

Department of State
Division of Publications
 312 Rosa L. Parks Avenue, 8th Floor Snodgrass/TN Tower
 Nashville, TN 37243
 Phone: 615-741-2650
 Fax: 615-741-5133
 Email: register.information@tn.gov

For Department of State Use Only
 Sequence Number: 03-15-13
 Rule ID(s): 5460
 File Date: 3/21/13
 Effective Date: 6/19/13

Rulemaking Hearing Rule(s) Filing Form

Rulemaking Hearing Rules are rules filed after and as a result of a rulemaking hearing. T.C.A. § 4-5-205

Agency/Board/Commission:	Environment & Conservation
Division:	Air Pollution Control
Contact Person:	Jeryl W. Stewart
Address:	9 th Floor L & C Annex 401 Church Street Nashville, Tennessee
Zip:	37243-1531
Phone:	(615) 532-0605
Email:	Jeryl.Stewart@tn.gov

Revision Type (check all that apply):

- Amendment
- New
- Repeal

Rule(s) Revised (ALL chapters and rules contained in filing must be listed here. If needed, copy and paste additional tables to accommodate multiple chapters. Please enter only **ONE Rule Number/Rule Title per row)**

Chapter Number	Chapter Title
1200-03-16	New Source Performance Standards
Rule Number	Rule Title
1200-03-16-.33	Glass Manufacturing Plants
1200-03-16-.43	Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry
1200-03-16-.60	Rubber Tire Manufacturing Industry

(Place substance of rules and other info here. Statutory authority must be given for each rule change. For information on formatting rules go to <http://state.tn.us/sos/rules/1360/1360.htm>)

Chapter 1200-03-16
New Source Performance Standards

The Table of Contents of Chapter 1200-03-16 New Source Performance Standards is amended by deleting the words "Glass Manufacturing Plants" and adding the word "Reserved" so that, as amended, the table of contents for 1200-03-16-.33 shall read: Reserved.

Rule 1200-03-16-.33 is amended by deleting the rule in its entirety and replacing it with the word "Reserved" so that, as amended, the rule shall read:

1200-03-16-.33 Reserved

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

Table of Contents of Chapter 1200-03-16 New Source Performance Standards is amended by deleting the words "Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry" and adding the word "Reserved" so that, as amended, the table of contents for 1200-03-16-.43 shall read: Reserved.

Rule 1200-03-16-.43 is amended by deleting the rule in its entirety and replacing it with the word "Reserved" so that, as amended, the rule shall read:

1200-03-16-.43 Reserved

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

Table of Contents of Chapter 1200-03-16 New Source Performance Standards is amended by deleting the words "Rubber Tire Manufacturing" and adding the word "Reserved" so that, as amended, the table of contents for 1200-03-16-.60 shall read: Reserved.

Rule 1200-03-16-.60 is amended by deleting the rule in its entirety and replacing it with the word "Reserved" so that, as amended, the rule shall read:

1200-03-16-.60 Reserved

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)
Michael Atchison	✓				Michael Atchison
Dr. J. Ronald Bailey	✓				J. Bailey
Elaine Boyd	✓				Elaine H. Boyd
Dr. Brian W. Christman				✓	
Dr. Wayne T. Davis	✓				Wayne Davis
Dr. Mary English				✓	
Stephen R. Gossett				✓	
Mayor Tommy Green				✓	
Dr. Shawn A. Hawkins	✓				Shawn A. Hawkins
Helen Hennon				✓	
Richard M. Holland	✓				Richard M. Holland
John Roberts	✓				John Roberts
Mayor Larry Waters	✓				Larry Waters
Alicia M. Wilson				✓	

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 08/08/2012, 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: 06/14/12

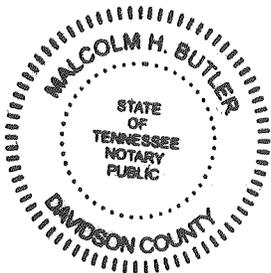
Rulemaking Hearing(s) Conducted on: (add more dates). 08/06/12

Date: Sept. 10, 2012

Signature: Barry R. Stephens

Name of Officer: Barry R. Stephens, P.E.

Title of Officer: Technical Secretary



Subscribed and sworn to before me on: September 10, 2012

Notary Public Signature: Malcolm H. Butler

My commission expires on: May 6, 2013

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.

Robert E. Cooper, Jr.
Attorney General and Reporter
3-19-13

Date

Department of State Use Only

Filed with the Department of State on: 3/21/13

Effective on: 6/19/13

Tre Hargett

Tre Hargett
Secretary of State

RECEIVED
2013 MAR 21 AM 10:13
SECRETARY OF STATE

Public Hearing Comments

One copy of a document containing responses to comments made at the public hearing must accompany the filing pursuant to T.C.A. § 4-5-222. Agencies shall include only their responses to public hearing comments, which can be summarized. No letters of inquiry from parties questioning the rule will be accepted. When no comments are received at the public hearing, the agency need only draft a memorandum stating such and include it with the Rulemaking Hearing Rule filing. Minutes of the meeting will not be accepted. Transcripts are not acceptable.

There were no comments received 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 as described in T.C.A. § 4-5-202(a)(3) and T.C.A. § 4-5-202(a), all agencies shall conduct a review of whether a proposed rule or rule affects small businesses.

- (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 revisions to Rules 1200-03-16-.33, 1200-03-16-.43 and 1200-03-16-.60 could potentially affect any small business that would be subject to either of the regulations. For either situation the affect would be beneficial in that they would not be subject to obsolete state regulations in addition to the current federal regulations. To quantify the number of small businesses subject t either rule would require an exhaustive research effort as affected facilities may or may not be small businesses.

- (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:

None.

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

The revisions to Rules 1200-03-16-.33, 1200-03-16-.43 and 1200-03-16-.60 could prevent small businesses from being subject to both obsolete state and current federal regulations. There would be no affect on consumers.

- (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:

None.

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

The provisions of Chapter 1200-03-16 are the state equivalent to federal regulations contained in 40 CFR Part 60. The deletion of Rules 1200-03-16-.33, 1200-03-16-.43 and 1200-03-16-.60 serve to allow the Division to utilize current federal language.

- (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.

Not applicable.

Impact on Local Governments

Pursuant to T.C.A. §§ 4-5-220 and 4-5-228 “any rule proposed to be promulgated shall state in a simple declarative sentence, without additional comments on the merits of the policy of the rules or regulation, whether the rule or regulation may have a projected impact on local governments.” (See Public Chapter Number 1070 (<http://state.tn.us/sos/acts/106/pub/pc1070.pdf>) of the 2010 Session of the General Assembly)

These proposed rule revisions will have no projected impact on 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 repeal the prior state rule and permit the state to incorporate and enforce the language of the federal rule by the authority of the Technical Secretary granted by T.C.A. § 68-201-105.

- (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;

Chapter 1200-03-16 is the state equivalent of the Federal regulations found in 40 CFR Part 60. These amendments are being promulgated under the authority of T.C.A. § 68-201-101 et seq.

- (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 rule revision will affect glass manufacturing plants, synthetic organic chemical manufacturing plants, and rubber tire manufacturing plants.

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

The Board is not aware of any.

- (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;

None.

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

Jeryl W. Stewart
Division of Air Pollution Control
9th Floor, L & C Annex,
401 Church St.,
Nashville, TN 37243-1531
(615) 532-0605

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

Alan M. Leiserson
Legal Services Director, Office of General Counsel
Tennessee Department of Environment and Conservation
20th Floor, L & C Tower
Nashville, TN 37243-1548

- (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

Legal Services Director, Office of General Counsel
Tennessee Department of Environment and Conservation

20th Floor, L & C Tower
Nashville, TN 37243-1548
Alan.Leiserson@tn.gov

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

The Board is not aware of any.

Department of State
Division of Publications
 312 Rosa L. Parks Avenue, 8th Floor Snodgrass/TN Tower
 Nashville, TN 37243
 Phone: 615-741-2650
 Fax: 615-741-5133
 Email: register.information@tn.gov

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. T.C.A. § 4-5-205

Agency/Board/Commission:	Environment & Conservation
Division:	Air Pollution Control
Contact Person:	Jeryl W. Stewart
Address:	9 th Floor L & C Annex 401 Church Street Nashville, Tennessee
Zip:	37243-1531
Phone:	(615) 532-0605
Email:	Jeryl.Stewart@tn.gov

Revision Type (check all that apply):

- Amendment
 New
 Repeal

Rule(s) Revised (ALL chapters and rules contained in filing must be listed here. If needed, copy and paste additional tables to accommodate multiple chapters. Please enter only **ONE** Rule Number/Rule Title per row)

Chapter Number	Chapter Title
1200-03-16	New Source Performance Standards
Rule Number	Rule Title
1200-03-16-.33	Glass Manufacturing Plants
1200-03-16-.43	Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry
1200-03-16-.60	Rubber Tire Manufacturing Industry

(Place substance of rules and other info here. Statutory authority must be given for each rule change. For information on formatting rules go to <http://state.tn.us/sos/rules/1360/1360.htm>)

Chapter 1200-03-16
New Source Performance Standards

The Table of Contents of Chapter 1200-03-16 New Source Performance Standards is amended by deleting the words "Glass Manufacturing Plants" and adding the word "Reserved" so that, as amended, the table of contents for 1200-03-16-.33 shall read: Reserved.

Rule 1200-03-16-.33 is amended by deleting the rule in its entirety and replacing it with the word "Reserved" so that, as amended, the rule shall read:

~~1200-03-16-.33 GLASS MANUFACTURING PLANTS. Reserved~~

~~(1) Applicability.~~

- ~~(a) Each glass melting furnace is an affected facility to which the provisions of this rule apply.~~
- ~~(b) Any facility under subparagraph (a) of this paragraph that commences construction or modification after March 2, 1983 is subject to the requirements of this rule.~~
- ~~(c) This rule does not apply to hand glass melting furnaces, glass melting furnaces designed to produce less than 4,550 kilograms of glass per day and all-electric melters.~~

~~(2) Definitions~~

- ~~(a) "All electric melter" means a glass melting furnace in which all the heat required for melting is provided by electric current from electrodes submerged in the molten glass, although some fossil fuel may be charged to the furnace as raw material only.~~
- ~~(b) "Borosilicate recipe" means glass product composition of the following approximate ranges of weight proportions: 60 to 80 percent silicon dioxide, 4 to 10 percent total R₂O, (e.g. Na₂O and K₂O), 5 to 35 percent boric oxides, and 0 to 13 percent other oxides. (Note: R represents a metal).~~
- ~~(c) "Container glass" means glass made of soda-lime recipe, clear or colored, which is pressed and/or blown into bottles, jars, ampoules, and other products listed in Standard Industrial Classification 3221 (SIC 3221). (Note: All references to Standard Industrial Classification or SIC refers to the Standard Industrial Classification Manual which is available for purchase by written request to the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402).~~
- ~~(d) "Experimental furnace" means a glass melting furnace with the sole purpose of operating to evaluate glass melting processes, technologies, or glass products. An experimental furnace does not produce glass that is sold (except for further research and development purposes) or that is used as raw material for nonexperimental furnaces.~~
- ~~(e) "Flat glass" means glass made of soda-lime recipe and produced into continuous flat sheets and other products listed in SIC 3211.~~
- ~~(f) "Flow channels" means appendages used for conditioning and distributing molten glass to forming apparatuses and are a permanently separate source of emissions such that no mixing of emissions occurs with emissions from the melter-cooling system prior to their being vented to the atmosphere.~~
- ~~(g) "Glass melting furnace" means a unit comprising a refractory vessel in which raw materials are charged, melted at high temperature, refined, and conditioned to produce molten glass. The unit includes foundations, superstructure and retaining walls, raw material charger systems,~~

~~heat exchangers, melter cooling system, refractory brick work, fuel supply and electrical boosting equipment, integral control systems and instrumentation, and appendages for conditioning and distributing molten glass to forming apparatuses. The forming apparatuses, including the float bath used in flat glass manufacturing and flow channels in wool fiberglass and textile fiberglass manufacturing, are not considered part of the glass melting furnace.~~

- ~~(h) "Glass produced" means the weight of the glass pulled from the glass melting furnace.~~
 - ~~(i) "Hand glass melting furnace" means a glass melting furnace where the molten glass is removed from the furnace by a glassworker using a blowpipe or a pontil.~~
 - ~~(j) "Lead recipe" means glass product composition of the following ranges of weight proportions: 50 to 60 percent silicon dioxide, 18 to 35 percent lead oxides, 5 to 20 percent total R_2O (e.g. Na_2O and K_2O), 0 to 8 percent total R_2O_3 (e.g. Al_2O_3), 0 to 15 percent total RO (e.g., CaO , MgO), other than lead oxide and 5 to 10 percent other oxides (note: R represents a metal).~~
 - ~~(k) "Pressed and blown glass" means glass which is pressed, blown, or both, including textile fiberglass, noncontinuous flat glass, noncontainer glass, and other products listed in SIC 3229. It is separated into:
 - ~~1. Glass of borosilicate recipe.~~
 - ~~2. Glass of soda-lime and lead recipes.~~
 - ~~3. Glass of opal, fluoride, and other recipes.~~~~
 - ~~(l) "Rebricking" means cold replacement of damaged or worn refractory parts of the glass melting furnace. Rebricking includes replacement of the refractories comprising the bottom, sidewalls, or roof of the melting vessel; replacement of refractory work in the heat exchanger; replacement of refractory portions of the glass conditioning and distribution system.~~
 - ~~(m) "Soda-lime recipe" means glass product composition of the following ranges of weight proportions: 60 to 75 percent silicon dioxide, 10 to 17 percent total R_2O (e.g. Na_2O and K_2O), 8 to 20 percent total RO but not to include any PbO (e.g. CaO and MgO), 0 to 8 percent total R_2O_3 (e.g., Al_2O_3), and 1 to 5 percent other oxides (note: R represents a metal).~~
 - ~~(n) "Textile fiberglass" means fibrous glass in the form of continuous strands having uniform thickness.~~
 - ~~(o) "With modified processes" means using any technique designed to minimize emissions without the use of add-on pollution controls.~~
 - ~~(p) "Wool fiberglass" means fibrous glass of random texture, including fiberglass insulation and other products listed in SIC 3296.~~
- ~~(3) Standards for particulate matter.~~
- ~~(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 of a glass melting furnace subject to the provisions of this rule shall cause to be discharged into the atmosphere:
 - ~~1. From any glass melting furnace fired exclusively with either a gaseous fuel or a liquid fuel, particulate matter at emission rates exceeding those specified in 1200-3-16-.33(3)(d) Table 1, or~~
 - ~~2. From any glass melting furnace, fired simultaneously with gaseous and liquid fuels, particulate matter at emission rates exceeding STD as specified by the following equation:~~
$$STD = X(1.3(Y)+(Z))$$~~

Where:

~~STD = Particulate matter emission limit, g of particulate/kg of glass produced.~~

~~X = Emission rate specified in 1200-3-16-.33 (3)(d) Table 1 for furnaces fired with gaseous fuel.~~

~~Y = Decimal percent of liquid fuel heating value to total (gaseous and liquid) fuel heating value fired in the glass melting furnaces as determined in subparagraph (7)(f) of this rule (joules/joules).~~

~~Z = (1-Y).~~

~~(b) Conversion of a glass melting furnace to the use of liquid fuel is not considered a modification for the purposes of 1200-3-16-.01(9)(a).~~

~~(c) Rebricking and the cost of rebricking is not considered a reconstruction for the purposes of 1200-3-16-.01(9)(b).~~

~~(d) Table 1. Emission Rates~~

~~(g of particulate / kg of glass produced)~~

Glass manufacturing plant industry segment	Furnace fired	Furnace fired
	with gaseous fuel	with liquid fuel
Container glass	0.1	0.13
Pressed and blown glass		
(a) Borosilicate Recipes	0.5	0.65
(b) Soda-Lime and Lead Recipes	0.1	0.13
(c) Other Than Borosilicate, Soda-Lime, and Lead Recipes (including opal, fluoride, and other recipes)	0.25	0.325
Wool fiberglass	0.25	0.325
Flat glass	0.225	0.225

~~(e) An owner or operator of an experimental furnace is not subject to the requirements of this paragraph.~~

~~(f) During routine maintenance of add-on pollution controls, an owner or operator of a glass melting furnace subject to the provisions of subparagraph (a) of this paragraph is exempt from the provisions of subparagraph (a) of this paragraph if:~~

~~1. Routine maintenance in each calendar year does not exceed 6 days.~~

~~2. Routine maintenance is conducted in a manner consistent with good air pollution control practices for minimizing emissions; and~~

~~3. A report is submitted to the Technical Secretary 10 days before the start of the routine maintenance (if 10 days cannot be provided the report must be submitted as soon as practicable) and the report contains an explanation of the schedule of the maintenance.~~

~~(4) Standards for particulate matter from glass melting furnace with modified processes.~~

- ~~(a) An owner or operator of a glass melting furnace with modified processes is not subject to the provisions of 1200-3-16-.33(3) if the affected facility complies with the provisions of this paragraph.~~
- ~~(b) On and after the date on which the performance test required to be conducted by paragraph (5) of Rule 1200-3-16-.01 is completed no owner or operator of a glass melting furnace with modified processes subject to the provisions of this rule shall cause to be discharged into the atmosphere from the affected facility:~~
- ~~1. Particulate matter at emission rates exceeding 0.5 gram of particulate per kilogram of glass produced (g/kg) as measured according to subparagraph (e) of this paragraph for container glass, flat glass, and pressed blown glass with soda lime recipe melting furnaces.~~
 - ~~2. Particulate matter at emission rates exceeding 1.0 g/kg as measured according to subparagraph (e) of this paragraph for pressed and blown glass with a borosilicate recipe melting furnace.~~
 - ~~3. Particulate matter at emission rates exceeding 0.5 g/kg as measured according to subparagraph (e) of this paragraph for textile fiberglass and wool fiberglass melting furnaces.~~
- ~~(c) The owner or operator of an affected facility that is subject to emission limits specified under subparagraph (b) of the paragraph shall:~~
- ~~1. Install, calibrate, maintain, and operate a continuous monitoring system for the measurement of the opacity of emissions discharged into the atmosphere from the affected facility.~~
 - ~~2. During the performance test required to be conducted by paragraph (5) of rule 1200-3-16-.01 conduct continuous opacity monitoring during each test run.~~
 - ~~3. Calculate 6-minute opacity averages from 24 or more data points equally spaced over each 6-minute period during the test runs.~~
 - ~~4. Determine, based on the 6-minute opacity averages, the opacity value corresponding to the 97.5 percent upper confidence level of a normal distribution of average opacity values.~~
 - ~~5. For purposes of paragraph (7) of rule 1200-3-16-.01, report to the Technical Secretary as excess emissions all of the 6-minute periods during which the average opacity as measured by the continuous monitoring system installed under part (c)1. of this paragraph, exceeds the opacity value corresponding to the 97.5 percent upper confidence level determined under part (c)4. of this paragraph.~~
- ~~(d) The Technical Secretary may approve an application for an alternative continuous monitoring system if the owner or operator has obtained written approval for the alternative system from the Administrator of the U.S. Environmental Protection Agency.~~
- ~~1. After receipt and consideration of a written application and written approval from the Administrator of the U.S. Environmental Protection Agency, the Technical Secretary may approve alternative continuous monitoring systems for the measurement of one or more process or operating parameters that is or are demonstrated to enable accurate and representative monitoring of an emission limit specified in part (b)1. of this paragraph.~~
 - ~~2. After the Technical Secretary approves an alternative continuous monitoring system for an affected facility, the requirements of parts (c)1. through (c)5. of this paragraph will not apply for that affected facility.~~
 - ~~3. An owner or operator may redetermine the opacity value corresponding to the 97.5 percent upper confidence level as described in part (c)4. of this paragraph if the owner or operator:~~

- ~~(i) Conducts continuous opacity monitoring during each test run of a performance test that demonstrates compliance with an emission limit of subparagraph (b) of this paragraph.~~
- ~~(ii) Recalculates the 6-minute opacity averages as described in part (c)3. of this paragraph and~~
- ~~(iii) Uses the redetermined opacity value corresponding to the 97.5 percent upper confidence level for the purposes of part (c)5. of this paragraph.~~

~~(e) Test methods and procedures as specified in paragraph (7) of rule 1200-3-16-33 shall be used to determine compliance with this paragraph except that to determine compliance for any glass melting furnace using modified processes and fired with either a gaseous fuel or liquid fuel containing less than 0.50 weight percent sulfur, Method 5 specified in 1200-3-16-.01(5)(g)5. shall be used with the probe and filter holder heating system in the sampling train set to provide a gas temperature of $120 \pm 14^{\circ}\text{C}$.~~

~~(5) Reserved.~~

~~(6) Reserved.~~

~~(7) 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 the compliance with paragraph (3) and (4) of this rule as follows:~~

- ~~1. Method 1 as specified in 1200-3-16-.01(5)(g)1. shall be used for sample and velocity traverses, and~~
- ~~2. Method 2 as specified in 1200-3-16-.01(5)(g)2. shall be used to determine velocity and volumetric flow rate.~~
- ~~3. Method 3 as specified in 1200-3-16-.01(5)(g)3. shall be used for gas analysis.~~
- ~~4. Method 5 as specified in 1200-3-16-.01(5)(g)5. shall be used to determine the concentration of particulate matter and the associated moisture content.~~

~~(b) For Method 5, the probe and filter holder heating system in the sampling train shall be set to provide a gas temperature no greater than 177°C . The sampling time for each run shall be at least 60 minutes and the collected particulate shall weigh at least 50 mg. In sources containing SO_2 or SO_3 , the filter material must be a type that is unreactive to SO_2 or SO_3 .~~

~~(c) The particulate emission rate, E, shall be computed as follows:~~

$$E = Q \times C$$

~~Where:~~

- ~~1. E is the particulate emission rate (g/hr)~~
- ~~2. Q is the average volumetric flow rate (dscm/hr) as found from Method 2~~
- ~~3. C is the average concentration (g/dscm) of particulate matter as found from Method 5, modified as specified in subparagraph (7)(b) above.~~

~~(d) The rate of glass produced, P (kg/hr), shall be determined by dividing the weight of glass pulled in kilograms (kg) from the affected facility during the performance test by the number of hours (hr) taken to perform the performance test. The glass pulled, in kilograms, shall be determined by direct measurement or computed from materials balance by good engineering practice.~~

~~(e) For the purposes of these standards the furnace emission rate shall be computed as follows:~~

$$R = E \cdot A \cdot P$$

Where:

1. ~~R is the furnace emission rate (g/kg)~~
2. ~~E is the particulate emission rate (g/hr) from (c) above~~
3. ~~A is the zero production rate correction:
— A is 227 g/hr for container glass, pressed and blown (soda-lime and lead) glass, and pressed and blown (other than borosilicate, soda-lime and lead) glass
— A is 454 g/hr for pressed and blown (borosilicate) glass, wool fiberglass, and flat glass~~
4. ~~P is the rate of glass production (kg/hr) from (d) above.~~

~~(f) When gaseous and liquid fuels are fired simultaneously in a glass melting furnace, the heat input of each fuel, expressed in joules, is determined during each testing period by multiplying the gross calorific value of each fuel fired (in joules/kilogram) by the rate of each fuel fired (in kilograms/second) to the glass melting furnaces. The decimal percent of liquid fuel heating value to total fuel heating value is determined by dividing the heat input of the liquid fuels by the sum of the heat input for the liquid fuels and the gaseous fuels. Gross calorific values are determined in accordance with American Society of Testing and Materials (A.S.T.M.) Method D 240-76 (liquid fuels) and D 1826-77 (gaseous fuels), as applicable. The owner or operator shall determine the rate of fuels burned during each testing period by suitable methods and shall confirm the rate by a material balance over the glass melting system.~~

~~(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.)~~

~~(g) If an owner or operator changes an affected facility from a glass melting furnace with modified processes to a glass melting furnace without modified processes or from a glass melting furnace without modified processes to a glass melting furnace with modified processes, the owner or operator shall notify the Technical Secretary 60 days before the change is scheduled to occur.~~

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

Table of Contents of Chapter 1200-03-16 New Source Performance Standards is amended by deleting the words "Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry" and adding the word "Reserved" so that, as amended, the table of contents for 1200-03-16-.43 shall read: Reserved.

Rule 1200-03-16-.43 is amended by deleting the rule in its entirety and replacing it with the word "Reserved" so that, as amended, the rule shall read:

~~1200-03-16-.43 EQUIPMENT LEAKS OF VOC IN THE SYNTHETIC ORGANIC CHEMICALS MANUFACTURING INDUSTRY. Reserved~~

~~(1) Applicability.~~

~~(a) 1. The provisions of this rule apply to affected facilities in the synthetic organic chemicals manufacturing industry.~~

~~2. The group of all equipment within a process unit is an affected facility.~~

~~(b) Any affected facility under subparagraph (a) of this paragraph that commences construction or modification after November 6, 1988.~~

~~(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) 1. If an owner or operator applies for one of the exemptions in this subparagraph, then the owner or operator shall maintain records as required in subparagraph (7)(f) of this rule.~~
- ~~2. Any affected facility that has the design capacity to produce less than 1,000 Mg/yr is exempt from paragraph (3) of this rule.~~
- ~~3. If an affected facility produces heavy liquid chemicals only from heavy liquid feed or raw materials, then it is exempt from paragraph (3) of this rule.~~
- ~~4. Any affected facility that produces beverage alcohol is exempt from paragraph (3) of this rule.~~
- ~~5. Any affected facility that has no equipment in VOC service is exempt from paragraph (3) of this rule.~~

~~(2) Definitions:~~

- ~~(a) "Capital expenditure" means, in addition to the definition in 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: $P = R \times A$, 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: $A = Y \times (B - 100)$;~~
 - ~~(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 as follows:

 - ~~(I) 12.5 for the Synthetic Organic Chemical Manufacturing Industry.~~
 - ~~(II) 4.5 for Onshore Natural Gas Processing Plants.~~~~~~~~
- ~~(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 pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service and any devices or systems required by this rule.~~
- ~~(h) "Existing facility" means the group of all equipment, within a process unit, in existence on November 6, 1988 and any replacements in kind of such equipment from the complement considered to be the existing facility.~~

- ~~(i) "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.~~
- ~~(j) "In gas/vapor service" means that the piece of equipment contains process fluid that is in the gaseous state at operating conditions.~~
- ~~(k) "In heavy liquid service" means that the piece of equipment is not in gas/vapor service or in light liquid service.~~
- ~~(l) "In light liquid service" means that the piece of equipment contains a liquid that meets the conditions specified in subparagraph (6)(e) 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) "Pressure release" means the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device.~~
- ~~(p) "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.~~
- ~~(q) "Process unit" means components assembled to produce, as intermediate or final products, one or more of the chemicals specified in paragraph (10) of this rule. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.~~
- ~~(r) "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.~~
- ~~(s) "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.~~
- ~~(t) "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.~~
- ~~(u) "Replacement cost" means the capital needed to purchase all the depreciable components in a facility.~~
- ~~(v) "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.~~
- ~~(w) "In-situ sampling systems" means nonextractive samplers or in-line samplers.~~
- ~~(x) "Synthetic organic chemicals manufacturing industry" means the industry that produces, as intermediates or final products, one or more of the chemicals specified in paragraph (10) of this rule.~~
- ~~(y) "In vacuum service" means that equipment is operating at an internal pressure which is at least 5 kilopascals (kPa) below ambient pressure.~~

~~(z) "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 demonstrate compliance with the requirements of subparagraphs (3)(a) to (j) for all equipment within 180 days of initial startup.~~
- ~~2. 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.~~
- ~~3. (i) An owner or operator may request a determination of equivalence of a means of emission limitation to the requirements of subparagraphs (3)(b), (c), (e), (f), (g), (h), and (j) of this rule as provided in paragraph (5) of this rule.~~
~~(ii) If the Technical Secretary makes a determination that a means of emission limitation is at least equivalent to the requirements of subparagraphs (3)(b), (c), (e), (f), (g), (h), and (j) of this rule, an owner or operator shall comply with the requirements of that determination.~~
- ~~4. Equipment that is in vacuum service is excluded from the requirements of subparagraphs (3)(b) to (j) 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 subparagraph, 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 sub-part 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)l. 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 sub-part 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 part (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 sub-part 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. thru 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 sub-part 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) and (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 be monitored 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;~~
 - ~~(iv) Injection of lubricant into lubricated packing.~~
- ~~6. Any valve that is designated, as described in part (7)(e)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 rule 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 1200-03-16-.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 effected, the purged material is collected and destroyed or recovered in a control device complying with subparagraph (3)(j) of this 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 absorbers) 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. Flares used to comply with this rule shall comply with the requirements of 1200-3-16-.01(11).~~
- ~~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.~~
- ~~8. Each owner or operator subject to the provisions of this subparagraph may apply to the Technical Secretary for determination of equivalence for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emission achieved by the methods specified in the other parts of this subparagraph.~~

~~(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 maintain an affected facility with a leak percentage not 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 sub-parts 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 equivalence 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. thru 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 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. 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.~~
 - ~~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 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:

$$HT = K \sum_{i=1}^n H_i C_i$$

Where:

HT = 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.

$$K = \text{Constant}, 1.740 \times 10^7 \left(\frac{1}{\text{ppm}} \right) \left(\frac{\text{gmole}}{\text{scm}} \right) \left(\frac{\text{MJ}}{\text{kcal}} \right)$$

where

standard temperature for g mole is 20°C scm

C_i = Concentration of sample component i in ppm, as measured by Reference Method 18 and ASTM D2504-67 (reapproved 1977).

H_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, V_{max} for air-assisted flares shall be determined by the following equation:

$$V_{\text{max}} = 8.706 + 0.7084 (HT)$$

V_{max} = Maximum permitted velocity, m/sec.

8.706 = Constant.

0.7084 = Constant.

HT = 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 effected 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 and maintained 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) thru (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 sub-parts (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.~~
- ~~(l) The Technical Secretary may specify alternate record-keeping requirements if the provisions of paragraph (5) of this rule are availed of.~~
- ~~(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 sub-part (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 sub-part (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 sub-part (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)(g). 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.~~

~~(f) The Technical Secretary may specify alternate reporting requirements if the provisions of paragraph (5) of this rule are availed of.~~

~~(9) Reconstruction~~

~~(a) The cost of the following frequently replaced components of the 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 new facility" under subparagraph 1200-3-16-.01(9)(b): pump seals, nuts and bolts, rupture disks, and packings.~~

~~(b) Under subparagraph 1200-3-16-.01(9)(b), the "fixed capital cost of new components" includes the fixed capital cost 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.~~

~~(10) List of chemicals produced by affected facilities:~~

~~(a) The chemicals listed in Federal Register, Vol. 48, No. 202, pages 48342-48344, are produced, as intermediates or final products, by process units covered under this rule. The applicability date for process units producing one or more of these chemicals is November 6, 1988.~~

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

Table of Contents of Chapter 1200-03-16 New Source Performance Standards is amended by deleting the words "Rubber Tire Manufacturing" and adding the word "Reserved" so that, as amended, the table of contents for 1200-03-16-.60 shall read: Reserved.

Rule 1200-03-16-.60 is amended by deleting the rule in its entirety and replacing it with the word "Reserved" so that, as amended, the rule shall read:

1200-03-16-.60 RUBBER TIRE MANUFACTURING INDUSTRY. (A new rule to limit emissions from the manufacture of rubber tires) Reserved

~~(1) Applicability~~

- ~~(a) The provisions of this rule apply to the following affected facilities in rubber tire manufacturing plants: each undertread cementing operation, each sidewall cementing operation, each tread end cementing operation, each bead cementing operation, each green tire spraying operation, each Michelin-A operation, each Michelin-B operation, and each Michelin-C automatic operation.~~
- ~~(b) The provisions of this rule apply to each facility identified in subparagraph (a) of this paragraph that commences construction or modification after (the effective date of this rule).~~
- ~~(c) Although the affected facilities listed under subparagraph (1)(a) are defined in reference to the production of components of a "tire," as defined under part (2)(a)16., the percent emission reduction requirements and VOC use cutoffs specified under subparagraph (3)(a) parts 1, 2, 6, 7(iii), 7(iv), 8, 9, and 10 refer to the total amount of VOC used (the amount allocated to the affected facility), including the VOC used in cements and organic solvent-based green tire spray materials for the tire types not listed in the part (2)(a)16. definition of "tire."~~

~~(2) Definitions~~

- ~~(a) All terms that are used in this rule and are not defined below are given the same meaning as in chapter 1200-3-2.~~
- ~~1. "Bead" means rubber covered strands of wire, wound into a circular form, which ensures a seal between a tire and the rim of the wheel onto which the tire is mounted.~~
 - ~~2. "Bead cementing operation" means the system that is used to apply cement to the bead rubber before or after it is wound into its final circular form. A bead cementing operation consists of a cement application station, such as a dip tank, spray booth and nozzles, cement trough and roller or swab applicator, and all other equipment necessary to apply cement to wound beads or bead rubber and to allow evaporation of solvent from cemented beads.~~
 - ~~3. "Component" means a piece of tread, combined tread/sidewall, or separate sidewall rubber, or other rubber strip that is combined into the sidewall of a finished tire.~~
 - ~~4. "Drying area" means the area where VOC from applied cement or green tire sprays is allowed to evaporate.~~
 - ~~5. "Enclosure" means a structure that surrounds a VOC (cement, solvent, or spray) application area and drying area, and that captures and contains evaporated VOC and vents it to a control device. Enclosures may have permanent and temporary openings.~~
 - ~~6. "Green tire" means an assembled, uncured tire.~~
 - ~~7. "Green tire spraying operation" mean the system used to apply a mold release agent and lubricant to the inside and/or outside of green tires to facilitate the curing process and to prevent rubber from sticking to the curing press. A green tire spraying operation consists of a booth where spraying is performed, the spray application station, and related equipment, such as the lubricant supply system.~~
 - ~~8. "Michelin A operation" means the operation identified as Michelin A in the Emission Standards and Engineering Division confidential file as referenced in Docket A-80-9, Entry II-B-12.~~
- ~~(Note: Docket A-80-9 is available for public inspection between 8:00 a.m. and 4:00 p.m., Monday through Friday, at the EPA's Central Docket Section, South Conference Center, Room 4, 401 M Street, SW., Washington, DC 20460. A reasonable fee may be charged for copying.)~~

9. ~~"Michelin B operation" means the operation identified as Michelin B in the Emission Standards and Engineering Division confidential file as referenced in Docket A-80-9, Entry II-B-12.~~
10. ~~"Michelin C automatic operations" means the operation identified as Michelin C automatic in the Emission Standards and Engineering Division confidential file as referenced in Docket A-80-9, Entry II-B-12.~~
11. ~~"Month" means a calendar month or a prespecified period of 28 days or 35 days (utilizing a 4-4-5 week record-keeping and reporting schedule).~~
12. ~~"Organic solvent-based green tire spray" means any mold release agent and lubricant applied to the inside or outside of green tires that contains more than 12 percent, by weight, of VOC as sprayed.~~
13. ~~"Permanent opening" means an opening designed into an enclosure to allow tire components to pass through the enclosure by conveyor or other mechanical means, to provide access for permanent mechanical or electrical equipment, or to direct air flow into the enclosure. A permanent opening is not equipped with a door or other means of obstruction of air flow.~~
14. ~~"Sidewall cementing operation" means the system used to apply cement to a continuous strip of sidewall component or any other continuous strip component (except combined tread/sidewall component) that is incorporated into the sidewall of a finished tire. A sidewall cementing operation consists of a cement application station and all other equipment, such as the cement supply system and feed and takeaway conveyors, necessary to apply cement to sidewall strips or other continuous strip component (except combined tread/sidewall component) and to allow evaporation of solvent from the cemented rubber.~~
15. ~~"Temporary opening" means an opening into an enclosure that is equipped with a means of obstruction, such as a door, window, or port, that is normally closed.~~
16. ~~"Tire" means any agricultural, airplane, industrial, mobile home, light duty truck and/or passenger vehicle tire that has bead diameter less than or equal to 0.5 meter (m) (19.7 inches) and a cross-section dimension less than or equal to 0.325 m (12.8 in.), and that is mass produced in an assembly-line fashion.~~
17. ~~"Tread end cementing operation" means the system used to apply cement to one or both ends of the tread or combined tread/sidewall component. A tread end cementing operation consists of a cement application station and all other equipment, such as the cement supply system and feed and takeaway conveyors, necessary to apply cement to tread ends and to allow evaporation of solvents from the cemented tread ends.~~
18. ~~"Undertread cementing operation" means the system used to apply cement to a continuous strip of tread or combined tread/sidewall component. An undertread cementing operation consists of a cement application station and all other equipment, such as the cement supply system and feed and takeaway conveyors, necessary to apply cement to tread or combined tread/sidewall strips and to allow evaporation of solvent from the cemented tread or combined tread/sidewall.~~
19. ~~"VOC emission control device" means equipment that destroys or recovers VOC.~~
20. ~~"VOC emission reduction system" means a system composed of an enclosure, hood, or other device for containment and capture of VOC emissions and a VOC emission control device.~~
21. ~~"Water based green tire spray" means any mold release agent and lubricant applied to the inside or outside of green tires that contains 12 percent or less, by weight, of VOC as sprayed.~~

(b) ~~Notations used under this rule are defined as follows:~~

- ~~B_o = total number of beads cemented at a particular bead cementing affected facility for a month~~
- ~~G_a = concentration of VOC in gas stream in vents after a control device (parts per million by volume)~~
- ~~G_b = concentration of VOC in gas stream in vents before a control device (parts per million by volume)~~
- ~~G_f = concentration of VOC in each gas stream vented directly to the atmosphere from an affected facility or from a temporary enclosure around an affected facility (parts per million by volume)~~
- ~~D_c = density of cement or spray material (grams per liter)~~
- ~~D_r = density of VOC recovered by an emission control device (grams per liter)~~
- ~~E = emission control device efficiency, inlet versus outlet (fraction)~~
- ~~F_c = capture efficiency, VOC captured and routed to one control device versus total VOC used for an affected facility (fraction)~~
- ~~F_o = fraction of total mass of VOC used in a month by all facilities served by a common cement or spray material distribution system that is used by a particular affected facility served by the common distribution system~~
- ~~G = monthly average mass of VOC used per tire cemented or sprayed with a water-based green tire spray for a particular affected facility (grams per tire)~~
- ~~G_b = monthly average mass of VOC used per bead cemented for a particular bead cementing affected facility (grams per bead)~~
- ~~L_c = volume of cement for spray material used for a month (liters)~~
- ~~L_r = volume of VOC recovered by an emission control device for a month (liters)~~
- ~~M = total mass of VOC used for a month by all facilities served by a common cement or spray material distribution system (grams)~~
- ~~M_o = total mass of VOC used at an affected facility for a month (grams)~~
- ~~M_r = mass of VOC recovered by an emission control device for a month (gram)~~
- ~~N = mass of VOC emitted to the atmosphere per tire cemented or sprayed with a water-based green tire spray for an affected facility for a month (grams per tire)~~
- ~~N_b = mass of VOC emitted per bead cemented for an affected facility for a month (grams per bead)~~
- ~~Q_a = volumetric flow rate in vents after a control device (dry standard cubic meters per hour)~~
- ~~Q_b = volumetric flow rate in vents before a control device (dry standard cubic meters per hour)~~
- ~~Q_f = volumetric flow rate of each stream vented directly to the atmosphere from an affected facility or from a temporary enclosure around an affected facility (dry standard cubic meters per hour)~~

~~R = overall efficiency of an emission reduction system (fraction)~~

~~Td = total number of days in monthly compliance period (days)~~

~~To = total number of tires cemented or sprayed with water-based green tire sprays at a particular affected facility for a month~~

~~Wo = weight fraction of VOC in a cement or spray material~~

~~(3) Standard for Volatile Organic Compounds~~

~~(a) On and after the date on which the initial performance test, required by rule 1200-3-16-.01(5)(g), is completed, but no later than 180 days after initial startup, each owner or operator subject to the provisions of this rule shall comply with the following conditions:~~

~~1. For each undertread cementing operation:~~

~~(i) Discharge into the atmosphere no more than 25 percent of the VOC used (75 percent emission reduction) for each month; or~~

~~(ii) Maintain total (uncontrolled) VOC use less than or equal to the levels specified below, depending upon the duration of the compliance period:~~

~~(I) 3,870 kilograms of VOC per 28 days,~~

~~(II) 4,010 kilograms of VOC per 29 days,~~

~~(III) 4,150 kilograms of VOC per 30 days,~~

~~(IV) 4,280 kilograms of VOC per 31 days, or~~

~~(V) 4,840 kilograms of VOC per 35 days.~~

~~2. For each sidewall cementing operation:~~

~~(i) Discharge into the atmosphere no more than 25 percent of the VOC used (75 percent emission reduction) for each month; or~~

~~(ii) Maintain total (uncontrolled) VOC use less than or equal to the levels specified below, depending upon the duration of the compliance period:~~

~~(I) 3,220 kilograms of VOC per 28 days,~~

~~(II) 3,340 kilograms of VOC per 29 days,~~

~~(III) 3,450 kilograms of VOC per 30 days,~~

~~(IV) 3,570 kilograms of VOC per 31 days, or~~

~~(V) 4,030 kilograms of VOC per 35 days.~~

~~3. For each tread end cementing operation: Discharge into the atmosphere no more than 10 grams of VOC per tire (g/tire) cemented for each month.~~

~~4. For each bead cementing operation: Discharge into the atmosphere no more than 5 grams of VOC per bead (g/bead) cemented for each month.~~

~~5. For each green tire spraying operation where only water-based sprays are used:~~

- ~~(i) Discharge into the atmosphere no more than 1.2 grams of VOC per tire sprayed with an inside green tire spray for each month; and~~
- ~~(ii) Discharge into the atmosphere no more than 9.3 grams of VOC per tire sprayed with a water-based outside green tire spray for each month; and either~~

~~6. For each green tire spraying operation where only organic solvent-based sprays are used:~~

- ~~(i) Discharge into the atmosphere no more than 25 percent of the VOC used in the organic solvent-based green tire sprays (75 percent emission reduction) for each month; or~~
- ~~(ii) Maintain total (uncontrolled) VOC use less than or equal to the levels specified below, depending upon the duration of the compliance period:
 - ~~(I) 3,220 kilograms of VOC per 28 days;~~
 - ~~(II) 3,340 kilograms of VOC per 29 days;~~
 - ~~(III) 3,450 kilograms of VOC per 30 days;~~
 - ~~(IV) 3,570 kilograms of VOC per 31 days; or~~
 - ~~(V) 4,030 kilograms of VOC per 31 days; or~~~~

~~7. For each green tire spraying operation where both water-based and organic solvent-based sprays are used:~~

- ~~(i) Discharge into the atmosphere no more than 1.2 grams of VOC per tire sprayed with a water-based inside green tire spray for each month; and~~
- ~~(ii) Discharge into the atmosphere no more than 1.2 grams of VOC per tire sprayed with a water-based outside green tire spray for each month; and either~~
- ~~(iii) Discharge into the atmosphere no more than 25 percent of the VOC used in the organic solvent-based green tire sprays (75 percent emission reduction) for each month; or~~
- ~~(iv) Maintain total (uncontrolled) VOC use for all organic solvent-based green tires sprays less than or equal to the levels specified under subpart (ii) of part 6 of this paragraph.~~

~~8. For each Michelin-A operation:~~

- ~~(i) Discharge into the atmosphere no more than 35 percent of the VOC used (65 percent emission reduction) for each month; or~~
- ~~(ii) Maintain total (uncontrolled) VOC use less than or equal to the levels specified below, depending upon the duration of the compliance period:
 - ~~(I) 1,570 kilograms of VOC per 28 days;~~
 - ~~(II) 1,630 kilograms of VOC per 29 days;~~
 - ~~(III) 1,690 kilograms of VOC per 30 days;~~
 - ~~(IV) 1,740 kilograms of VOC per 31 days; or~~
 - ~~(V) 1,970 kilograms of VOC per 35 days.~~~~

~~9. For each Michelin-B operation:~~

- ~~(i) Discharge into the atmosphere no more than 25 percent of the VOC used (75 percent emission reduction) for each month; or~~
- ~~(ii) Maintain total (uncontrolled) VOC used less than or equal to the levels specified below, depending upon the duration of the compliance period:~~
 - ~~(I) 1,310 kilograms of VOC per 28 days,~~
 - ~~(II) 1,360 kilograms of VOC per 29 days,~~
 - ~~(III) 1,400 kilograms of VOC per 30 days,~~
 - ~~(IV) 1,450 kilograms of VOC per 31 days, or~~
 - ~~(V) 1,640 kilograms of VOC per 35 days.~~

~~10. For each Michelin-C Automatic operation:~~

- ~~(i) Discharge into the atmosphere no more than 35 percent of the VOC used (65 percent emission reduction) for each month; or~~
- ~~(ii) Maintain total (uncontrolled) VOC use less than or equal to the levels specified under subpart (ii) of part 8 of this paragraph.~~

~~(4) Performance Test and Compliance Provisions:~~

~~(a) Rule 1200-3-16-.01(5)(d) does not apply to the monthly performance test procedures required by this rule. Rule 1200-3-16-.01(5)(d) does not apply to initial performance tests and to the performance tests specified under subparagraphs (b)2 and (b)3 of this paragraph. Rule 1200-3-16-.01(5)(f) does not apply when Method 24 is used.~~

~~(b) Performance tests shall be conducted as follows:~~

- ~~1. The owner or operator of an affected facility shall conduct an initial performance tests, as required under rule 1200-3-16-.01(5)(a), except as described under subparagraph (j) of this paragraph. The owner or operator of an affected facility shall thereafter conduct a performance test each month except as described under subparagraphs (g)1 and (j) of this paragraph. Initial and monthly performance tests shall be conducted according to the procedures in this paragraph.~~
- ~~2. The owner or operator of an affected facility who elects to use a VOC emission reduction system with a control device that destroys VOC (e.g., incinerator), as described under subparagraphs (f) and (g) of this paragraph, shall repeat the performance test when directed by the Technical Secretary or when the owner or operator elects to operate the capture system or control device at conditions different from the most recent determination of overall reduction efficiency. The performance test shall be conducted in accordance with the procedures described under subparts (f)2(i) through (iii) of this paragraph.~~
- ~~3. The owner or operator of an affected facility who seeks to comply with the equipment design and performance specifications as described under subparagraph (j) of this paragraph, shall repeat the performance test when directed by the Technical Secretary or when the owner or operator elects to operate the capture system or control device at conditions different from the most recent determination of control device efficiency or measurements of capture system retention time or face velocity. The performance test shall be conducted in accordance with the procedures described under subparagraph (f)2(ii) of this paragraph.~~

~~(c) For each untreated cementing operation, each sidewall cementing operation, each green tire spraying operation where organic solvent-based sprays are used, each Michelin-A operation,~~

~~each Michelin-B operations, and each Michelin-C automatic operation where the owner or operator seeks to comply with the uncontrolled monthly VOC use (kg/mo) limits, the owner or operator shall use the following procedures to determine compliance with the applicable (depending upon duration under subparagraph (3)(a) subparts 1(ii), 2(ii), 6(ii), 7(iv), 8(ii), 9(ii), and 10(ii) of this paragraph. If both undertread cementing and sidewall cementing are performed at the same affected facility during a month, then the kg/mo limit specified under subparagraph (3)(a) subparts 1(ii) shall apply for that month.~~

~~1. Determine the density and weight fraction VOC (including dilution VOC) for each cement or green tire spray from its formulation or by analysis of the cement or green tire spray using Method 24 (as specified in rule 1200-3-16-.01(5)(g)). If a dispute arises, the Technical Secretary may require an owner or operator who used formulation data to analyze the cement or green tire spray using Method 24 (as specified in rule 1200-3-16-.01(5)(g)).~~

~~2. Calculate the total mass of VOC used at the affected facility for the month (Mo) by the following procedure:~~

~~(i) For each affected facility for which cement or green tire spray is delivered in batch or via a distribution system that serves only the affected facility:~~

$$M_o = \sum_{i=1}^a L_{ci} D_{ci} W_{oi}$$

~~where: "a" equals the number of different cements or green tire sprays used during the month that are delivered in batch or via a distribution system that serves only a single affected facility.~~

~~(ii) For each affected facility for which cement or green tire spray is delivered via a common distribution system that also serves other affected or existing facilities:~~

~~(I) Calculate the total mass of VOC used for all of the facilities served by the common distribution system for the month (M):~~

$$M = \sum_{i=1}^b L_{ci} D_{ci} W_{oi}$$

~~where: "b" equals the number of different cements or green tire sprays used during the month that are delivered via a common distribution system that also serves other affected or existing facilities.~~

~~(II) Determine the fraction (Fo) of M used at the affected facility by comparing the production records and process specifications for the material cemented or sprayed at the affected facility for the month to the production records and process specifications for the material cemented or sprayed at all other facilities served by the common distribution system for the month.~~

~~(III) Calculate the total monthly mass of VOC used at the affected facility for the month (Mo):~~

$$M_o = MF_o$$

~~3. Determine the time duration of the monthly compliance period (Td).~~

~~(d) For each tread end cementing operation and each green tire spraying operation where water-based sprays are used (inside and/or outside) that do not use a VOC emission reduction system, the owner or operator shall use the following procedure to determine compliance with the g/tire limit specified under subparagraph (3)(a) subparts 3, 5(i), 5(ii), 7(i), and 7(ii).~~

- ~~1. Determine the density and weight fraction VOC as specified under subparagraph (c)1 of this paragraph.~~
- ~~2. Calculate the total mass of VOC used at the affected facility for the month (Mo) as specified under subparagraph (c)2 of this paragraph.~~
- ~~3. Determine the total number of tires cemented or sprayed at the affected facility for the month (To) by the following procedure:~~
 - ~~(i) For a tread end cementing operation, To equals the number of tread or combined tread/sidewall components that receive an application of tread end cement for the month.~~
 - ~~(ii) For a green tire spraying operation that uses water based inside green tire sprays, To equals the number of green tires that receive an application of water based inside green tire spray for the month.~~
 - ~~(iii) For a green tire spraying operation that uses water based outside green tire sprays, To equals the number of green tires that receive an application of water based outside green tire spray for the month.~~

- ~~4. Calculate the mass of VOC used per tire cemented or sprayed at the affected facility for the month (G):~~

$$G = \frac{M_o}{T_o}$$

- ~~5. Calculate the mass of VOC emitted per tire cemented or sprayed at the affected facility for the month (N):~~

$$N = G$$

- ~~(e) For each bead cementing operation that does not use a VOC emission reduction system, the owner or operator shall use the following procedure to determine compliance with the g/bead limit specified under part 4 of subparagraph (3)(a):~~

- ~~1. Determine the density and weight fraction VOC as specified under subparagraph (c)1 of this paragraph.~~
- ~~2. Calculate the total mass of VOC used at the affected facility for the month (Mo) as specified under subparagraph (c)2 of this paragraph.~~
- ~~3. Determine the number of beads cemented at the affected facility during the month (Bo) using production records; Bo equals the number of beads that receive an application of cement for the month.~~
- ~~4. Calculate the mass of VOC used per bead cemented at the affected facility for the month (Gb):~~

$$G_b = \frac{M_o}{B_o}$$

- ~~5. Calculate the mass of VOC emitted per bead cemented at the affected facility for the month (Nb):~~

$$N_b = G_b$$

~~(f) For each tread end cementing operation and each bead cemented operation that uses a VOC emission reduction system with a control device that destroys VOC (e.g., incinerator), the owner or operator shall use the following procedure to determine compliance with the emission limit specified under subparagraph (3)(a) parts 3 and 4 of this paragraph.~~

- ~~1. Calculate the mass of VOC used per tire cemented at the affected facility for the month (G), as specified under subparagraphs (d)1 through 4 of this paragraph, or mass of VOC used per bead cemented at the affected facility for the month (Gb), as specified under subparagraph (3) parts 1 through 4 of this paragraph.~~
- ~~2. Calculate the mass of VOC emitted per tire cemented at the affected facility for the month (N) or mass of VOC emitted per bead cemented for the affected facility for the month (Nb):~~

$$\del N = G(1-R)$$

$$\del Nb = Gb(1-R)$$

~~For the initial performance test, the overall reduction efficiency (R) shall be determined as prescribed under subparagraph (f) subparts 2(i) through (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 except during conditions described under subparagraph (b)2 of this paragraph.~~

- ~~(i) The owner or operator of an affected facility shall construct a temporary enclosure around the application and drying areas during the performance test for the purpose of capturing fugitive VOC emissions. The enclosure must be maintained at a negative pressure to ensure that all evaporated VOC are measurable. Determine the fraction (Fc) of total VOC used at the affected facility that enters the control device:~~

$$\del F_c = \frac{\sum_{i=1}^m C_{bi} Q_{bi}}{\sum_{i=1}^m C_{bi} Q_{bi} + \sum_{i=1}^n C_{fi} Q_{fi}}$$

~~where: "m" is the number of vents from the affected facility to the control device, and "n" is the number of vents from the affected facility to the atmosphere and from the temporary enclosure.~~

- ~~(ii) Determine the destruction efficiency of the control device (E) by 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 control device:~~

$$\del E = \frac{\sum_{i=1}^m C_{bi} Q_{bi} - \sum_{i=1}^p C_{ai} Q_{ai}}{\sum_{i=1}^m C_{bi} Q_{bi}}$$

~~where: "m" is the number of vents from the affected facility to the control device, and "p" is the number of vents after the control device.~~

- ~~(iii) Determine the overall reduction efficiency (R):~~

$$R = EF_c$$

~~(g) For each undertread cementing operation, each sidewall cementing operation, each green tire spraying operation where organic solvent-based sprays are used, each Michelin-A operation, each Michelin-B operation, and each Michelin-C automatic operation that use a VOC emission~~

~~reduction system with a control device that destroys VOC (e.g., incinerator), the owner or operator shall use the following procedure to determine compliance with the percent emission reduction requirement specified under subparagraph (3)(a) subparts 1(i), 2(i), 6(i), 7(iii), 8(i), 9(i) and 10(i).~~

~~1. For the initial performance test, the overall reduction efficiency (R) shall be determined as prescribed under subparagraph (f) subparts 2(i) through (iii) of this paragraph. The performance test shall be repeated during conditions described under subparagraph (b)2 of this paragraph. No monthly performance tests are required.~~

~~(h) For each tread end cementing operation and each bead cementing operation that uses a VOC emission reduction system with a control device that recovers VOC (e.g., carbon adsorber), the owner or operator shall use the following procedure to determine compliance with the emission limit specified under subparagraph (4)(a) parts 3 and 4.~~

~~1. Calculate the mass of VOC used per tire cemented at the affected facility for the month (G), as specified under subparagraphs (d)1 through 4 of this paragraph, or mass of VOC used per bead cemented at the affected facility for the month (Gb), as specified under subparagraph (e) parts 1 through 4 of this paragraph.~~

~~2. Calculate the total mass of VOC recovered from the affected facility for the month (Mr):~~

$$Mr = Lr Dr$$

~~3. Calculate the overall reduction efficiency for the VOC emission reduction system (R) for the month:~~

$$R = \frac{Mr}{Mo}$$

~~4. Calculate the mass of VOC emitted per tire cemented at the affected facility for the month (N) or mass of VOC emitted per bead cemented at the affected facility for the month (Nb):~~

$$N = G(1 - R)$$

$$Nb = Gb(1 - R)$$

~~(i) For each undertread cementing operation, each sidewall cementing operation, each green tire spraying operation where organic solvent-based sprays are used, each Michelin-A operation, each Michelin-B operation, and each Michelin-C automatic operation that use a VOC emission reduction system with a control device that recovers (VOC) (e.g., carbon adsorber), the owner or operator shall use the following procedure to determine compliance with the percent reduction requirement specified under subparagraph (3)(a) subparts 1(i), 2(i), 6(i), 7(iii), 8(i), 9(i) and 10(i).~~

~~1. Determine the density and weight fraction VOC as specified under subparagraph (c)1 of this paragraph.~~

~~2. Calculate the total mass of VOC used at the affected facility for the month (Mo) as described under part (c)2 of this paragraph.~~

~~3. Calculate the total mass of VOC recovered from the affected facility for the month (Mr) as described under part (h)2 of this paragraph.~~

~~4. Calculate the overall reduction efficiency for the VOC emission reduction system (R) for the month as described under subparagraph (h)3 of this paragraph.~~

~~(j) Rather than seeking to demonstrate compliance with the provisions of subparagraph (3)(a) subparts 1(i), 2(i), 6(i), 7(iii), or 9(i) of this paragraph using the performance test procedures~~

~~described under subparagraphs (g) and (i) of this paragraph, and owner or operator of an undertread cementing operation, sidewall cementing operation, green tire spraying operation where organic solvent-based sprays are used, or Michelin-B operation that use a VOC emission reduction system may seek to demonstrate compliance by meeting the equipment design and performance specifications listed under subparagraph (j) parts 1, 2, and 4 through 6 or under subparagraph (j) parts 1 and 3 through 6 of this paragraph, and by conducting a control device efficiency and performance test to determine compliance as described under part (j)7 of this paragraph. The owner or operator shall conduct this performance test of the control device efficiency no later than 180 days after initial startup of the affected facility, as specified under rule 1200-3-16-.01(5)(g). Meeting the capture system design and performance specifications, in conjunction with operating a 95 percent efficient control device, is an acceptable means of demonstrating compliance with the standard. Therefore, the requirement for the initial performance test on the enclosure, as specified under rule 1200-3-16-.01(5)(g), is waived. No monthly performance test required.~~

- ~~1. For each undertread cementing operation, each sidewall cementing operation, and each Michelin-B operation, the cement application and drying area shall be contained in an enclosure that meets the criteria specified under subparagraph (j) parts 2, 4, and 5 of this paragraph; for each green tire spraying operation where organic solvent-based sprays are used, the spray application and drying area shall be contained in an enclosure that meets the criteria specified under subparagraph (j) parts 3, 4, and 5 of this paragraph.~~
- ~~2. The drying area shall be enclosed between the application area and the water bath or to the extent necessary to contain all tire components for at least 30 seconds after cement application, whichever distance is less.~~
- ~~3. Sprayed green tires shall remain in the enclosure for a minimum of 30 seconds after spray application.~~
- ~~4. A minimum face velocity of 100 feet per minute shall be maintained continuously through each permanent opening into the enclosure when all temporary enclosure openings are closed. The cross-sectional areas of each permanent opening shall be divided into at least 12 equal areas, and a velocity measurement shall be performed at the centroid of each equal area with an anemometer or similar velocity monitoring device; the face velocity of each permanent opening is the average value of the velocity measurements taken. The monitoring device shall be calibrated and operated according to the manufacturer's instructions. Temporary enclosure opening shall remain closed at all times except when worker access is necessary.~~
- ~~5. The total area of all permanent openings into the enclosure shall not exceed the area that would be necessary to maintain the VOC concentration of the exhaust gas stream at 25 percent of the lower explosive limit (LEL) under the following conditions:
 - ~~(i) The facility is operating at the maximum solvent use rate;~~
 - ~~(ii) The face velocity through each permanent opening is 100 feet per minute; and~~
 - ~~(iii) All temporary openings are closed.~~~~
- ~~6. All captured VOC ducted to a VOC emission control device that is operated on a continuous basis and that achieves at least 95 percent destruction or recovery efficiency.~~
- ~~7. The efficiency of the control device (E) for the initial performance test is determined by 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 control device as described under subpart (f)2(ii) of this paragraph. The control device efficiency shall be redetermined during conditions specified under subpart (b)3 of this paragraph.~~

~~(k) Each owner or operator of an affected facility who initially elected to be subject to the applicable percent emission reduction requirement specified under subparagraph (3)(a) subparts 1(i), 2(i),~~

~~6(i), 7(iii), 8(i), 9(i) and 10(i) of this paragraph and who later seeks to comply with the applicable total (uncontrolled) monthly VOC use limit specified under subparagraph (3)(a) subparts 1(ii), 2(ii), 6(ii), 7(iv), 8(ii), 9(ii) or 10(ii) shall demonstrate, using the procedures described under subparagraph (c) of this paragraph, that the total VOC use at the affected facility has not exceeded the applicable total (uncontrolled) monthly VOC use limit during each of the last 6 months of operation. The owner or operator shall be subject to the applicable percent emission reduction requirement until the conditions of this subparagraph and subparagraph (7)(h) are satisfied.~~

~~(l) In determining compliance for each undertread cementing operation, each sidewall cementing operation, each green tire spraying operation, each Michelin-A operation, each Michelin-B operation, and each Michelin-C automatic operation, the owner or operator shall include all the VOC used, recovered, or destroyed from cements or sprays used for tires other than those defined under subparagraph (2)(a).~~

~~(m) In determining compliance for each tread end cementing operation, each bead cementing operation, and each green tire spraying operation, the owner or operator shall include only those tires defined under subparagraph (2)(a) when determining To and Bo.~~

~~(5) Monitoring of Operations.~~

~~(a) Each owner or operator subject to the provisions of this rule shall install, calibrate, maintain, and operate according to manufacturer's specifications the following equipment, unless alternative monitoring procedures or requirements are approved for that facility by the Technical Secretary:~~

~~1. Where a thermal incinerator is used for VOC emission reduction, a temperature monitoring device equipped with a continuous recorder for the temperature of the gas stream in the combustion zone of the incinerator. The temperature monitoring device shall have an accuracy of 1 percent of the temperature being measured in 0°C or $\pm 0.5^\circ\text{C}$, whichever is greater.~~

~~2. Where a catalytic incinerator is used for VOC emission reduction, temperature monitoring devices, each equipped with a continuous recorder, for the temperature in the gas stream immediately before and after the catalyst bed of the incinerator. The temperature monitoring devices shall have an accuracy of 1 percent of the temperature being measured in 0°C or $\pm 0.5^\circ\text{C}$, whichever is greater.~~

~~3. For an undertread cementing operation, sidewall cementing operation, green tire spraying operation where organic solvent-based sprays are used, or Michelin-B operation where a carbon adsorber is used to meet the performance requirements specified under part 6 of subparagraph (4)(j), an organics monitoring device used to indicate the concentration level of organic compounds based on a detection principle such as infrared, photoionization, or thermal conductivity, equipped with a continuous recorder, for the outlet of the carbon bed.~~

~~(b) An owner or operator of an undertread cementing operation, sidewall cementing operation, green tire spraying operation where organic solvent-based sprays are used, or Michelin-B operation where a VOC recovery device other than a carbon adsorber is used to meet the performance requirements specified under part 6 of subparagraph (4)(j), 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 request further information and will specify appropriate monitoring procedures or requirements.~~

~~(6) Record Keeping Requirements.~~

~~(a) Each owner or operator of an affected facility that uses a thermal incinerator shall maintain continuous records of the temperature of the gas stream in the combustion zone of the incinerator and records of all 3-hour periods of operation for which the average temperature of the gas stream in the combustion zone was more than 28°C (50°F) below the combustion zone~~

temperature measured during the most recent determination of the destruction efficiency of the thermal incinerator that demonstrated that the affected facility was in compliance.

~~(b) Each owner or operator of an affected facility that uses a catalytic incinerator shall maintain continuous records of the temperature of the gas stream both upstream and downstream of the catalyst bed of the incinerator, records of all 3-hour periods of operation for which the average temperature measured before the catalyst bed is more than 28°C below the gas stream temperature measured before the catalyst bed during the most recent determination of destruction efficiency of the catalytic incinerator that demonstrated that the affected facility was in compliance, and records of all 3-hour periods for which the average temperature difference across the catalyst bed is less than 80 percent of the temperature difference measured during the most recent determination of the destruction efficiency of the catalytic incinerator that demonstrated that the affected facility was in compliance.~~

~~(c) Each owner or operator of an undertread cementing operation, sidewall cementing operation, green tire spraying operation where organic solvent-based sprays are used, or Michelin-B operation that uses a carbon adsorber to meet the requirements specified under part 6 of subparagraph (4)(j) shall maintain continuous records of all 3-hour periods of operation during which the average VOC concentration level or reading of organics in the exhaust gases is more than 20 percent greater than the exhaust gas concentration level or reading measured by the organics monitoring device during the most recent determination of the recovery efficiency of the carbon adsorber that demonstrated that the affected facility was in compliance.~~

~~(d) Each owner or operator of an untread cementing operation, sidewall cementing operation, green tires spraying operation where organic solvent-based sprays are used, Michelin-A operation, Michelin-B operation, or Michelin-C automatic operation who seeks to comply with a specified kg/mo uncontrolled VOC use limit shall maintain records of monthly VOC use and the number of days in each compliance period.~~

~~(e) Each owner or operator that is required to conduct monthly performance tests, as specified under part 1 of subparagraph (4)(b), shall maintain records of the results of all monthly tests.~~

~~(7) Reporting Requirements.~~

~~(a) Each owner or operator subject to the provisions of this rule at the time of notification of the anticipated initial startup of an affected facility pursuant to rule 1200-3-16-.01(7)(a)2, shall provide a written report to the Technical Secretary declaring for each undertread cementing operation, each sidewall cementing operation, each green tires spraying operation where organic solvent-based spray are used, each Michelin-A operation, each Michelin-B operation, and each Michelin-C automatic operation the emission limit he intends to comply with and the compliance method (where subparagraph (4)(j) is applicable) to be employed.~~

~~(b) Each owner or operator subject to the provisions of this rule at the time of notification of the anticipated initial startup of an affected facility pursuant to rule 1200-3-16-.01(7)(a)2, shall specify the monthly schedule (each calendar month or 4-4-5 week schedule) to be used in making compliance determinations.~~

~~(c) Each owner or operator subject to the provisions of this rule shall report the results of all initial performance tests, as required under rule 1200-3-16-.01(8)(a), and the results of the performance test required under subparagraph (4)(b) parts 2 and 3. The following data shall be included in the report for each of the above performance tests:~~

~~1. For each affected facility for which the owner or operator seeks to comply with a kg/mo uncontrolled VOC use limit specified under subparagraph (3)(a). The monthly mass of VOC used (Mo) and the number days in the compliance period (Tdd).~~

~~2. For each affected facility that seeks to comply with a g/tire or g/bead limit specified under subparagraph (3)(a) without the use of a VOC emission reduction system: the mass of VOC used (Mo), the number of tires cemented or sprayed (To), the mass of VOC emitted~~

~~per tire cemented or sprayed (N), the number of beads cemented (Bo), and the mass of VOC emitted per bead cemented (Nb).~~

- ~~3. For each affected facility that uses a VOC emission reduction system with a control device that destroys VOC (e.g., incinerator) to comply with a g/tire or g/bead limit specified under subparagraph (3)(a): The mass of VOC used (Mo), the number of tires cemented or sprayed (To), the mass of VOC emitted per tire cemented or sprayed (N), the number of beads cemented (Bo), the mass of VOC emitted per bead cemented (Nb), the mass of VOC used per tire cemented or sprayed (G), the mass of VOC per bead cemented (Gb), the emission control device efficiency (E), the capture system efficiency (Fc), the face velocity through each permanent opening for the capture system with the temporary openings closed, and the overall system emission reduction (R).~~
- ~~4. For each affected facility that uses a VOC emission reduction system with a control device that destroys VOC (e.g., incinerator) to comply with a percent emission reduction requirement specified under subparagraph (3)(a): The emission control device efficiency (E), the capture system efficiency (Fc), the face velocity through each permanent opening in the capture system with the temporary openings closed, and the overall system emission reduction (R).~~
- ~~5. For each affected facility that uses a carbon adsorber to comply with a g/tire or g/bead limit specified under subparagraph (3)(a): The mass of VOC used (Mo), the number of tires cemented or sprayed (To), the mass of VOC used per tire cemented or sprayed (G), the number of beads cemented (Bo), the mass of VOC used per bead (Gb), the mass of VOC recovered (Mr), the overall system emission reduction (R), the mass of VOC emitted per tire cemented or sprayed (N), and the mass of VOC emitted per bead cemented (Nb).~~
- ~~6. For each affected facility that uses a VOC emission reduction system with a control device that recovers VOC (e.g., carbon adsorber) to comply with a percent emission reduction requirement specified under subparagraph (3)(a): The mass of VOC used (Mo), the mass of VOC recovered (Mr), and the overall system emission reduction (R).~~

~~(d) Each owner or operator of an undertread cementing operation, sidewall cementing operation, green tire spraying operation where organic solvent-based sprays are used, or Michelin-B operation who seeks to comply with the requirements described under subparagraph (4)(j) shall include in the initial compliance report a statement specifying, in detail, how each of the equipment design and performance specifications has been met. The initial compliance report also shall include the following data: The emission control device efficiency (E), the face velocity through each permanent enclosure opening with all temporary enclosure openings closed, the total area of all permanent enclosure openings, the total area of all temporary enclosure openings, the maximum solvent use rate (kg/hr), the type(s) of VOC used, the lower explosive limit (LEL) for each VOC used, and the length of time each component is enclosed after application of cement or spray material.~~

~~(e) Each owner or operator of an affected facility shall include the following data measured by the required monitoring device(s), as applicable, in the report for each performance test specified under subparagraph (c) of this paragraph.~~

- ~~1. The average combustion temperature measured at least every 15 minutes and averaged over the performance test period of incinerator destruction efficiency for each thermal incinerator.~~
- ~~2. The average temperature before and after the catalyst bed measured at least every 15 minutes and averaged over the performance test period of incinerator destruction efficiency for each catalytic incinerator.~~
- ~~3. The concentration level or reading indicated by the organics monitoring device at the outlet of the adsorber, measured at least every 15 minutes and averaged over the performance test period of carbon adsorber recovery efficiency while the vent stream is normally routed and constituted.~~

- ~~4. The appropriate data to be specified by the Technical Secretary where a VOC recovery device other than a carbon adsorber is used.~~
- ~~(f) Once every six (6) months each owner or operator subject to the provisions of paragraph six (6) shall report, as applicable:~~
- ~~1. Each monthly average VOC emission rate that exceeds the g/tire or g/bead limit specified under subparagraph (3)(a), as applicable for the affected facility.~~
 - ~~2. Each monthly average VOC use rate that exceeds the kg/mo VOC use limit specified under subparagraph (3)(a), as applicable for the affected facility.~~
 - ~~3. Each monthly average VOC emission reduction efficiency for a VOC recovery device (e.g., carbon adsorber) less than the percent efficiency limit specified under subparagraph (3)(a), as applicable for the affected facility.~~
 - ~~4. Each 3-hour period of operation for which the average temperature of the gas stream in the combustion zone of a thermal incinerator, as measured by the temperature monitoring device, is more than 28°C (50°F) below the combustion zone temperature measured during the most recent determination of the destruction efficiency of the thermal incinerator that demonstrated that the affected facility was in compliance.~~
 - ~~5. Each 3-hour period of operation for which the average temperature of the gas stream immediately before the catalyst bed of a catalytic incinerator, as measured by the temperature monitoring device, is more than 28°C (50°F) below the gas stream temperature measured before the catalyst bed during the most recent determination of the destruction efficiency of the catalyst incinerator that demonstrated that the affected facility was in compliance, and any 3-hour period for which the average temperature difference across the catalyst bed (i.e., the difference between the temperatures of the gas stream immediately before and after the catalyst bed), as measured by the temperature monitoring device, is less than 80 percent of the temperature difference measured during the most recent determination of the destruction efficiency of the catalytic incinerator that demonstrated that the affected facility was in compliance.~~
 - ~~6. Each 3-hour period of operation during which the average concentration level or reading of VOC's in the exhaust gases from a carbon adsorber is more than 20 percent greater than the exhaust gas concentration level or reading measured by the organics monitoring device during the most recent determination of the recovery efficiency of the carbon adsorber that demonstrated that the affected facility was in compliance.~~
- ~~(g) Each owner or operator of an affected facility who initially elected to be subject to the applicable percent emission reduction requirement specified under subparagraph (3)(a) and who later seeks to comply with the applicable total (uncontrolled) monthly VOC use limit specified under subparagraph (3)(a) and who has satisfied the provisions specified under subparagraph (4)(k) shall furnish the Technical Secretary written notification no less than 30 days in advance of the date when he intends to be subject to the applicable VOC use limit instead of the applicable percent emission reduction requirement.~~

~~(8) Test Methods and Procedures~~

- ~~(a) The test methods as referenced in rule 1200-3-16-01(5)(g), except as provided under rule 1200-3-16-01(8)(b), shall be used to determine compliance with subparagraph (3)(a) as follows:~~
- ~~1. Method 24 (as referenced in rule 1200-3-16-01(5)(g)), or formulation data for the determination of the VOC content of cements or green tire spray materials. In the event of dispute, Method 24 shall be the reference method. For Method 24, the cement or green spray sample shall be a 1-liter sample collected in a 1-liter container at a point where the sample will be representative of the material as applied in the affected facility.~~

- ~~2. Method 25 (as referenced in rule 1200-3-16-.01(5)(g)) as the reference method for the determination of the VOC concentrations in each stack, both entering and leaving an emission control device. The owner or operator shall notify the Technical Secretary 30 days in advance of any test by Method 25. For Method 25, the sampling time for each of three runs shall be at least one (1) hour. Method 1 shall be used to select the sampling site, and the sampling point shall be the centroid of the duct or at a point no closer to the walls than one (1) meter. The minimum sample volume shall be 0.003 dry standard cubic meter (dscm) except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Technical Secretary.~~
- ~~3. Methods 2, or 2A (as referenced in rule 1200-3-16-.01(5)(g)), as appropriate, as the reference method for determination of the flow rate of the stack gas. The measurement site shall be the same as for the Method 25 sampling. A velocity traverse shall be made once per run within the hour that the Method 25 sample is taken.~~
- ~~4. Method 4 (as referenced in rule 1200-3-16-.01(5)(g)) for determination of stack gas moisture.~~

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)
Michael Atchison	X				
Dr. J. Ronald Bailey	X				
Elaine Boyd	X				
Dr. Brian W.Christman				X	
Dr. Wayne T. Davis	X				
Dr. Mary English				X	
Stephen R. Gossett				X	
Mayor Tommy Green				X	
Dr. Shawn A. Hawkins	X				
Helen Hennon				X	
Richard M. Holland	X				
John Roberts	X				
Mayor Larry Waters	X				
Alicia M. Wilson				X	

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 08/08/2012, 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: 06/14/12

Rulemaking Hearing(s) Conducted on: (add more dates). 08/06/12

Date: _____

Signature: _____

Name of Officer: Barry R. Stephens, P.E.

Title of Officer: Technical Secretary

Subscribed and sworn to before me on: _____

Notary Public Signature: _____

My commission expires on: _____

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.

Robert E. Cooper, Jr.
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 containing responses to comments made at the public hearing must accompany the filing pursuant to T.C.A. § 4-5-222. Agencies shall include only their responses to public hearing comments, which can be summarized. No letters of inquiry from parties questioning the rule will be accepted. When no comments are received at the public hearing, the agency need only draft a memorandum stating such and include it with the Rulemaking Hearing Rule filing. Minutes of the meeting will not be accepted. Transcripts are not acceptable.

There were no comments received 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 as described in T.C.A. § 4-5-202(a)(3) and T.C.A. § 4-5-202(a), all agencies shall conduct a review of whether a proposed rule or rule affects small businesses.

- (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 revisions to Rules 1200-03-16-.33, 1200-03-16-.43 and 1200-03-16-.60 could potentially affect any small business that would be subject to either of the regulations. For either situation the affect would be beneficial in that they would not be subject to obsolete state regulations in addition to the current federal regulations. To quantify the number of small businesses subject t either rule would require an exhaustive research effort as affected facilities may or may not be small businesses.

- (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:

None.

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

The revisions to Rules 1200-03-16-.33, 1200-03-16-.43 and 1200-03-16-.60 could prevent small businesses from being subject to both obsolete state and current federal regulations. There would be no affect on consumers.

- (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:

None.

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

The provisions of Chapter 1200-03-16 are the state equivalent to federal regulations contained in 40 CFR Part 60. The deletion of Rules 1200-03-16-.33, 1200-03-16-.43 and 1200-03-16-.60 serve to allow the Division to utilize current federal language.

- (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.

Not applicable.

Impact on Local Governments

Pursuant to T.C.A. §§ 4-5-220 and 4-5-228 “any rule proposed to be promulgated shall state in a simple declarative sentence, without additional comments on the merits of the policy of the rules or regulation, whether the rule or regulation may have a projected impact on local governments.” (See Public Chapter Number 1070 (<http://state.tn.us/sos/acts/106/pub/pc1070.pdf>) of the 2010 Session of the General Assembly)

These proposed rule revisions will have no projected impact on 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 repeal the prior state rule and permit the state to incorporate and enforce the language of the federal rule by the authority of the Technical Secretary granted by T.C.A. § 68-201-105.

- (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;

Chapter 1200-03-16 is the state equivalent of the Federal regulations found in 40 CFR Part 60. These amendments are being promulgated under the authority of T.C.A. § 68-201-101 et seq.

- (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 rule revision will affect glass manufacturing plants, synthetic organic chemical manufacturing plants, and rubber tire manufacturing plants.

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

The Board is not aware of any.

- (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;

None.

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

Jeryl W. Stewart
Division of Air Pollution Control
9th Floor, L & C Annex,
401 Church St.,
Nashville, TN 37243-1531
(615) 532-0605

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

Alan M. Leiserson
Legal Services Director, Office of General Counsel
Tennessee Department of Environment and Conservation
20th Floor, L & C Tower
Nashville, TN 37243-1548

- (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

Legal Services Director, Office of General Counsel
Tennessee Department of Environment and Conservation

20th Floor, L & C Tower
Nashville, TN 37243-1548
Alan.Leiserson@tn.gov

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

The Board is not aware of any.