ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 60

[AD-FRL-3608-2]

Standards of Performance for New Stationary Sources; Revisions to Rubber Tire Manufacturing Industry

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule and petition for reconsideration.

SUMMARY: On February 14, 1989 (54 FR 6850), EPA proposed minor revisions to standards of performance for the rubber tire manufacturing industry. The revisions to the new source performance standards (NSPS) were proposed as a result of a petition for reconsideration of the NSPS filed by the Rubber Manufacturers Association (RMA), et al. This action promulgates final revisions to the NSPS. The effect of this action is to grant the petitioners' requests for revision of: (1) Changes in cutoff formats between proposal and promulgation; (2) requirements for determining capture efficiency using a temporary enclosure; and (3) requirements for monthly tests for green tire sprays containing low quantities of volatile organic compounds (VOC).

EFFECTIVE DATE: September 19, 1989. Under section 307(b)(1) of the Clean Air Act, judicial review of this NSPS is available *only* by the filing of a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit within 60 days of today's publication of this rule. Under section 307(b)(2) of the Clean Air Act, the requirements that are the subject of today's notice may not be challenged later in civil or criminal proceedings brought by EPA to enforce these requirements.

ADDRESSES: *Docket.* A docket, number A-80-9, containing information considered by EPA in the development of the promulgated standards and the Petition for Reconsideration to which this notice is responding, is available for public inspection between 8:30 a.m. and 3:30 p.m., Monday through Friday, at EPA's Air Docket Section (LE-131), Waterside Mall, Room M1500, 1st Floor, 401 M Street, SW., Washington, DC 20460. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: For further information and interpretations of applicability, compliance requirements, and reporting aspects of the revised standards, contact the appropriate Regional, State, or local office contact as listed in 40 CFR 60.4. For further information on the background for the promulgated revised standards, contact Ms. Shirley Tabler, Standards Development Branch, Emission Standards Division (MD-13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone (919) 541-5256.

SUPPLEMENTARY INFORMATION:

I. Background

Standards of performance for the rubber tire manufacturing industry were promulgated in the **Federal Register** on September 15, 1987 (52 FR 34868). The promulgated standards limit VOC emissions from new, modified, or reconstructed facilities. The VOC emissions from the rubber tire industry are caused primarily by application of materials which contain VOC to different components of a tire during the manufacturing process. The affected facilities are 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.

The control technology for these facilities consists of low solvent usage or an emission reduction system.

On November 12, 1987, the RMA (a national trade association representing several tire manufacturers) filed with EPA a petition for reconsideration of the Standards of Performance for New Stationary Sources in the Rubber Tire Manufacturing Industry. On November 12 and 13, 1987, the RMA and the Firestone Tire and Rubber Company, respectively, filed with the U.S. Court of Appeals for the District of Columbia Circuit petitions for review of the NSPS under section 307(b) of the Clean Air Act. Additionally, on December 10, 1987, Michelin Tire Corporation filed a Motion for Leave to Intervene in the review of the final standards.

In summary, the petitioners requested review of: (1) The format of the VOC use cutoffs established in the promulgated NSPS; (2) potential expansion in the coverage of the regulation; (3) requirements for determining capture efficiency using a temporary enclosure; and (4) requirements for monthly tests for green tire sprays containing low quantities of VOC. The revisions proposed on February 14, 1989, were in regard to items (1), (3), and (4); however, no revisions to the NSPS were made with regard to coverage of the NSPS. A detailed discussion of the issues presented in the petitions for review and EPA's response to the issues is contained in the preamble for the proposed revisions (54 FR 6850-6852).

II. The Promulgated Revisions

The proposed revisions to the NSPS were published in the **Federal Register** on February 14, 1989 (54 FR 6850). A public hearing was scheduled on March 21, 1989. However, there were no requests for a hearing. The public comment period lasted from February 14, 1989 to April 21, 1989. One comment letter was received from RMA. The RMA stated that the proposed revisions constitute an appropriate response to issues raised in the petitions. In addition to the proposed revisions, RMA suggested one minor change be made with regard to the use of water-based tread end cements. Specifically, the association requested EPA to delete the requirement for monthly performance tests for tread end cementing operations which use spray formulations containing less than 1.0 percent by weight of VOC. According to RMA, deleting this requirement would encourage the use of low-VOC materials since these materials are not currently in widespread use.

The EPA has considered RMA's requested revision and has decided to make this change. The change would be consistent with the proposed change for green tire spraying operations which use spray formulations containing less than 1.0 percent by weight of VOC. Also, EPA would like to encourage waste minimization through the use of water-based materials. Therefore, the promulgated revisions waive the requirement for monthly performance tests for both tread end cementing operations and green tire spraying operations which use spray formulations containing less than 1.0 percent by weight of VOC. The owner or operator of these operations, however, must submit annually formulation data or the results of Method 24 analysis to verify the VOC content of the spray in lieu of conducting monthly performance tests. No other changes have been made to the revisions proposed on February 14, 1989. The promulgated revisions allow affected facilities (each undertread cementing operation and each sidewall cementing operation) that commenced construction, modification, or reconstruction prior to the promulgation date of the NSPS (September 15, 1987) the option of complying with either the proposed or final cutoff (25 g/tire or total (uncontrolled) monthly VOC usage). Owners or operators of these affected facilities must decide within two months after promulgation of these revisions whether they will elect to use

the alternative cutoff. The promulgated revisions also provide an alternative procedure for demonstration of capture efficiency through the use of a liquid-to-gas material balance in cases where only a single VOC (solvent) is used.

III. Administrative Requirements

A. Docket

The docket is an organized and complete file of all the information considered by EPA in the development of this rulemaking. The docket is a dynamic file because material is added through the rulemaking development. The docketing system is intended to allow members of the public and industries involved to identify and locate documents so that they can effectively participate in the rulemaking process. Along with the statement of basis and purpose of the proposed and promulgated amendments to the NSPS and EPA responses to significant comments, the contents of the docket, except for interagency review materials, will serve as the record in case of judicial review (see Clean Air Act, section 307(d)(7)(A), 42 U.S.C. 7607(d)(7)(A)).

B. Paperwork Reduction Act

Changes to the information requirements in this rule have been approved by the Office of Management and Budget (OMB) Clearance No. 2060-0156 under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* An Information Collection Request document has been prepared by EPA (ICR No. 1158) and a copy may be obtained by writing Sandy Farmer, Information Policy Branch, EPA, 401 M Street SW., (PM-223), Washington, DC 20460 or by calling (202) 382-2740.

Public reporting burden for this collection of information is estimated to decrease 20 to 35 hours annually for manufacturers employing tread end cementing and green tire spray operations using water-based sprays containing less than 1.0 percent by weight of VOC.

Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U. S. Environmental Protection Agency, 401 M Street SW., Washington, DC 20460, and to the Office of Information and Regulatory Affairs, Paperwork Reduction Project (2060-0156), Office of Management and Budget, Washington, DC 20503, marked "Attention: Desk Officer for EPA."

C. Executive Order 12291

This rulemaking was submitted to OMB for review as required by Executive Order 12291. Any written comments from OMB to EPA and any EPA response to those comments are included in Docket No. A-80-9. This docket is available for public inspection at EPA's Air Docket Section that is listed under the **ADDRESSES** section of this notice.

D. Regulatory Flexibility Act Compliance

The Regulatory Flexibility Act of 1980 (5 U.S.C. 605(b)) requires that adverse effects of all Federal regulations upon small businesses be identified. As stated in the preamble to the final NSPS (52 FR 34874, September 15, 1987), it is unlikely that any new plant would be considered a small entity. Therefore, it is unlikely that this rulemaking, which promulgates minor revisions to the NSPS, would adversely affect any small businesses.

Pursuant to the provisions of 5 U.S.C. 605(b), I hereby certify that these promulgated revisions to the NSPS will not have a significant economic impact on a substantial number of small entities.

List of Subjects in 40 CFR Part 60

Air pollution control, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping, Rubber tire manufacturing (SIC 3011).

Dated: September 12, 1989.

William K. Reilly,

Administrator.

For reasons set out in the preamble, 40 CFR Part 60, Subpart BBB, is amended as follows:

PART 60—[AMENDED]

1. The authority citation for Part 60 continues to read as follows:

Authority: Sec. 101, 111, 114, 116, 301 of the Clean Air Act as amended (42 U.S.C. 7401, 7411, 7414, 7416, and 7601).

2. Section 60.540 is amended by revising paragraphs (a) and (b) to read as follows:

§ 60.540 Applicability and designation of affected facilities.

(a) The provisions of this subpart, except as provided in paragraph (b) of this section, apply to each of the following affected facilities in rubber tire manufacturing plants that commence construction, modification, or reconstruction after January 20, 1983: 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 owner or operator of each undertread cementing operation and each sidewall cementing operation in rubber tire manufacturing plants that commenced construction, modification, or reconstruction after January 20, 1983, and before September 15, 1987, shall have the option of complying with the alternate provisions in § 60.542a. This election shall be irreversible. The alternate provisions in § 60.542a do not apply to any undertread cementing operation or sidewall cementing operation that is modified or reconstructed after September 15, 1987. The affected facilities in this paragraph are subject to all applicable provisions of this subpart.

* * * * *

3. Section 60.542a is added to read as follows:

§ 60.542a Alternate standard for volatile organic compounds.

(a) On and after the date on which the initial performance test, required by § 60.8, is completed, but no later than 180 days after September 19, 1989, each owner or operator subject to the provisions in § 60.540(b) shall not cause to be discharged into the atmosphere more than: 25 grams of VOC per tire processed for each month if the operation uses 25 grams or less of VOC per tire processed and does not employ a VOC emission reduction system.

(b) (Reserved)

4. In § 60.543, the second sentences of paragraphs (b)(1) and (b)(2) are revised; paragraphs (b)(4), (f)(2)(iv), and (n) are added; and paragraphs (d) and (f)(2) introductory text are revised to read as follows:

§ 60.543 Performance test and compliance provisions.

* * * * *

(b) * * *

(1) * * * The owner or operator of an affected facility shall thereafter conduct a performance test each month, except as described under paragraphs (b)(4), (g)(1), and (j) of this section. * * *

(2) * * * The performance test shall be conducted in accordance with the procedures described under paragraphs (f)(2) (i) through (iv) of this section.

* * * * *

(4) The owner or operator of each tread end cementing operation and each green tire spraying operation using only water-based sprays (inside and/or outside) containing less than 1.0 percent, by weight, of VOC is not required to

conduct a monthly performance test as described in paragraph (d) of this section. In lieu of conducting a monthly performance test, the owner or operator of each tread end cementing operation and each green tire spraying operation shall submit formulation data or the results of Method 24 analysis annually to verify the VOC content of each tread end cement and each green tire spray material, provided the spraying formulation has not changed during the previous 12 months. If the spray material formulation changes, formulation data or Method 24 analysis of the new spray shall be conducted to determine the VOC content of the spray and reported within 30 days as required under § 60.546(j).

* * * * *

(d) For each tread end cementing operation and each green tire spraying operation where water-based cements or sprays containing 1.0 percent, by weight, of VOC or more 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 § 60.542 (a)(3), (a)(5)(i), (a)(5)(ii), (a)(7)(i), and (a)(7)(ii).

* * * * *

(f) * * *

(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 (N_b):

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

$$N_b = G_b(1-R)$$

For the initial performance test, the overall reduction efficiency (R) shall be determined as prescribed under paragraphs (f)(2) (i) through (iv) of this section. After the initial performance test, the owner or operator may use the most recently determined overall reduction efficiency (R) for the performance test. No monthly performance tests are required. The performance test shall be repeated during conditions described under paragraph (b)(2) of this section.

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(iv) The owner or operator of an affected facility shall have the option of substituting the following procedure as an acceptable alternative to the requirements prescribed under paragraph (f)(2)(i) of this section. This alternative procedure is acceptable only in cases where a single VOC is used and is present in the capture system. The average capture efficiency value derived from a minimum of three runs shall constitute a test.

(A) For each run, "i," measure the mass of the material containing a single VOC used. This measurement shall be made using a scale that has both a calibration and a readability to within 1 percent of the mass used during the run. This measurement may be made by filling the direct supply reservoir (e.g., trough, tray, or drum that is integral to the operation) and related application equipment (e.g., rollers, pumps, hoses) to a marked level at the start of the run and then refilling to the same mark from a more easily weighed container (e.g., separate supply drum) at the end of the run. The change in mass of the supply drum would equal the mass of material used from the direct supply reservoir. Alternatively, this measurement may be made by weighing the direct supply reservoir at the start and end of the run or by weighing the direct supply reservoir and related application equipment at the start and end of the run. The change in mass would equal the mass of the material used in the run. If only the direct supply reservoir is weighed, the amount of material in or on the related application equipment must be the same at the start and end of the run. All additions of VOC containing material made to the direct supply reservoir during a run must be properly accounted for in determining the mass of material used during that run.

(B) For each run, "i," measure the mass of the material containing a single VOC which is present in the direct supply reservoir and related application equipment at the start of the run, unless the ending weight fraction VOC in the material is greater than or equal to 98.5 percent of the starting weight fraction VOC in the material, in which case, this measurement is not required. This measurement may be made directly by emptying the direct supply reservoir and related application equipment and then filling them to a marked level from an easily weighed container (e.g. separate supply drum). The change in mass of the supply drum would equal the mass of material in the filled direct supply reservoir and related application equipment. Alternatively, this measurement may be made by weighing the direct supply reservoir and related application equipment at the start of the run and subtracting the mass of the empty direct supply reservoir and related application equipment (tare weight).

(C) For each run, "i," the starting weight fraction VOC in the material shall be determined by Method 24 analysis of a sample taken from the direct supply reservoir at the beginning of the run.

(D) For each run, "i," the ending weight fraction VOC in the material shall be determined by Method 24 analysis of a sample taken from the direct supply reservoir at the end of the run.

(E) For each run, "i," in which the ending weight fraction VOC in the material is greater than or equal to 98.5 percent of the starting weight fraction VOC in the material, calculate the mass of the single VOC used (Mi) by multiplying the mass of the material used in the run by the starting weight fraction VOC of the material used in the run.

(F) For each run, "i," in which the ending weight fraction VOC in the material is less than 98.5 percent of the starting weight fraction VOC in the material, calculate the mass of the single VOC used (M_i) as follows:

(*1*) Calculate the mass of VOC present in the direct supply reservoir and related application equipment at the start of the run by multiplying the mass of material in the direct supply reservoir and related application equipment at the start of the run by the starting weight fraction VOC in the material for that run.

(*2*) Calculate the mass of VOC present in the direct supply reservoir and related application equipment at the end of the run by multiplying the mass of material in the direct supply reservoir and related application equipment at the end of the run by the ending weight fraction VOC in the material for that run. The mass of material in the direct supply reservoir and related application equipment at the end of the run shall be calculated by subtracting the mass of material used in the run from the mass of material in the direct supply reservoir and related application equipment at the start of the run.

(*3*) The mass of the single VOC used (M_i) equals the mass of VOC present in the direct supply reservoir and related application equipment at the start of the run minus the mass of VOC present in the direct supply reservoir and related application eqiupment at the end of the run.

(G) If Method 25A is used to determine the concentration of the single VOC in the capture system, then calculate the capture efficiency (FC_i) for each run, "i," as follows:

$$FC_i = \frac{C_i \quad \frac{W}{V} \quad Q_i}{(M_i)\ (10^6)}$$

Where: C_i = Average concentration of the single VOC in the capture system during run "i" (parts per million by volume) corrected for background VOC (see § 60.547(a)(5)).
W = Molecular weight of the single VOC, expressed as mg per mg-mole.
$V = 2.405 \times 10^{-5}$ m³/mg-mole. This is the volume occupied by one mg-mole of ideal gas at standard conditions (20°C, 1 atmosphere) on a wet basis.
Q_i = Volumetric flow in m³ in the capture system during run "i" adjusted to standard conditions (20°C, 1 atmosphere) on a wet basis (see § 60.547(a)(5)).
10^6 = ppm per unity.
M_i = Mass in mg of the single VOC used during run "i.".

(H) If Method 25 is used to determine the concentration of the single VOC in the capture system, then calculate the capture efficiency (FC_i) for each run, "i," as follows:

$$FC_i = \frac{\frac{C_i}{(NC)(10^6)} \quad \frac{(W)(Q_i)}{(V)}}{M_i}$$

Where: C_i = Average concentration of the single VOC in the capture system during run "i" (parts per million, as carbon, by volume) corrected for background VOC (see § 60.547(a)(5)).
W = Molecular weight of the single VOC, expressed as mg per mg-mole.
$V = 2.405 \times 10^{-5}$ m³/mg-mole. This is the volume occupied by one mg-mole of ideal gas at standard conditions (20°C, 1 atmosphere) on a wet basis.
Q_i = Volumetric flow in m³ in the capture system during run "i" adjusted to standard conditions (20°C, 1 atmosphere) on a dry basis (see § 60.547(a)(5)).
10^6 = ppm per unity.
M_i = Mass in mg of the single VOC used during run "i".
NC = Number of carbon atoms in one molecule of the single VOC.

(I) Calculate the average capture efficiency value, F_c as follows:

$$F_c = \frac{\sum_{i=1}^{n} FC_i}{n}$$

Where: "n" equals the number of runs made in the test ($n > 3$). In cases where an alternative procedure in this paragraph is used, the requirements in paragraphs (f)(2) (ii) and (iii) of this section remain unchanged.

* * * * *

(n) For each undertread cementing operation and each sidewall 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 25 g/tire limit specified in § 60.542a:

(1) Calculate the total mass of VOC (M_o) used at the affected facility for the month by the following procedure.

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

$$M_O = \sum_{i=1}^{n} L_{ci} D_{ci} W_{oi}$$

Where: "n" equals the number of different cements or sprays used during the month.

(ii) For each affected facility for which cement is delivered via a common distribution system which also serves other affected or existing facilities.

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

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

Where: "n" equals the number of different cements or sprays used during the month.

(B) Determine the fraction (F_o) of "M" used by the affected facility by comparing the production records and process specifications for the material cemented at the affected facility for the month to the production records and process specifications for the material cemented at all other facilities served by the common distribution system for the month or by another procedure acceptable to the Administrator.

(C) Calculate the total monthly mass of VOC(M_o) used at the affected facility:

$$M_o = MF_o$$

(2) Determine the total number of tires (T_o) processed at the affected facility for the month by the following procedure.

(i) For undertread cementing, T_o equals the number of tread or combined tread/sidewall components which receive an application of undertread cement.

(ii) For sidewall cementing, T_o equals the number of sidewall components which receive an application of sidewall cement, divided by 2.

(3) Calculate the mass of VOC used per tire processed (G) by the affected facility for the month:

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

(4) Calculate the mass of VOC emitted per tire processed (N) for the affected facility for the month:

$$N = G$$

(5) Where the value of the mass of VOC emitted per tire processed (N) is less than or equal to the 25 g/tire limit specified under § 60.542a, the affected facility is in compliance.

* * * * *

5. Section 60.545 is amended by adding paragraph (f) to read as follows:

§ 60.545 Recordkeeping requirements.

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(f) Each owner or operator of a tread end cementing operation and green tire spraying operation using water-based cements or sprays containing less than 1.0 percent by weight of VOC, as specified under § 60.543(B)(4), shall maintain records of formulation data or the results of Method 24 analysis conducted to verify the VOC content of the spray.

6. Section 60.546 is amended by adding paragraphs (c)(7), (i), and (j) to read as follows:

§ 60.546 Reporting requirements.

* * * * *

(c) * * *

(7) For each affected facility that elects to comply with the alternate limit specified under § 60.542a: The mass of VOC used (M_o), the number of tires processed (T_o), and the mass of VOC emitted per tire processed (N).

* * * * *

(i) The owner or operator of each undertread cementing operation and each sidewall cementing operation who qualifies for the alternate provisions as described in § 60.542a, shall furnish the Administrator written notification of the

election no less than 60 days after September 19, 1989.

(j) The owner or operator of each tread end cementing operation and each green tire spraying (inside and/or outside) operation using water-based sprays containing less than 1.0 percent, by weight, of VOC as described in § 60.543(b)(1) shall furnish the Administrator, within 60 days initially and annually thereafter, formulation data or Method 24 results to verify the VOC content of the water-based sprays in use. If the spray formulation changes before the end of the 12-month period, formulation data or Method 24 results to verify the VOC content of the spray shall be reported within 30 days.

* * * * *

7. Section 60.547 is amended by adding paragraph (a)(5) to read as follows:

§ 60.547 Test methods and procedures.

(a) * * *

(5) Method 25 or Method 25A for determination of the VOC concentration in a capture system prior to a control device when only a single VOC is present (see § 60.543 (f)(2)(iv)(G) and (f)(2)(iv)(H)). The owner or operator shall notify the Administrator 30 days in advance of any test by either Method 25 or Method 25A. 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 1 meter. Method 2, 2A, 2C, or 2D, as appropriate, shall be used as the test method for the concurrent determination of gas flow rate in the capture system.

(i) For Method 25, the sampling time for each run shall be at least 1 hour. For each run, a concurrent sample shall be taken immediately upwind of the application area to determine the background VOC concentration of air drawn into the capture system. Subtract this reading from the reading obtained in the capture system for that run. 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 variable or other factors, may be approved by the Administrator. Use Method 3 to determine the moisture content of the stack gas.

(ii) For Method 25A, the sampling time for each run shall be at least 1 hour. Instrument calibration shall be performed by the procedure given in Method 25A using the single VOC present in the capture system. A different calibration gas may be used if the results are corrected using an experimentally determined response factor comparing the alternative calibration gas to the single VOC used in the process. After the instrument has been calibrated, determine the background VOC concentration of the air drawn into the capture system immediately upwind of the application area for each run. The instrument does not need to be recalibrated for the background measurement. Subtract this reading from the reading obtained in the capture system for that run. The Method 25A results shall only be used in the alternative procedure for determination of capture efficiency described under § 60.543(f)(2)(iv)(G).

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