rate, or may be a procedure for measuring and recording the sulfur liquid levels in the storage tanks with a level indicator or by manual soundings, with subsequent calculation of the sulfur production rate based on the tank geometry, stored sulfur density, and elapsed time between readings. The method shall be designed to be accurate within ± 2 percent of the 24 hour sulfur accumulation.

2. The H_2S concentration in the acid gas from the sweetening unit for each 24-hour period: at least one sample per 24-hour period shall be collected and analyzed using the method specified in part (6)(a)8 of this rule. The Technical Secretary may require the owner or operator to demonstrate that the H_2S concentration obtained from one or more samples over a 24-hour period is within ± 20 percent of the average of 12 samples collected at

equally spaced intervals during the 24-hour period. In instances where H_2S concentration of a single sample is not within ± 20 percent of the average of the 12 equally spaced samples, the Technical Secretary may require a more frequent sampling schedule.

3. The average acid gas flow rate from the sweetening unit: the owner or operator shall install and operate a monitoring device to continuously measure the flow rate of acid gas. The monitoring device reading shall be recorded at least once per hour during each 24-hour period. The average acid gas flow rate shall be computed from the individual readings.

4. The sulfur feed rate (X): for each 24-hour period, X shall be computed using the equation in part (5)(a)4 of this rule.

5. The required sulfur dioxide emission reduction efficiency for the 24-hour period: the sulfur feed rate and the H_2S concentration in the acid gas for the 24-hour period as applicable, shall be used to determine the required reduction efficiency in accordance with the provisions of subparagraph (3)(b) of this rule.

(b) Where compliance is achieved through the use of an oxidation control system or a reduction control system followed by a continually operated incineration device, the owner or operator shall install, calibrate, maintain, and operate monitoring devices and continuous emission monitors as follows:

1. A continuous monitoring system to measure the total sulfur emission rate (E) of SO_2 in the gases discharged to the atmosphere. The SO_2 emission rate shall be expressed in terms of equivalent sulfur mass flow rates (kg/hr). The span of this monitoring system shall be set so that the equivalent emission limit of subparagraph (3)(b) of this rule will be between 30 percent and 70 percent of the measurement range of the instrument system.

2. Except as provided part 3 of this subparagraph: a monitoring device to measure the temperature of the gas leaving the combustion zone of the incinerator, if compliance with subparagraph (3)(a) of this rule is achieved through the use of an oxidation control system or a reduction control system followed by a continually operated incineration device. The monitoring device shall be certified by the manufacturer to be accurate to within ± 1 percent of the termperature being measured. When performance tests are conducted under the provision of paragraph 1200-3-16-.01(5) to demonstrate compliance with the standards under paragraph (3) of this rule, the temperature of the gas leaving the incinerator combustion zone shall be determined using the monitoring device. If the volumetric ratio of sulfur dioxide to sulfur dioxide plus total reduced sulfur (expressed as SO_2) in the gas leaving the incinerator is greater than or equal to 0.98, then temperature monitoring may be used to demonstrate that sulfur dioxide emission monitoring is sufficient to determine total sulfur emissions. At all times during the operation of the facility, the owner or operator shall maintain the average temperature of the gas leaving the combustion zone of the incinerator at or above the appropriate level determined during the most recent performance test to ensure the sulfur compound oxidation criteria are met. Operation at lower average temperatures may be considered by the Technical Secretary to be unacceptable operation and maintenance of the affected facility. The owner or operator may request that the minimum incinerator temperature be reestablished by conducting new performance tests under paragraph 1200-3-16-.01(5).

3. Upon promulgation of a performance specification of continuous monitoring systems for total reduced sulfur compounds at sulfur recovery plants, the owner or operator may as an alternative to part 2 of this subparagraph, install, calibrate, maintain, and operate a continuous emission monitoring system for total reduced sulfur compounds as required in subparagraph (d) of this paragraph in addition to a sulfur dioxide emission monitoring system. The sum of the equivalent sulfur mass emission rates from the two monitoring systems shall be used to compute the total sulfur emission rate (E).

(c) Where compliance is achieved through the use of a reduction control system not followed by a continually operated incineration device, the owner or operator shall install, calibrate, maintain, and operate a continuous monitoring system to measure the emission rate of reduced sulfur compounds as SO_2 equivalent in the gases discharged to the atmosphere. The SO_2 equivalent compound emission rate shall be expressed in terms of equivalent sulfur mass flow rates (kg/hr). The span of

this monitoring system shall be set so that the equivalent emission limit of subparagraph (3)(b) of this rule will be between 30 and 70 percent of the measurement range of the system. This requirement becomes effective upon promulgation of a performance specification for continuous monitoring systems for total reduced sulfur compounds at sulfur recovery plants.

(d) For those sources required to comply with subparagraphs (b) or (c) of this paragraph, the average sulfur emission reduction efficiency achieved (R) shall be calculated for each 24-hour clock interval. The 24-hour interval may begin and end at any selected clock time, but must be consistent. The 24-average reduction efficiency (R) shall be computed based on the 24-hour average sulfur production rate (S) and sulfur emission rate (E), using the equation in subparagraph (4)(b) of this rule.

1. Data obtained from the sulfur production rate monitoring device specified in subparagraph (a) of this paragraph shall be used to determine S.

2. Data obtained from the sulfur emission rate monitoring systems specified in subparagraphs (b) or (c) of this paragraph shall be used to calculate a 24-hour average for the sulfur emission rate (E): the monitoring system must provide at least one data point in each successive 15-minute interval. At least two data points must be used to calculate each 1-hour average. A minimum of 18 1-hour averages must be used to compute each 24-hour average.

(e) In lieu of complying with subparagraphs (b) or (c) of this paragraph, those sources with a design capacity less than 150 LT/D of H_2S expressed as sulfur may calculate the sulfur emission reduction efficiency achieved for each 24-hour period by:

$$R = \frac{0.0236 * S}{X}$$

Where:

R = the sulfur dioxide removal efficiency achieved during the 24-hour period, percent;

S = the sulfur production rate during the 24-hour period, kg/hr;

X = the sulfur feed rate in the acid gas, LT/D; and 0.0236 = conversion factor, LT/D per kg/hr.

(f) The monitoring devices required in (7)(b)1 (7)(b)3, and (7)(c) of this rule shall be calibrated at least annually according to the manufacturer's specifications, as required by 1200-3-16-.01(8)(b). For conducting the continuous emission monitoring system performance evaluation required by subparagraph 1200-3-16-.01(8)(c), Performance Specification 2 shall apply, and Method 6 (as referenced in 1200-3-16-.01(5)(g)) shall be used for systems required by subparagraph (b) of this paragraph.

(8) Recordkeeping and reporting requirements

(a) Records of the calculations and measurements required in subparagraphs (3)(a) and (b) and subparagraphs (7)(a) through (f) of this rule must be retained for at least 2 years following the date of the measurements by owners and operators subject to this rule.

(b) Each owner or operator shall submit a written report of excess emissions to the Technical Secretary semiannually. For the purpose of these reports, excess emissions are defined as:

1. Any 24-hour period (at consistent intervals) during which the average sulfur emission reduction efficiency (R) is less than minimum required efficiency (Z).

2. For any affected facility electing to comply with the provisions of part (7)(b)2 of this rule, any 24-hour period during which the average temperature of the gases leaving the cumbustion zone of an incinerator is less than the appropriate operating temperature as

determined during the most recent performance test in accordance with the provisions of part (7)(b)2 of this rule. Each 24-hour period must consist of at least 96 temperature measurements equally spaced over the 24 hours.

(c) To certify that a facility is exempt from the control requirements of these standards, each owner or operator of a facility with a design capacity less that 2 LT/D of H_2S in the acid gas (expressed as sulfur) shall keep, for the life of the facility, an analysis demonstrating that the facility's design capacity is less than 2 LT/D of H_2S expressed as sulfur.

(d) Each owner or operator who elects to comply with subparagraph (7)(e) of this rule shall keep, for the life of the facility, a record demonstrating that the facility's design capacity is less than 150 LT/D of H_2S expressed sulfur.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.55 Secondary Emissions from Basic Oxygen Process Steelmaking Facilities fro Which Construction is Commenced After November 6, 1988.

(1) Applicability and Designation of Affected Facilities

(a) The provisions of this rule apply to the following affected facilities in an iron and steel plant: top-blown BOPF's and hot metal transfer stations and skimming stations used with bottom-blown or top-blown BOPF's.

(b) This rule applies to any facility identified in subparagraph (a) of this paragraph that commences construction, modification, or reconstruction after November 6, 1988.

(c) Any BOPF subject to the provisions of this rule is subject to those provisions of rule 1200-3-16-.14 applicable to affected facilities commencing construction, modification or reconstruction after November 6, 1988.

(2) Definitions

(a) "Basic Oxygen Process Furnace" (BOPF) means any furnace with a refractory lining in which molten steel is produced by charging scrap metal, molten iron, and flux materials or alloy additions into a vessel and by introducing a high volume of oxygen-rich gas. Open hearth, blast, and reverberatory furnaces are not included in this definition.

(b) "Bottom-blown furnace" means any BOPF in which oxygen and other combustion gases are introduced to the bath of molten iron through tuyeres in the bottom of the vessel or through tuyeres in the bottom and sides of the vessel.

(c) "Fume suppression system" means the equipment comprising any system used to inhibit the generation of emissions from steelmaking facilities with an inert gas, flame, or steam blanket applied to the surface of molten iron or steel.

(d) "Hot metal transfer station" means the facility where molten iron is emptied from the railroad torpedo car or hot metal car to the shop ladle. This includes the transfer of molten iron from the torpedo car or hot metal car to a mixer (or other intermediate vessel) and from a mixer (or other intermediate vessel) to the ladle. This facility is also known as the reladling station or ladle transfer station.

(e) "Primary oxygen blow" means the period in the steel production cycle of a BOPF during which a high volume of oxygen-rich gas is introduced to the bath of molten iron by means of a lance inserted from the top of the vessel. This definition does not include any additional, or secondary, oxygen blows made after the primary blow.

(f) "Primary emission control system" means the combination of equipment used for the capture and collection of primary emissions (e.g., an open hood capture system used in conjunction with a particulate matter cleaning device such as an electrostatic precipitator or a closed hood capture system used in conjunction with a particulate matter cleaning device such as a scrubber).

(g) "Primary emissions" means particulate matter emissions from the BOPF generated during the steel production cycle which are captured by, and do not thereafter escape from, the BOPF primary control system.

(h) "Secondary emission control system" means the combination of equipment used for the capture and collection of secondary emissions (e.g., (1) an open hood system for the capture and collection of primary and secondary emissions from the BOPF, with local hooding ducted to a secondary emission collection device such as a baghouse for the capture and collection of emissions from the hot metal transfer and skimming station; or (2) an open hood system for the capture and collection of primaryand secondary emissions from the furnace, plus a furnace enclosure with local hooding ducted to a secondary emission collection device, such as a baghouse, for additional capture and collection of secondary emissions from the furnace, with local hooding ducted to a secondary emission collection device, such as a baghouse, for the capture and collection of emissions from hot metal transfer and skimming stations; or (3) a furnace enclosure with local hooding ducted to a secondary emission collection device such as a baghouse for the capture and collection of secondary emissions from a BOPF controlled by a closed hood primary emission control system, with local hooding ducted to a secondary emission collection device, such as a baghouse, for the capture and collection of emissions from hot metal transfer and skimming stations).

(i) "Secondary emissions" means particulate matter emissions that are not captured by the BOPF primary control system, including emissions from hot metal transfer and skimming stations. This definition also includes particulate matter emissions that escape from openings in the primary emission control system, such as from lance hole openings, gaps or tears in the ductwork of the primary emission control system, or leaks in hoods.

(j) "Skimming station" means the facility where slag is mechanically raked from the top of the bath of molten iron.

(k) "Steel production cycle" means the operations conducted within the BOPF steelmaking facility that are required to produce each batch of steel, including the following operations: scrap charging, preheating (when used), hot metal charging, primary oxygen blowing, sampling (vessel turndown and turnup), additional oxygen blowing (when used), tapping, and deslagging. Hot metal transfer and skimming operations for the next steel production cycle are also included when the hot metal transfer station or skimming station is an affected facility.

(l) "Top-blown furnace" means any BOPF in which oxygen is introduced to the bath of molten iron by means of an oxygen lance inserted from the top of the vessel.

(3) Standards for Particulate Matter

(a) Except as provided under subparagraphs (b) and (c) of this paragraph, on and after the date on which the performance test under paragraph 1200-3-16-.01(5) is required to be completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any secondary emissions that:

1. Exit from the BOPF shop roof monitor (or other building openings) and exhibit greater than 10 percent opacity during the steel production cycle of any top-blown BOPF or during hot metal transfer or skimming operations for any bottom-blown BOPF; except that an opacity greater than 10 percent but less than 20 percent may occur once per steel production cycle.

2. Exit from a control device used solely for the collection of secondary emissions from a top-blown BOPF or from hot metal transfer or skimming for a top-blown or a bottom-blown BOPF and contain particulate matter in excess of 23 mg/dscm (0.010 gr/dscf).

3. Exit from a control device used solely for the collection of secondary emissions from a top-blown BOPF or from hot metal transfer or skimming for a top-blown or a bottom-blown BOPF and exhibit more than 5 percent opacity.

(b) A fume suppression system used to control secondary emissions from an affected facility is not subject to parts (a)2 and (a)3 of this paragraph.

(c) A control device used to collect both primary and secondary emissions from a BOPF is not subjected to parts (a)2 and (a)3 of this paragraph.

(4) Monitoring of Operations

(a) Each owner or operator of an affected facility shall install, calibrate, operate, and maintain a monitoring device that continually measures and records for each steel production cycle the various rates or levels of exhaust ventilation at each phase of the cycle through each duct of the secondary emission capture system. The monitoring device or devices are to be placed at locations near each capture point of the secondary emission capture system to monitor the exhaust ventilation rates or levels adequately, or in alternative locations approved in advance by the Technical Secretary.

(b) If a chart recorder is used, the owner or operator shall use chart recorders that are operated at a minimum chart speed of 3.8 cm/hr (1.5 in/hr).

(c) All monitoring devices are to be certified by the manufacturer to be accurate to within ± 10 percent compared to Method 2 as specified in 1200-3-16.01(5)(g)2. The owner or operator shall recalibrate and check the device(s) annually and at other times as the Technical Secretary may require, in accordance with the written instructions of the manufacturer and by comparing the device against Method 2 specified in 1200-3-16-.01(5)(g)2.

(d) Each owner or operator subject to the requirements of subparagraph (a) of this paragraph shall report on a semiannual basis all measurements of exhaust ventilation rates or levels over any 3-hour period that average more than 10 percent below the average rates or levels of exhaust ventilation maintained during the most recent performance test conducted under paragraph 1200-3-16-.01(5) in which the affected facility demonstrated compliance with the standard under part (3)(a)2 of this rule. The accuracy of the respective measurements, not to exceed the values specified in subparagraph (c) of this paragraph, may be considered when determining the measurement results that must be reported.

(e) If a scrubber primary emission control device is used to collect secondary emissions, the owner or operator shall report on a semiannual basis all measurements of exhaust ventilation rate over any 3-hour period that average more than 10 percent below the average levels maintained during the most recent performance test specified in paragraph 1200-3-16-.01(5) in which the affected facility demonstrated compliance with the standard under part (3)(a)1 of this rule.

(5) Test Methods and Procedures

(a) The reference methods contained in subparagraph 1200-3-16-.01(5)(g), except as provided in subparagraph 1200-3-16-.01(5)(b) and as noted below, shall be used to determine compliance with paragraph (3) of this rule. Applicable methods are as follows:

1. Method 1 for sample and velocity traverses;

2. Method 2 for volumetric flow rate;

3. Method 3 for gas analysis;

4. Method 5 for concentration of particulate matter and associated moisture content; and

5. Method 9 for visible emissions except as provided in subparagraph (b) of this paragraph.

(b) For Method 9, the following instructions for recording observations and reducing data shall apply instead of sections 2.4 and 2.5 of Method 9.

1. Section 2.4. Opacity observations shall be recorded to the nearest 5 percent at 15 second intervals. During the initial performance test conducted pursuant to paragraph 1200-3-16-.01(5), observations shall be made and recorded in this manner for a minimum of three steel production cycles. During any subsequent compliance test, observations may be made for any number of steel production cycles, although, where conditions permit, observations will generally be made for a minimum of three steel production cycles.

2. Section 2.5. Opacity shall be determined as an average of 12 consecutive observations recorded at 15-second intervals. For each steel production cycle, divide the observations recorded into sets of 12 consecutive observations. Sets need not be consecutive in time, and in no case shall two sets overlap. For each set of 12 observations, calculate the average by summing the opacity of 12 consecutive observations and dividing this sum by 12.

(c) For the sampling of secondary emissions by Method 5, the sampling for each run is to continue for a sufficient number of steel production cycles to ensure a total sample volume of at least 5.67 dscm (200 dscf) for each run. Shorter sampling times and smaller sample volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary. Sampling is to be conducted only during the steel production cycle.

(d) For the monitoring and recording of exhaust ventilation rates or levels required by subparagraph (4)(a) of this rule, the following instructions for Reference Method 2 shall apply:

1. For devices that monitor and record the exhaust ventilaton rate, compare velocity readings recorded by the monitoring device against the velocity readings obtained by Method 2. Take Method 2 readings at a point or points that would properly characterize the monitoring device's performance and that would adequately reflect the various rates of exhaust ventilation. Obtain readings at sufficient intervals to obtain 12 pairs of readings for each duct of the secondary emission capture system. Compare the averages of the two sets to determine whether the monitoring device velocity is within ± 10 percent of the Method 2 average.

2. For devices that monitor the level of exhaust ventilation and record only step changes when a set point rate is reached, compare step changes recorded by the monitoring device against the velocity readings obtained by Method 2. Take Method 2 readings at a point or points that would properly characterize the performance of the monitoring device and that would adequately reflect the various rates of exhaust ventilation. Obtain readings of sufficient intervals to obtain 12 pairs of readings for each duct of the secondary emission capture system. Compare the averages of the two sets to determine whether the monitoring device step change is within ± 10 percent of setpoint rate.

(6) Compliance Provisions

(a) When determining compliance with mass and visible emission limits specified in parts (3)(a)2 and 3 of this rule, the owner or operator of a BOPF shop that normally operates two furnaces with overlapping cycles may elect to operate only one furnace. If an owner or operator chooses to shut down one furnace, he shall be allowed a reasonable time period to adjust his production schedule before the compliance tests are conducted. The owner or operator of an affected facility may also elect to suspend shop operations not subject to this rule during compliance testing.

(b) During compliance testing for mass and visible emission standards, if an owner or operator elects to shut down one furnace in a shop that normally operates two furnaces with overlapping cycles, the owner or operator shall operate the secondary emission control system for the furnace being tested at exhaust ventilation rates or levels for each duct of the secondary emission control system that are appropriate for single-furnace operation. Following the compliance test, the owner or operator shall operate the secondary emission control system at exhaust ventilation rates or levels for each duct of the system that are no lower than 90 percent of the exhaust ventilation values established during the most recent compliance test.

(c) For the purpose of determining compliance with visible and mass emission standards, a steel production cycle begins when the scrap or hot metal is charged to the vessel (whichever operation occurs first) and terminates 3 minutes after slag is emptied from the vessel into the slag pot. Consecutive steel production cycles are not required for the purpose of determining compliance. Where a hot metal transfer or skimming station is an affected facility, the steel production cycle also includes the hot metal transfer or skimming operation for the next steel production cycle for the affected vessel. Visible emission observations for both hot metal transfer and skimming operations begin with the start of the operation and terminate 3 minutes after completion of the

operation.

(d) For the purpose of determining compliance with visible emission standards specified in parts (3)(a)1 and 3 of this rule, the starting and stopping times of regulated process operations shall be determined and the starting and stopping times of visible emissions data sets shall be determined accordingly.

(e) To determine compliance with part (3)(a)1 of this rule, select the data sets yielding the highest and second highest 3-minute average opacities for each steel production cycle. Compliance is achieved if the highest 3-minute average for each cycle observed is less than 20 percent and the second highest 3-minute average is 10 percent or less.

(f) To determine compliance with part (3)(a)2 of this rule, determine the concentration of particulate matter in exhaust gases exiting the secondary emission collection device with Method 5. Compliance is achieved if the concentration of particulate matter does not exceed 23 mg/dscm (0.010 gr/dscf).

(g) To determine compliance with part (3)(a)3 of this rule, construct consecutive 3-minute averages for each steel production cycle. Compliance is achieved if no 3-minute average is more than 5 percent.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-3-16-.56 Wool Fiberglass Insulation Manufacturing Plants

(1) Applicability and Designation of Affected Facility

(a) The affected facility to which the provisions of this rule apply is each rotary spin wool fiberglass insulation manufacturing line.

(b) The owner or operator of any facility under subparagraph (a) of this paragraph that commences construction, modification, or reconstruction after November 6, 1988, is subject to the requirements of this rule.

(2) Definitions

(a) "Glass pull rate" means the mass of molten glass utilized in the manufacture of wool fiberglass insulation at a single manufacturing line in a specified time period.

(b) "Manufacturing line" means the manufacturing equipment comprising the forming section, where molten glass is fiberized and a fiberglass mat is formed; the curing section, where the binder resin in the mat is thermally 'set'; and the cooling section, where the mat is cooled.

(c) "Rotary spin" means a process used to produce wool fiberglass insulation by forcing molten glass through numerous small orifices in the side wall of a spinner to form continuous glass fibers that are then broken into discrete lengths by high velocity air flow.

(d) "Wool fiberglass insulation" means a thermal insulation material composed of glass fibers and made from glass produced or melted at the same facility where the manufacturing line is located.

(3) Standard for Particulate Matter

(a) On and after the date on which the performance test required to be conducted by 1200-3-16-.01(5) is completed, no owner or operator subject to the provisions of this rule shall cause to be discharged into the atmosphere from any affected facility any gases which contain particulate matter in excess of 5.5 kg/Mg (11.0 lb/ton) of glass pulled.

(4) Monitoring of Operations

(a) An owner or operator subject to the provisions of this rule who uses a wet scrubbing control device to comply with the mass emission standard shall install, calibrate, maintain, and operate monitoring devices that measure the gas pressure drop across each scrubber and the scrubbing liquid flow

rate to each scrubber. The pressure drop monitor is to be certified by its manufacturer to be accurate within ± 250 pascals (± 1 inch water gauge) over its operating range, and the flow rate monitor is to be certified by its manufacturer to be accurate within ± 5 percent over its operating range.

(b) An owner or operator subject to the provisions of this rule who uses a wet electrostatic precipitator control device to comply with the mass emission standard shall install, calibrate, maintain, and operate monitoring devices that measure the primary and secondary current (amperes) and voltage in each electrical field and the inlet water flow rate. In addition, the owner or operator shall determine the total residue (total solids) content of the water entering the control device once per day using Method 209A, "Total Residue Dried at 103° 105°C," in Standard Methods for the Examination of Water and Wastewater, 15th Edition, 1980. Total residue shall be reported as percent by weight. All monitoring devices required under this subparagraph are to be certified by their manufacturers to be accurate within ± 5 percent over their operating range.

(c) All monitoring devices required under this paragraph are to be recalibrated quarterly in accordance with procedures under 1200-3-16-.01(8)(b).

(5) Record Keeping and Reporting Requirements

(a) At 30-minute intervals during each 2-hour test run of each performance test of a wet scrubber control device and at least once every 4 hours thereafter, the owner or operator shall record the measurements required by subparagraph (4)(a) of this rule.

(b) At 30-minute intervals during each 2-hour test run of each performance test of a wet electrostatic precipitator control device and at least once every 4 hours thereafter, the owner or operator shall record the measurements required by subparagraph (4)(b) of this rule, except that the concentration of total residue in the water shall be recorded once during each performance test and once per day thereafter.

(c) Records of the measurements required in subparagraphs (a) and (b) of this paragraph must be retained for at least 2 years.

(d) Each owner or operator shall submit written semiannual reports of exceedances of control device operating parameters required to be monitored by subparagraphs (a) and (b) of this paragraph and written documentation of, and a report of corrective maintenance required as a result of, quarterly calibrations of the monitoring devices required in subparagraph (4)(c) of this rule. For the purpose of these reports, exceedances are defined as any monitoring data that are less than 70 percent of the lowest value of each operating parameter recorded during the most recent performance test.

(e) Reserved

(6) Test Methods and Procedures

(a) The reference methods contained in subparagraph (5)(g) of rule 1200-3-16-.01 except as provided in subparagraph (5)(b) of rule 1200-3-16-.01, shall be used to determine compliance with paragraph (3) of this rule. Applicable methods are as follows:

1. Method 1 for sample and velocity traverses;

2. Method 2 for stack gas velocity and volumetric flow rate;

3. Method 3 for stack gas dry molecular weight;

4. Method 4 for stack gas moisture content; and

5. Method 5E for the measurement of particulate emissions.

(b) The sampling time for each test run shall be at least 2 hours and the minimum volume of gas sampled shall be 2.55 dscm.

(c) The performance test shall be conducted while the product with the highest loss on ignition (LOI) expected to be produced by the affected facility is being manufactured.

(d) For each test run, the particulate mass emission rate, R, shall be computed as follows:

$$R = Ct \times Qstd \times \frac{6 \times 10^{-5}\ min \cdot Kg}{h \cdot mg}$$

Where:

R = mass emission rate (kg/h)

Ct = particulate concentration as determined by Reference Method 5E (mg/dscm)

Qstd = stack gas volumetric flow rate as determined by Reference Method 2 (dscm/min)

(e) The glass pull rate, P, for the manufacturing line shall be computed as follows:

$$P = L_s \times W_m \times M \times \frac{100 - LOI}{100} \times \frac{6 \times 10^{-5}\ min \cdot Mg}{h \cdot g}$$

Where:

P = glass pull rate (Mg/h)

L_s = line speed (m/min)

W_m = trimmed mat width (m)

min = minutes

Mg = megagrams

h = hour

g = grams

M = mat gram weight (g/m^2)

LOI = loss on ignition (weight percent), as determined by ASTM Standard Test Method D2584-68 (Reapproved 1979), "Ignition Loss of Cured Reinforced Resins"

(Note: All references to ASTM in this rule refers to the American Society for Testing Materials. Copies of methods are available for purchase by writing to ASTM, 1916 Race Street, Philadelphia, PA 19103 or by writing to the Tennessee Division of Air Pollution Control, 701 Broadway, 4th Floor Customs House, Nashville, TN 37219. Be sure and specify which method is desired.)

For each 2-hour test run, the average glass pull rate shall be computed from at least three glass pull rates determined at intervals of at least 30 minutes during the test run.

(f) For each test run, the particulate mass emission level, E, shall be computed as follows:

$$E = \frac{R}{Pavg}$$

Where:

E = mass emission level (kg/Mg)

R = mass emission rate (kg/h)

Pavg = average glass pull rate (Mg/h)

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.57 Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines

(1) Applicability and Designation of Affected Facility

(a) The provisions of this rule apply to each spray booth in which plastic parts for use in the manufacture of business machines receive prime coats, color coats, texture coats, or touch-up coats.

(b) This rule applies to any affected facility for which construction, modification, or reconstruction begins after November 6, 1988.

(2) Definitions and Symbols

(a) Definitions

1. "Business machine" means a device that uses electronic or mechanical methods to process information, perform calculations, print or copy information, or convert sound into electrical impulses for transmission, such as:

(i) Products classified as typewriters under SIC Code 3572;

(ii) Products classified as electronic computing devices under SIC Code 3573;

(iii) Products classified as calculating and accounting machines under SIC Code 3574;

(iv) Products classified as telephone and telegraph equipment under SIC Code 3661;

(v) Products classified as office machines, not elsewhere classified, under SIC Code 3579; and

(vi) Photocopy machines, a subcategory of products classified as photographic equipment under SIC Code 3861.

2. "Coating operation" means the use of a spray booth for the application of a single type of coating (e.g., prime coat); the use of the same spray booth for the application of another type of coating (e.g., texture coat) constitutes a separate coating operation for which compliance determinations are performed separately.

3. "Coating solids applied" means the coating solids that adhere to the surface of the plastic business machine part being coated.

4. "Color coat" means the coat applied to a part that affects the color and gloss of the part, not including the prime coat or texture coat. This definition includes fog coating.

5. "Conductive sensitizer" means a coating applied to a plastic substrate to render it conductive for purposes of electrostatic application of subsequent prime, color, texture, or touch-up coats.

6. "Fog coating" (also known as mist coating and uniforming) means a thin coating applied to plastic parts that have molded-in color or texture or both to improve color uniformity.

7. "Nominal 1-month period" means either a calendar month, 30-day month, accounting month, or similar monthly time period that is established prior to the performance test (i.e., in a statement submitted with notification of anticipated actual startup pursuant to part 1200-3-16-.01(7)(a)2).

8. "Plastic parts" means panels, housing, bases, covers, and other business machine components formed of synthetic polymers.

9. "Prime coat" means the initial coat applied to a part when more than one coating is applied, not including conductive sensitizers or electromagnetic interference/radio frequency interference shielding coatings.

10. "Spray booth" means the structure housing automatic or manual spray application equipment where a coating is applied to plastic parts for business machines.

11. "Texture coat" means the rough coat that is characterized by discrete, raised spots on the exterior surface of the part.

12. "Touch-up coat" means the coat applied to correct any imperfections in the finish after color or texture coats have been applied.

13. "Transfer efficiency" means the ratio of the amount of coating solids deposited onto the surface of a plastic business machine part to the total amount of coating solids used.

14. "VOC emissions" means the mass of VOC's emitted from the surface coating of plastic parts for business machines expressed as kilograms of VOC's per liter of coating applied, (i.e., deposited on the surface).

(b) Symbols

1. Dc = density of each coating as received (kilograms per liter)

2. Dd = density of each diluent VOC (kilograms per liter)

3. Lc = the volume of each coating consumed, as received (liters)

4. Ld = the volume of each diluent VOC added to coatings (liters)

5. Ls = the volume of coating solids consumed (liters)

6. Md = the mass of diluent VOC's consumed (kilograms)

7. Mo = the mass of VOC's in coatings consumed, as received (kilograms)

8. N = the volume-weighted average mass of VOC emissions to the atmosphere per unit volume of coating solids applied (kilograms per liter)

9. T = the transfer efficiency for each type of application equipment used at a coating operation (fraction)

10. Tavg = the volume-weighted average transfer efficiency for a coating operation (fraction)

11. Vs = the proportion of solids in each coating, as received (fraction by volume)

12. Wo = the proportion of VOC's in each coating, as received (fraction by weight)

(3) Standards for Volatile Organic Compounds (VOC's)

(a) Each owner or operator of any affected facility which is subject to the requirements of this rule shall comply with the emission limitations set forth in this paragraph on and after the date on which the initial performance test, required by paragraph 1200-3-16-.01(5)(g) and paragraph (4) of this rule is completed, but not later than 60 days after achieving the maximum production rate at which the affected facility will be operated, or 180 days after the initial startup, whichever date comes first. No affected facility shall cause the discharge into the atmosphere in excess of:

1. 1.5 kilograms of VOC's per liter of coating solids applied from prime coating of plastic parts for business machines.

2. 1.5 kilograms of VOC's per liter of coating solids applied from color coating of plastic parts for business machines.

3. 2.3 kilograms of VOC's per liter of coating solids applied from texture coating of plastic parts for business machines.

4. 2.3 kilograms of VOC's per liter of coatings solids applied from touch-up coating of plastic parts for business machines.

(b) All VOC emissions that are caused by coatings applied in each affected facility, regardless of the actual point of discharge of emissions into the atmosphere, shall be included in determining compliance with the emission limits in subparagraph (a) of this paragraph.

(4) Performance Tests and Compliance Provisions

(a) Subparagraphs 1200-3-16-.01(5)(d) and (f) do not apply to the performance test procedures required by this paragraph.

(b) The owner or operator of an affected facility shall conduct an initial performance test as required under 1200-3-16-.01(5) and thereafter a performance test each nominal one (1) month period for each affected facility according to the procedures in this paragraph.

1. The owner or operator shall determine the composition of coatings by analysis of each coating, as received, using Reference Method 24 (as specified in rule 1200-3-16-.01(5)(g)24), from data that have been determined by the coating manufacturer using Reference Method 24, or by other methods approved by the Technical Secretary.

2. The owner or operator shall determine the volume of coating and the mass of VOC used for dilution of coatings from company records during each nominal 1-month period. If a common coating distribution system serves more than one affected facility or serves both affected and nonaffected spray booths, the owner or operator shall estimate the volume of coatings used at each facility by using procedures approved by the Technical Secretary.

(i) The owner or operator shall calculate the volume-weighted average mass of VOC's in coatings emitted per unit volume of coating solids applied (N) at each coating operation during each nominal 1-month period for each affected facility. Each 1-month calculation is considered a performance test. Except as provided in subpart (iii) of this part, N will be determined by the following procedures:

(I) Calculate the mass of VOC's used (Mo + Md) for each coating operation during each nominal 1-month period for each affected facility by the following equation:

$$M_o + M_d = \sum_{i=1}^{n} L_{ci} D_{ci} W_{oi} + \sum_{j=1}^{m} L_{dj} D_{dj}$$

where n is the number of different coatings used during each nominal 1-month period and m is the number of different diluent VOC's used during each nominal 1-month period. (sum LdjDdj will be "0" if no VOC's are added to the coatings, as received.)

(II) Calculate the total volume of coating solids consumed (Ls) in each nominal 1-month period for each coating operation for each affected facility by the following equation:

$$L = \sum_{i=1}^{n} L_{ci} V_{si}$$

where n is the number of different coatings used during each nominal 1-month period.

(III) Select the appropriate transfer efficiency (T) from Table 1 for each type of coating applications equipment used at each coating operation. If the owner or operator can demonstrate to the satisfaction of the Technical Secretary that transfer efficiencies other than those shown are appropriate, the Technical Secretary will approve their use on a case-by-case basis. Transfer efficiency values for application methods not listed below shall be approved by the Technical Secretary on a case-by-case basis. An owner or operator must submit sufficient data for the Technical Secretary to judge the accuracy of the transfer efficiency claims.

TABLE 1 Transfer Efficiencies

Application methods	Transfer Efficiency	Type of Coating
Air atomized spray	0.25	Prime, Color, Texture, touch up, and fog coats.
Air assisted airless spray	0.40	Prime and color coats.
Electrostatic air spray	0.40	Prime and color coats.

(IV) Where more than one application method is used within a single surface coating operation, the owner or operator shall determine the composition and volume of each coating applied by each method through a means acceptable to the Technical Secretary and compute the volume-weighted average transfer efficiency by the following equation:

$$T_{ave} = \frac{\sum_{i=1}^{n} L_{cik} V_{sik} T_k}{\sum_{k=1}^{p} L_s}$$

where n is the number of coatings of each type used and p is the number of application methods used. Where Lcik is the volume of each coating consumed, as received (liters); Vsik is the proportion of solids in each coating, as received (fraction by weight); and Tk is the transfer efficiency for each type of application equipment used at a coating operation (fraction, see Table 1).

(V) Calculate the volume-weighted average mass of VOC's emitted per unit volume of coating solids applied (N) during each nominal 1-month period for each coating operation for each affected facility by the following equation:

$$N = \frac{Mo + Md}{Ls\ Tavg}$$ (Tavg = T when only one type of coating operation occurs)

(ii) Where the volume weighted average mass of VOC's emitted to the atmosphere per unit volume of coating solids applied (N) is less than or equal to 1.5 kilograms per liter for prime coats, is less than or equal to 1.5 kilograms per liter for color coats, is less than or equal to 2.3 kilograms per liter for texture coats, and is less than or equal to 2.3 kilograms per liter for touch-up coats, the affected facility is in

compliance.

(iii) If each individual coating used by an affected facility has a VOC content (kg VOC/1 of solids), as received, which when divided by the lowest transfer efficiency at which the coating is applied results in a value equal to or less than 1.5 kilograms per liter for prime and color coats and equal to less than 2.3 kilograms per liter for texture and touch-up coats, the affected facility is in compliance provided that no VOC's are added to the coatings during distribution or application.

(iv) If an affected facility uses add-on controls to control VOC emissions and if the owner or operator can demonstrate to the Technical Secretary that the volume-weighted average mass of VOC's emitted to the atmosphere per unit volume of coating solids applied (N) is within limits expressed in subpart (b)2.(ii) of this paragraph because of this equipment, the affected facility is in compliance. In such cases, compliance will be determined by the Technical Secretary on a case-by-case basis.

(5) Reporting and Record Keeping Requirements

(a) The reporting requirements of subparagraph 1200-3-16-.01(5)(a) apply only to the initial performance test. Each owner or operator subject to the provisions of this rule shall include the following data in the report of the initial performance test required under subparagraph 1200-3-16-.01(5)(a):

1. Except as provided for in part 2 of this subparagraph, the volume-weighted average mass of VOC's emitted to the atmosphere per volume of applied coating solids (N) for the initial nominal 1-month period from each affected facility.

2. For each affected facility where compliance is determined under the provisions of subpart (4)(b)2(iii) of this rule, a list of the coatings used during the initial nominal 1-month period, the VOC content of each coating calculated from data determined using Reference Method 24, and the lowest transfer efficiency of any coating application equipment used during the initial nominal 1-month period.

(b) Following the initial report, each owner or operator shall:

1. Report the volume-weighted average mass of VOC's per unit volume of coating solids applied for each affected facility during each nominal 1-month period in which the facility is not in compliance with the applicable emission limit specified in paragraph (3) of this rule. Reports of noncompliance shall be submitted on a quarterly basis, occurring every 3 months following the initial report; and

2. Submit statements that each affected facility has been in compliance with the applicable emission limit specified in paragraph (3) of this rule during each nominal 1-month period. Statements of compliance shall be submitted on a semiannual basis.

(c) These reports shall be postmarked not later than 10 days after the end of the periods specified in parts (b)1 and 2 of this paragraph.

(d) Each owner or operator subject to the provisions of this rule shall maintain at the source, for a period of at least 2 years, records of all data and calculations used to determine monthly VOC emissions from each affected facility as specified in subparagraph 1200-3-16-.01(7)(d).

(e) Reporting and record keeping requirements for facilities using add-on controls will be determined by the Technical Secretary on a case-by-case basis.

(6) Test Methods and Procedures

(a) The reference methods contained in subparagraph 1200-3-16-.01(5)(g) except as provided in subparagraph 1200-3-16-.01(5)(b) shall be used to determine compliance with paragraph (3) of this rule. Applicable methods are as follows:

1. Method 24 for determination of VOC content of each coating as received.

2. For Method 24, the sample must be at least a 1-liter sample in at least a 1-liter container.

(b) Other methods may be used to determine the VOC content of each coating if approved by the Technical Secretary before testing.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.58 Reserved

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.59 Industrial Commercial-Institutional Steam Generating Units

(1) Applicability and Definition of Affected Facility

(a) The affected facility to which this rule applies is each industrial-commercial-institutional steam generating unit for which construction, modification, or reconstruction is commenced after November 6, 1988 and which has a heat input capacity from fuels combusted in the steam generating unit of more than 29 MW (100 million Btu/hour), except as provided under subparagraph (b) through (f) of this paragraph.

(b) Reserved

(c) Reserved

(d) Reserved

(e) Reserved

(f) Reserved

(g) Any affected facility meeting the applicability requirements of subparagraph (a) of this paragraph commencing construction, modification, or reconstruction after November 6, 1988 is not subject to Rule 1200-03-16-.02.

(2) Reserved

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.60 Reserved

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.61 Reserved

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.62 through 1200-3-16-.73 Reserved

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.74 Standards of Performance for Calciners and Drying in Mineral Industries

(1) For what follows, "Administrator" means the Technical Secretary of the Tennessee Air Pollution Control Board in those cases for which authority to implement and enforce provisions of the rule have been delegated to Tennessee. Otherwise, "Administrator" means the Administrator of the United States Environmental Protection Agency. "State" means the State of Tennessee."

(2) Adopted herein by reference are the federal regulations in paragraph (4) of this rule as appearing in 40 CFR Part § 60 Subpart UUU, revised as of July 1, 1994. Source: (published in the Federal Register / Vol. 57, No. 188 / Monday, September 28, 1992 / Rules and Regulations 44503), unless otherwise noted.

(3) The standards provided herein are the requirements of the state.

(4) Subpart UUU of 40 CFR part § 60.

§60.730 Applicability and designation of affected facility

(a) The affected facility to which the provisions of this subpart apply is each calciner and dryer at a mineral processing plant. Feed and product conveyors are not considered part of the affected facility. For the brick and related clay products industry, only the calcining and drying of raw materials prior to firing of the brick are covered.

(b) An affected facility that is subject to the provisions of subpart LL, Metallic Mineral Processing Plants, is not subject to the provisions of this subpart. Also, the following processes and process units used at mineral processing plants are not subject to the provisions of this subpart: vertical shaft kilns in the magnesium compounds industry; the chlorination-oxidation process in the titanium dioxide industry; coating kilns, mixers, and aerators in the roofing granules industry; and tunnel kilns, tunnel dryers, apron dryers, and grinding equipment that also dries the process material used in any of the 17 mineral industries (as defined in §60.731, "Mineral processing plant").

(c) The owner or operator of any facility under paragraph (a) of this section that commences construction, modification, or reconstruction after April 23, 1986, is subject to the requirements of this subpart.

§60.731 Definitions

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.

Calciner means the equipment used to remove combined (chemically bound) water and/or gases from mineral material through direct or indirect heating. This definition includes expansion furnaces and multiple hearth furnaces.

Control device means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere from one or more affected facilities.

Dryer means the equipment used to remove uncombined (free) water from mineral material through direct or indirect heating.

Installed in series means a calciner and dryer installed such that the exhaust gases from one flow through the other and then the combined exhaust gases are discharged to the atmosphere.

Mineral processing plant means any facility that processes or produces any of the following minerals, their concentrates or any mixture of which the majority (>50 percent) is any of the following minerals or a combination of these minerals: alumina, ball clay, bentonite, diatomite, feldspar, fire clay, fuller's earth, gypsum, industrial sand, kaolin, lightweight aggregate, magnesium compounds, perlite, roofing granules, talc, titanium dioxide, and vermiculite.

§60.732 Standards for particulate matter.

Each owner or operator of any affected facility that is subject to the requirements of this subpart shall comply with the emission limitations set forth in this section on and after the date on which the initial performance test required by §60.8 is completed, but not later than 180 days after the initial startup, whichever date comes first. No emissions shall be discharged into the atmosphere from any affected facility that:

(a) Contains particulate matter in excess of 0.092 gram per dry standard cubic meter (g/dscm) [0.040 grain per dry standard cubic foot (gr/dscf)] for calciners and for calciners and dryers installed in series and in excess of 0.057 g/dscm for dryers; and

(b) Exhibits greater than 10 percent opacity, unless the emissions are discharged from an affected facility using a wet scrubbing control device.

§60.733 Reconstruction

The cost of replacement of equipment subject to high temperatures and abrasion on processing equipment shall not be considered in calculating either the "fixed capital cost of the new components" or the "fixed capital cost that would be required to construct a comparable new facility" under §60.15. Calciner and dryer equipment subject to high temperatures and abrasion are: end seals, flights, and refractory lining.

§60.734 Monitoring of emissions and operations

(a) With the exception of the process units described in paragraphs (b), (c), and (d) of this section, the owner or operator of an affected facility subject to the provisions of this subpart who uses a dry control device to comply with the mass emission standard shall install, calibrate, maintain, and operate a continuous monitoring system to measure and record the opacity of emissions discharged into the atmosphere from the control device.

(b) In lieu of a continuous opacity monitoring system, the owner or operator of a ball clay vibrating grate dryer, a bentonite rotary dryer, a diatomite flash dryer, a diatomite rotary calciner, a feldspar rotary dryer, a fire clay rotary dryer, an industrial sand fluid bed dryer, a kaolin rotary calciner, a perlite rotary dryer, a roofing granules fluid bed dryer, a roofing granules fluid bed dryer a roofing granules rotary dryer, a talc rotary calciner, a titanium dioxide spray dryer, a titanium dioxide fluid bed dryer, a vermiculite fluid bed dryer, or a vermiculite rotary dryer who uses a dry control device may have a certified visible emissions observer measure and record three 6-minute averages of the opacity of visible emissions to the atmosphere each day of operation in accordance with Method 9 of appendix A of part 60.

(c) The owner or operator of a ball clay rotary dryer, a diatomite rotary dryer, a feldspar fluid bed dryer, a fuller's earth rotary dryer, a gypsum rotary dryer, a gypsum flash calciner, gypsum kettle calciner, an industrial sand rotary dryer, a kaolin rotary dryer, a kaolin multiple hearth furnace, a perlite expansion furnace, a talc flash dryer, a talc rotary dryer, a titanium dioxide direct or indirect rotary dryer or a vermiculite expansion furnace who uses a dry control device is exempt from the monitoring requirements of this section.

(d) The owner or operator of an affected facility subject to the provisions of this subpart who uses a wet scrubber to comply with the mass emission standard for any affected facility shall install, calibrate, maintain, and operate monitoring devices that continuously measure and record the pressure loss of the gas stream through the scrubber and the scrubbing liquid flow rate to the scrubber. The pressure loss monitoring device must be certified by the manufacturer to be accurate within 5 percent of water column gauge pressure at the level of operation. The liquid flow rate monitoring device must be certified by the manufacturer to be accurate within 5 percent of design scrubbing liquid flow rate.

§60.735 Recordkeeping and reporting requirements

(a) Records of the measurements required in §60.734 of this subpart shall be retained for at least 2 years.

(b) Each owner or operator who uses a wet scrubber to comply with §60.732 shall determine and record once each day, from the recordings of the monitoring devices in §60.734(d), and arithmetic average over a 2-hour period of both the change in pressure of the gas stream across the scrubber and the flowrate of the scrubbing liquid.

(c) Each owner or operator shall submit written reports semiannually of exceedances of control device operation parameters required to be monitored by §60.734 of this subpart. For the purpose of these reports, exceedances are defined as follows:

(1) All 6-minute periods during which the average opacity from dry control devices is greater than 10 percent; or

(2) Any daily 2-hour average of the wet scrubber pressure drop determined as described in §60.735(b) that is less than 90 percent of the average value recorded according to §60.736(c) during the most recent performance test that demonstrated compliance with the particulate matter standard; or

(3) Each daily wet scrubber liquid flow rate recorded as described in §60.735(b) that is less than 80 percent or greater than 120 percent of the average value recorded according to §60.736(c) during the most recent performance test that demonstrate compliance with the particulate matter standard.

(d) The requirements of this section remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Clean Air Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected facilities within the State will be relieved of the obligation to comply with this section provided that they comply with the requirements established by the State.

[57FR 44503, Sept. 28, 1992, as amended at 58 FR 40591, July 29, 1993]

§60.736 Test methods and procedures

(a) In conducting the performance tests required in §60.8, the owner or operator shall use the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in §60.8(b).

(b) The owner or operator shall determine compliance with the particulate matter standards in §60.732 as follows:

(1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and volume for each test run shall be at least 2 hours and 1.70 dscm.

(2) Method 9 and the procedures in §60.11 shall be used to determine opacity from stack emissions.

(c) During the initial performance test of a wet scrubber, the owner or operator shall use the monitoring devices of §60.734(d) to determine the average change in pressure of the gas stream across the scrubber and the average flowrate of the scrubber liquid during each of the particulate matter runs. The arithmetic averages of the three runs shall be used as the baseline average values for the purposes of §60.735(c).

§60.737 Delegation of authority

(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: No restrictions.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

1200-03-16-.75 Reserved

1200-03-16-.76 Reserved

1200-03-16-.77 THROUGH 1200-03-16-.99 Reserved

Chapter 1200-03-18
Volatile Organic Compounds

Amendments

Subparagraph (c) of paragraph (2) of Rule 1200-03-18-.48 Volatile Organic Liquid Storage Tanks is amended by deleting it in its entirety and substituting instead the following:

(c) Any definition in ~~Rules .10, .11 and .61 of rule 1200-03-16~~ 40 C.F.R part 60, subparts K, Ka, and Kb. The provisions of 40 C.F.R. part 60, subparts K, Ka, and Kb are hereby incorporated by reference as published in the July 1, 2022, edition of the Code of Federal Regulations.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Amendments

Paragraph (5) of Rule 1200-03-20-.06 Report Required Upon the Issuance of a Notice of Violation is amended by deleting it in its entirety and substituting instead the following:

(5) Where the violations are determined from properly certified and operated continuous emission monitors, no notice of violation(s) will be automatically issued unless the specified de minimis levels are exceeded:

	Source Type	De Minimis Pollutant Monitored	De Minimis Level
(a)	Fuel Burning Installations subject to Rule 1200-03-05-.01 or Rule 1200-03-05-.05 and having fuel burning equipment of input capacity greater then 600 x 106 Btu/hr.	Opacity	Two ~~(2)~~ percent of the time during calendar quarter (Excluding periods of permitted startup or shutdown and excused malfunctions) so long as no more than one ~~(1)~~ 24-hour exceedance per calendar year takes place.
		Sulfur Dioxide	One ~~(1)~~ 24-hour exceedance per calendar year.
(b)	Fuel Burning Installations subject to Rule 1200-03-05-.05, Rule 1200-03-05-.10, or Rule 1200-30-06-.05.	Opacity	One ~~(1)~~ percent of the time during a calendar quarter (Excluding period of permitted startup or shutdown and excused malfunctions) as long as no more than one ~~(1)~~ 24-hour exceedance per calendar year takes place.
(c)	Fuel Burning Equipment subject to ~~Rule 1200-03-16-.02~~ part (1)(b)11 of Rule 0400-30-39-.01 or ~~Rule 1200-03-16-.59~~ part (1)(b)13 of Rule 0400-30-39-.01.	Opacity	One ~~(1)~~ percent of the time during a calendar quarter (Excluding periods of permitted startup or shutdown and excused malfunctions) as long as no more than one ~~(1)~~ 24-hour exceedance per calendar year takes place.
		Sulfur Dioxide	One ~~(1)~~ 3-hour exceedance per year and/or one 24-hour exceedance per year (applicable to sources having three-hour standard only).
(d)	Kraft Recovery Furnaces subject to either Rule 1200-03-05-.09 or ~~Rule 1200-03-16-.29~~ part (1)(b)48 of Rule 0400-30-39-.01.	Opacity	Six ~~(6)~~ percent of the time (Excluding periods of permitted startup or shutdown and excused malfunctions) so long as no more than one ~~(1)~~ 24-hour exceedance per calendar year takes place.
(e)	Kraft Recovery Furnaces subject to either Rule 1200-03-07-.07, ~~or Rule 1200-03-16-.29~~ part (1)(b)48 of Rule 0400-30-39-.01 or part (1)(b)49 of Rule	Total Reduced Sulfur	One ~~(1)~~ percent of the time during a calendar quarter (Excluding periods of permitted startup or shutdown and excused malfunctions).

0400-30-39-.01.

(f)	Lime Kilns subject to paragraph (4) of Rule 1200-03-07-.07~~(4)~~.	Total Reduced Sulfur	Two ~~(2)~~ percent of the time during a calendar quarter (Excluding periods of permitted startup or shutdown and excused malfunctions).
(g)	Sulfuric Acid Plants subject to ~~Rule 1200-03-16-.06~~ part (1)(b)22 of Rule 0400-30-39-.01 and Liquid Sulfur Dioxide Plants subject to Rule 1200-03-19-.19.	Sulfur Dioxide	One ~~(1)~~ exceedance greater than ~~3~~ three hours duration per year (Excluding periods of excused malfunctions).
(h)	Primary Zinc Smelters subject to ~~Rule 1200-03-16-.24~~ part (1)(b)35 of Rule 0400-30-39-.01.	Sulfur Dioxide	One ~~(1)~~ exceedance of greater than ~~3~~ three hours duration but less than 24-hour duration per calendar year and/or one 24-hour exceedance per year (Excluding periods of startup, shutdown, or excused malfunction).
(i)	Electric Arc Furnaces subject to ~~Rule 1200-03-16-.26~~ part (1)(b)45 of Rule 0400-30-39-.01 or part (1)(b)46 of Rule 0400-30-39-.01.	Opacity	One ~~(1)~~ percent of the time during a calendar quarter (Excluding time periods of startup, shutdown, or excused malfunction) so long as no more than one ~~(1)~~ 24-hour exceedance per calendar year takes place.
(j)	Sulfur Dioxide Abatement System Serving Facilities Producing Organophosphate Compounds.	Sulfur Dioxide	One ~~(1)~~ exceedance of greater than ~~3~~ three hours duration per calendar year (Excluding periods of excused malfunctions).
(k)	Secondary Lead Furnaces subject to ~~Rule 1200-03-16-.12~~ part (1)(b)29 of Rule 0400-30-39-.01.	Opacity	One half ~~(1/2)~~ percent of the time during a calendar quarter (Excluding time periods of startup, shutdown, or excused malfunction).
(l)	Any source type utilizing a thirty day rolling average.	Nitrogen Oxides	None. (Excluding periods of startup, shutdown, or excused malfunction.)

For purposes of this ~~Paragraph~~ paragraph, the term 24-hour exceedance means a continuous exceedance of an emission standard having a total duration of greater than 24 hours (midnight to midnight).

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-21
General Alternate Emission Standards

Amendment

Subparagraph (d) of paragraph (2) of Rule 1200-03-21-.01 General Alternate Emission Standard is amended by deleting it in its entirety and substituting instead the following:

(d) The pollutants involved in the alternate emission standard must be comparable emissions, and no interpollutant trades are allowed. Air contaminant sources subject to the standards in Chapter 0400-30-38 cannot apply the alternate emission standard to hazardous air contaminants. Air contaminant sources subject to emission standards in Chapter ~~1200-03-16,~~ 0400-30-39 or paragraph (4) of Rule 1200-03-09-.01 or subparagraph (5)(b) of Rule 1200-03-09-.01 cannot use an alternate emission standard, except for reductions in actual emissions below the level required in these rules. Such reduction may be used as credit for existing source. However, all applicable standards and requirements established under paragraph (4) of Rule 1200-03-09-.01, under Chapters 0400-30-38 and ~~1200-03-16~~ 0400-30-39, and according to a lowest-achievement-emission-rate (LAER) determination under paragraph (5) of Rule 1200-03-09-.01 must be complied with and are not superseded or replaced by the alternate emission standard.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-22
Lead Emission Standards

Amendment

Paragraph (4) of Rule 1200-03-22-.04 Standards for New or Modified Sources of Lead is amended by deleting it in its entirety and substituting instead the following:

(4) Additional requirements for certain new or modified sources of lead are given in ~~Paragraph 1200-3-9-.01(4), Prevention of Significant Deterioration~~ paragraph (4) of Rule 1200-03-09-.01 and in Chapter ~~1200-3-16, New Source Performance Standards, of these regulations~~ 0400-30-39.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-25

Standards for Infectious Waste Incinerators

Amendments

Subparagraph (b) of paragraph (3) of Rule 1200-03-25-.05 Emission Standards is amended by deleting it in its entirety and substituting instead the following:

(b) Visible determination of opacity of emissions shall be determined by ~~the reference method~~ Method 9 as specified in ~~Rule 1200-3-16-.01(5)(g) of the Official Compilation of the Rule and Regulations of the State of Tennessee and~~ the *Federal Register*, Vol. 39, No. 219, November 12, 1974.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

Chapter 1200-03-26

Administrative Fees Schedule

Amendments

Part 2 of subparagraph (i) of paragraph (2) of Rule 1200-03-26-.02 Construction and Annual Fees is amended by deleting it in its entirety and substituting instead the following:

2. Each regulated pollutant from a source subject to the provisions of chapter ~~1200-03-16 NEW SOURCE PERFORMANCE STANDARDS~~ 0400-30-39 Standards of Performance for New Stationary Sources.

Authority: T.C.A. §§ 68-201-101 et seq. and 4-5-201 et seq.

* If a roll-call vote was necessary, the vote by the Agency on these rulemaking hearing rules was as follows:

Board Member	Aye	No	Abstain	Absent	Signature (if required)
Dr. Ronné Adkins Commissioner's Designee, Dept. of Environment and Conservation					
Dr. John Benitez Licensed Physician with experience in health effects of air pollutants					
Dr. Joshua Fu Involved with Institution of Higher Learning on air pollution evaluation and control					
Mike Haverstick Working in management in Private Manufacturing					
Dr. Shawn A. Hawkins Working in field related to Agriculture or Conservation					
Richard Holland Working for Industry with technical experience					
Caitlin Roberts Jennings Small Generator of Air Pollution representing Automotive Interests					
Dr. Chunrong Jia Environmental Interests					
Ken Moore Working in Municipal Government					
Stephen Moore Working for Industry with technical experience					
Nicholas Ramos Conservation Interest					
Amy Spann, PE Registered Professional Engineer					
Larry Waters County Mayor					
Jimmy West Commissioner's Designee, Dept. of Economic and Community Development					

I certify that this is an accurate and complete copy of rulemaking hearing rules, lawfully promulgated and adopted by the Air Pollution Control Board on 10/11/2023, and is in compliance with the provisions of T.C.A. § 4-5-222.

I further certify the following:

Notice of Rulemaking Hearing filed with the Department of State on: 05/01/2023

Rulemaking Hearing(s) Conducted on: (add more dates). 06/27/2023

Date:

Signature:

Name of Officer: Michelle W. Owenby

Title of Officer: Technical Secretary

Agency/Board/Commission: Air Pollution Control Board

Rule Chapter Number(s): 0400-30-39, 1200-03-02, 1200-03-05, 1200-03-06, 1200-03-09, 1200-03-16, 1200-03-18, 1200-03-20, 1200-03-21, 1200-03-22, 1200-03-25, 1200-03-26

All rulemaking hearing rules provided for herein have been examined by the Attorney General and Reporter of the State of Tennessee and are approved as to legality pursuant to the provisions of the Administrative Procedures Act, Tennessee Code Annotated, Title 4, Chapter 5.

_____
Jonathan Skrmetti
Attorney General and Reporter

_____
Date

Department of State Use Only

Filed with the Department of State on:

Effective on:

_____
Tre Hargett
Secretary of State

Public Hearing Comments

One copy of a document that satisfies T.C.A. § 4-5-222 must accompany the filing.

The Board did not receive any comments during the public comment period.

Regulatory Flexibility Addendum

Pursuant to T.C.A. §§ 4-5-401 through 4-5-404, prior to initiating the rule making process, all agencies shall conduct a review of whether a proposed rule or rule affects small business.

(1) The type or types of small business and an identification and estimate of the number of small businesses subject to the proposed rule that would bear the cost of, or directly benefit from the proposed rule.

Small businesses are already subject to the federal New Source Performance Standards (NSPS) that the Board is incorporating by reference. It is estimated that less than 250 small businesses per year are subject to the current NSPS and likewise subject to this rulemaking.

(2) The projected reporting, recordkeeping, and other administrative costs required for compliance with the proposed rule, including the type of professional skills necessary for preparation of the report or record.

This rulemaking does not add any additional reporting, recordkeeping, or other administrative costs. The NSPS already require reporting and recordkeeping. There is some skill necessary for preparing reports and records. An employee at a small business with a degree in engineering or environmental studies would generally prepare the reports or records; however, a college degree is not necessary.

(3) A statement of the probable effect on impacted small businesses and consumers.

This rulemaking will not impose any additional requirements on small businesses currently subject to the NSPS.

(4) A description of any less burdensome, less intrusive, or less costly alternative methods of achieving the purpose and objectives of the proposed rule that may exist, and to what extent the alternative means might be less burdensome to small business.

The Division of Air Pollution Control on behalf of the Board evaluated how the other states in EPA Region IV were enforcing NSPS. All states in EPA Region IV other than Tennessee have incorporated the NSPS regulations by reference. Also, the EPA has recommended adoption by reference.

(5) A comparison of the proposed rule with any federal or state counterparts.

The other seven states in EPA Region IV have adopted NSPS regulations by reference. This rulemaking will have no impact on attracting or detracting economic activity in Tennessee.

(6) Analysis of the effect of the possible exemption of small businesses from all or any part of the requirements contained in the proposed rule.

Under applicable federal law, there is no exemption available for small businesses from the requirements of the NSPS since these regulations are based on the type and amount of air pollutants emitted from a source. The only way for a small business to no longer be subject to the requirements of the NSPS would be to eliminate the emission of air pollutants from the source.

Impact on Local Governments

Pursuant to T.C.A. §§ 4-5-220 and 4-5-228, “On any rule and regulation proposed to be promulgated, the proposing agency shall state in a simple declarative sentence, without additional comments on the merits or the policy of the rule or regulation, whether the rule or regulation may have a projected financial impact on local governments. The statement shall describe the financial impact in terms of increase in expenditures or decrease in revenues.”

The Board anticipates that this rule will not result in an increase in expenditures or a decrease in revenues for local governments.

Additional Information Required by Joint Government Operations Committee

All agencies, upon filing a rule, must also submit the following pursuant to T.C.A. § 4-5-226(i)(1).

(A) A brief summary of the rule and a description of all relevant changes in previous regulations effectuated by such rule;

The proposed amendments to Chapter 0400-30-39 will incorporate by reference all New Source Performance Standards (NSPS) from 40 C.F.R. Part 60, except the emission guidelines. Currently, the requirements of a NSPS must be placed in a permit before the State of Tennessee can enforce them. The Tennessee Air Pollution Control Board (Board) proposes to repeal all of Chapter 1200-03-16 and one rule in Chapter 1200-03-06, which currently reproduce some, but not all, of the NSPS regulations. The proposed rule will incorporate by reference the federal NSPS regulations and allow the Technical Secretary of the Board to enforce these federal regulations directly. In addition, current references in other rules to Chapter 1200-03-16 will be revised to reference to Chapter 0400-30-39. The proposed amendments will also remove the permit-by-rule provisions of paragraphs 0400-30-39-.01(1) and 0400-30-39-.02(1) because they are no longer necessary.

(B) A citation to and brief description of any federal law or regulation or any state law or regulation mandating promulgation of such rule or establishing guidelines relevant thereto;

Pursuant to Clean Air Act section 111, Tennessee is required to enforce the NSPS as part of its federally authorized air program and incorporating the NSPS into Chapter 0400-30-39 will streamline permitting and compliance-related evaluations. According to Tennessee Code Annotated section 68-201-103 the intent and purpose of Tennessee Code Annotated Title 68, Chapter 201, Part 1 is to maintain purity of the air resources of the state consistent with the protection of normal health, general welfare, and physical property of the people, maximum employment and the full industrial development of the state and for the Board to do so through the prevention, abatement, and control of air pollution by all practical and economically feasible methods.

(C) Identification of persons, organizations, corporations or governmental entities most directly affected by this rule, and whether those persons, organizations, corporations or governmental entities urge adoption or rejection of this rule;

Persons, organizations, corporations, or governmental entities most directly affected by this rule are regulated facilities that are subject to the NSPS. As no comments were submitted in response to the rulemaking hearing notice, the Air Pollution Control Board has not received any indication opposition to this rulemaking. The U.S. Environmental Protection Agency is a proponent of this rulemaking.

(D) Identification of any opinions of the attorney general and reporter or any judicial ruling that directly relates to the rule or the necessity to promulgate the rule;

The Board is not aware of any opinions of the Attorney General and Reporter or any judicial ruling that directly relates to the rule or the necessity to promulgate the rule.

(E) An estimate of the probable increase or decrease in state and local government revenues and expenditures, if any, resulting from the promulgation of this rule, and assumptions and reasoning upon which the estimate is based. An agency shall not state that the fiscal impact is minimal if the fiscal impact is more than two percent (2%) of the agency's annual budget or five hundred thousand dollars ($500,000), whichever is less;

The Board anticipates that this rule will not result in an increase in expenditures or a decrease in revenues for state or local governments.

(F) Identification of the appropriate agency representative or representatives, possessing substantial knowledge and understanding of the rule;

Mark A. Reynolds
Division of Air Pollution Control
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 15th Floor
Nashville, Tennessee 37243
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(G) Identification of the appropriate agency representative or representatives who will explain the rule at a scheduled meeting of the committees;

Blair Beaty
Legislative Director
Office of General Counsel

(H) Office address, telephone number, and email address of the agency representative or representatives who will explain the rule at a scheduled meeting of the committees; and

Office of General Counsel
Tennessee Department of Environment and Conservation
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 2nd Floor
Nashville, Tennessee 37243
(615) 253-5339
Blair.Beaty@tn.gov

(I) Any additional information relevant to the rule proposed for continuation that the committee requests.

(1) A description of the action proposed, the purpose of the action, the legal authority for the action and the plan for implementing the action.

The action proposed is to incorporate by reference all New Source Performance Standards (NSPS) from 40 C.F.R. Part 60, except the emission guidelines. The proposed rule will incorporate by reference the NSPS regulations and allow the Technical Secretary of the Board to enforce these federal regulations directly instead of including them in individual permits. The statutory authority for this rulemaking is Tennessee Code Annotated Title 68, Chapter 201, Part 1. The NSPS regulations protect public health by limiting the emissions of air pollution. These rules effectuate the intent of Tennessee Code Annotated section 68-201-103 “to maintain purity of the air resources of the state consistent with the protection of normal health, general welfare and physical property of the people, maximum employment and the full industrial development of the state” and for the board to do so “through the prevention, abatement and control of air pollution by all practical and economically feasible methods.”

(2) A determination that the action is the least-cost method for achieving the stated purpose.

This rulemaking is believed to be the least-cost method for the State to enforce the NSPS regulations. The Division of Air Pollution Control (Division) evaluated how the other states in EPA Region IV were enforcing the NSPS regulations. The other seven states in EPA Region IV have incorporated the NSPS regulations by reference. Also, the EPA has recommended adoption by reference.

(3) A comparison of the cost-benefit relation of the action to nonaction.

This rulemaking incorporates by reference all federal NSPS and authorizes the Technical Secretary to enforce these regulations directly. There will be no additional costs associated with the proposed rule. Regulated facilities are already required to comply with the most current version of the NSPS regardless of whether they are incorporated in a permit, because EPA has authority under Clean Air Act section 111 to enforce the federal NSPS regulations in states. If the rules are not promulgated, the Technical Secretary will not be able to enforce the NSPS directly in the event that a permit for a regulated source has not yet been issued or must be revised to incorporate the relevant NSPS provisions. Based on this comparison, the benefits of moving forward with this rulemaking outweigh the costs.”

(4) A determination that the action represents the most efficient allocation of public and private resources.

This action represents the most efficient allocation of public and private resources. The NSPS regulations help protect public health by limiting the emissions of air pollution. By making these changes, the Board will fully incorporate the federal regulations so that they can be directly enforced by the Technical Secretary.

(5) A determination of the effect of the action on competition.

This rulemaking will not affect competition.

(6) A determination of the effect of the action on the cost of living in the geographical area in which the action would occur.

Cost of living in the geographical area in which the action would occur will not be affected.

(7) A determination of the effect of the action on employment in the geographical area in which the action would occur.

It is not anticipated that the action will affect employment.

(8) The source of revenue to be used for the action.

The action can be accommodated with existing resources.

(9) A conclusion as to the economic impact upon all persons substantially affected by the action, including an analysis containing a description as to which persons will bear the costs of the action and which persons will benefit directly and indirectly from the action.

There will be no additional costs associated with this rulemaking. Regulated facilities are already required to comply with the most current version of the NSPS regulations regardless of whether they are incorporated in a permit, because EPA has authority under Clean Air Act section 111 to enforce the NSPS regulations in states. However, this rule will allow the Technical Secretary to enforce the most current version of the federal requirements even if the provisions of the current version have not been incorporated into a permit.

Department of Environment & Conservation

Board Attorney Introduction and Public Chapter 300

Air Pollution Control Board

Grant Ruhl, Associate Counsel | September 13, 2023

Board Attorney

- Primary Attorney – Grant Ruhl
- Secondary Attorney – Emily Vann
- Roles and Responsibilities:
  - Represent the board, not TDEC;
  - Attend each board meeting to assist with procedure and advise;
  - Work with support staff and board chair to assist with agenda development, procedure, and setting special meetings;
  - Represent the board for petitions for declaratory order, petitions for rulemaking, and initial order reviews;
  - Prepare/update and present board manuals;
  - Present legislative updates;
  - Assist with sunset audits; and
  - Coordinate with OGC's legislative team for board appointments.

Public Chapter 300 Applicability

Public Chapter 300 applies to “meetings” of “governing bodies.”

- “Governing body” means: (A) The members of any public body which consists of two (2) or more members, with the authority to make decisions for or recommendations to a public body on policy or administration.... T.C.A. 8-44-102(b)(1).
- “Meeting” means the convening of a governing body of a public body for which a quorum is required in order to make a decision or to deliberate toward a decision on any matter. “Meeting” does not include any on-site inspection of any project or program. T.C.A. 8-44-102(b)(2).

Public Chapter 300

SECTION 1. Tennessee Code Annotated, Title 8, Chapter 44, Part 1, is amended by adding the following as a new section:

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

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

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

Public Chapter 300

(d) This section does not apply to:

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

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

SECTION 2. This act takes effect July 1, 2023, the public welfare requiring it.

SCOPE

- Comment period is for agenda items.
- Does not apply to disciplinary hearings.
- Does not apply to meetings at which there are no actionable items:
  - "Actionable items" is not defined, but generally includes items that require a vote of the governing body.
  - Presentations, information updates, etc. are not "actionable."
  - Likely does not apply to administrative items (voting to adopt the minutes of the last meeting, voting to adjourn, etc.).
  - We are waiting for additional clarification.

General

- Both the agenda itself and the notice of the meeting on the website should indicate how to comment.
- Rulemaking may be required to establish procedures.
- Boards may set one time period for comment, or provide a separate comment opportunity for each actionable agenda item.
- The comment period should be in advance of a vote.

Reminders – T.C.A. § 8-44-108

- TDEC is conducting board and commission meetings in a hybrid format – both in-person and via videoconference.
- For meetings that allow participation by members by electronic means (regardless of whether a quorum is physically present):
  - Members of the public participating remotely must be able to view and listen to the meeting in real time, and must be able to provide public comment;
  - All votes must be by roll call;
  - Documents must be provided to members not physically present before the meeting;
  - The meeting must be recorded, and a recording of the meeting (or a link to the recording) must be posted on the website ASAP but not later than 3 business days after the meeting.
- If a quorum is not physically present, you will also need a determination of necessity. Work with your board attorney to assist you.

Questions?