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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 60

[AD-FRL-3437-2]

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

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule and public hearing; petition for reconsideration.

SUMMARY: On September 15, 1987 (52 FR 34868), EPA promulgated standards of performance for the rubber tire manufacturing industry. Subsequently, the Rubber Manufacturers Association (RMA) filed a petition for reconsideration with EPA, both RMA and Firestone Tire and Rubber Company filed petitions for review of the Administration's decision with the D.C. Circuit, and Michelin Tire Corporation filed a motion for leave to intervene in the review of the promulgated standards. The petitioners requested review of: (1) Changes in cutoffs between proposal and promulgation; (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 volatile organic compounds (VOC). The EPA has evaluated the petition, and the Administrator grants the petitioners' requests for revision of the existing new source performance standard (NSPS) for the rubber tire manufacturing industry with regard to items (1), (3), and (4), but denies petitioners' requests for revision of the NSPS relating to coverage of the NSPS, item (2). This action provides EPA's responses to petitioners' requests, and the resulting minor proposed revisions to the NSPS are set forth in this notice.

A public hearing will be held to provide interested parties an opportunity for oral presentations of data, views, or arguments concerning the proposed revisions.

DATES: *Comments.* Comments must be received on or before April 21, 1989.

Public Hearing. If anyone contacts EPA requesting to speak at a public hearing by March 14, 1989, a public hearing will be held on March 21, 1989, beginning at 10:00 a.m. Persons interested in attending the hearing should call Ann Eleanor at (919) 541-5578 to verify that a hearing will be held.

Request to Speak at Hearing. Persons wishing to present oral testimony must contact EPA by March 14, 1989.

ADDRESSES: *Comments.* Comments should be submitted (in duplicate if possible) to: Central Docket Section (LE-131), Attention: Docket No. A-80-9, U.S. Environmental Protection Agency, 401 M Street SW., Washington, DC 20460.

Public Hearing. If anyone contacts EPA requesting a public hearing, it will be held at EPA's Office of Administration Auditorium, Research Triangle Park, North Carolina. Persons interested in attending the hearing or wishing to present oral testimony should notify Ms. Ann Eleanor, Standards Development Branch (MD-13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone (919) 541-5578.

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 8:00 a.m. and 3:30 p.m., Monday through Friday, at 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.

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 proposed revised standards, contact Ms. Dianne Byrne, Standards Development Branch, Emission Standards Division (MD-13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, telephone (919) 541-5266.

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.

Facilities affected by these standards are those where components for agricultural, airplane, industrial, mobile home, light-duty truck, or passenger vehicle tires have a bead diameter up to and including 0.325 m (12.8 in) and are mass produced in assembly-line fashion.

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

II. Summary of RMA Petition for Reconsideration and EPA's Response

On November 12, 1987, the RMA (an 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 Standards of Performance for New Stationary Sources in the Rubber Tire Manufacturing Industry 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. Michelin filed the motion pursuant to Rule 15(d) of the Federal Rules of Appellate Procedure. Although Michelin is a member of the RMA, which also filed a petition for review of the standards, the corporation did not feel that its interest would be adequately represented or protected by RMA because Michelin utilizes processes and facilities that are unique in the industry.

The issues presented in the petitions for review are virtually identical to those raised in the petition for reconsideration.

The following discussion summarizes and represents the arguments made by all the petitioners with regard to the final standards. Likewise, EPA's response to each issue is made with regard to the arguments of all of the petitioners.

A. The petitioners stated that the VOC use cutoffs established in the final standard are inappropriate and unlawful, having been changed after proposal to incorporate arbitrary assumptions. They claim the final cutoffs also retroactively expanded coverage without the opportunity to comment and should be revised. At

proposal, the VOC cutoff was expressed in terms of grams per tire (grams/tire) and included only VOC applied to "tire" components, as that term was defined in the regulation. (Oversized tires (larger truck, implement, or industrial tires) and nonassembly-line tires were excluded from the definition of "tire" used to establish the 25 grams/tire cutoff at proposal). At promulgation, the cutoff was changed to a kilograms per month format and included all VOC used at the facility, including VOC used for tire types other than those defined in the regulation. Thus, the petitioners argued that this change resulted in retroactively expanding the NSPS coverage to include tire types not included in the proposed standards because the final standard applies to facilities constructed or modified between January 20, 1983, and September 15, 1987, that produced oversized tires. The petitioners maintained that it was not proper for EPA to include in the monthly VOC use cutoff calculations the VOC used for tire types and sizes other than those defined in the standard.

The petitioners also maintained that the assumptions regarding days of operation and production rates included in the monthly VOC cutoffs reflect limited data which did not represent typical operations either on the applicability date (January 20, 1983) or on the effective date (September 15, 1987). Specifically, the use of an inappropriate number for the days of operation and the production rate per facility resulted in an arbitrarily low cutoff value. The petitioners believed that the rulemaking record should have been reopened to enable interested parties to comment on these assumptions. According to the petitioners, owners or operators of facilities constructed or modified after the applicability date will be adversely affected by the change in the format of the final cutoff to kilograms VOC per month, including VOC used for tire types other than those defined in the regulation.

The Administrator believes that the form of the final cutoff and associated definitions are appropriate and should not be revised. The basis for these is fully consistent with the proposed standard. The final format and definitions, which were revised in response to public comment, merely make the standard more equitable and eliminate potential ambiguities in the proposed definitions and format. At proposal, the gram per tire VOC use cutoffs were provided to exempt from the emission reduction requirements facilities that would incur control costs

which the Administrator judged to be too high for the emission reduction achieved. The EPA selected the 25 g/tire format for undertread cementing or sidewall cementing operations based on the belief that, although the amount of VOC may vary from tire-to-tire, all tires received an application of cement. After proposal, one industry commenter presented a situation where a large portion of the tire production did not receive undertread cement, but VOC use was greater than 25 g/tire for the portion of production receiving cement, the only tires that would be counted under the proposed format. In this case, it was argued that the cost of control would be unreasonable. With this situation in mind, EPA revised the format of the VOC cutoff for undertread cementing and sidewall cementing operations from 25 g/tire to total (uncontrolled) monthly VOC usage at each facility. The total (uncontrolled) monthly VOC use cutoff is equivalent to the proposed 25 g/tire cutoff, since it was developed using the same basis (production rate and days of operation, etc.) that was used to determine the proposed 25 g/tire cutoff. This format eliminates the requirement of having to reduce emissions by 75 percent where total VOC use could be relatively small, but the amount of VOC applied per tire could exceed the proposed 25 g/tire cutoff. In addition, total VOC use data, which are independent of tire size and use, were used to develop the percent emission reduction requirements and monthly VOC use cutoffs. Therefore, for these reasons, EPA denies the petitioners' requests to revise completely the form of the final cutoff and associated definitions.

Nevertheless, the Agency acknowledges that because of the long time period between proposal and promulgation (more than 4 years), in this instance it may not be reasonable to impose the final form of the cutoff on facilities that commenced construction, modification, or reconstruction prior to promulgation and that are using (or will use) low solvent technology to comply with the proposed gram per tire form of the standard. Therefore, EPA is granting the petitioners' requests with respect to affected facilities that commenced construction, modification, or reconstruction between proposal and promulgation. Specifically, EPA has revised the standard to allow affected facilities (each undertread cementing operation and each sidewall cementing operation) that commenced construction, modification, or reconstruction prior to the promulgation date (September 15, 1987) the option of

complying with either the proposed or final cutoff. Owners or operators of affected facilities eligible for this option will be allowed 2 months following promulgation of this revision to elect to comply with the proposed or the final form of the cutoff. Provisions for notifying the Administrator of the election to be subject to the alternate standard are contained in §60.546(i) of the regulation. Otherwise, no notification is necessary. Once the decision is made, it cannot be reversed.

Except as previously discussed, the form of the final cutoff and associated definitions have not been revised. Undertread and sidewall cementing operations that commenced construction, modification, or reconstruction after the date of promulgation (September 15, 1987) may only use the final form of the cutoff (i.e., total kilograms of VOC per month, regardless of the type of tire processed at the affected facility).

B. Section 60.543(f)(2)(i) of the regulation requires an owner or operator of an affected facility that uses an incinerator as the control device to use a temporary total enclosure around the application and drying areas of the facility to determine the overall capture efficiency of the enclosure during performance tests. The temporary enclosure must be maintained at a negative pressure to ensure that all evaporated VOC are measurable. The petitioners assert that the requirement for a temporary enclosure maintained at a negative pressure is impractical because: (1) Significant openings would have to be provided to allow the entrance and exit of the tire components being processed; (2) operation at negative pressure would change the air flow at the unit and produce unrepresentative conditions; and (3) access must be provided for the operator of the equipment to carry out the normal functions associated with the operation.

The Agency does not necessarily agree with RMA's position. However, the regulation has been revised to provide an alternative procedure for demonstration of capture efficiency through the use of a liquid-to-gas materials balance in cases when only a single VOC (solvent) is used (see §60.543(f)(2)(iv)).

The liquid-to-gas materials balance involves the measurement of mass of liquid VOC that is used and the mass of gaseous VOC that is captured and routed to the incinerator. Capture efficiency is determined by dividing VOC captured by the VOC used. This is theoretically a sound procedure.

However, the results of the liquid-to-gas materials balance depend more heavily upon the accuracy and precision of the measurement methods than do the results of a gas-to-gas materials balance. Achieving high accuracy and precision of VOC measurements in systems that contain mixtures of VOC is particularly demanding. The alternative procedure is therefore applicable only to single solvent systems.

Either Method 25 or Method 25A may be used for the gas phase measurement in the liquid-to-gas materials balance. If Method 25A (flame ionization detector (FID)) is used, the FID must be calibrated with the solvent that is used in the 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. The gas phase testing with Method 25A is simpler than with Method 25 and the results are more immediately available. In cases where incinerator destruction efficiency is also being tested, however, the owner or operator may prefer to use the same Method 25 inlet data collected to demonstrate destruction efficiency for the gas phase portion of the liquid-to-gas materials balance.

C. The petitioners stated that the owner or operator of an affected water-based green tire spraying operation that uses a water-based spray containing minimal or no organic solvent should not be subject to the monthly performance test requirements of the regulation. They contend that if the owner or operator of the affected facility can show by way of spray formulation data or through analysis using Method 24 that the spray contains no organic solvent, then he should not be required to conduct a monthly performance test on a continuous basis.

The Administrator agrees that owners or operators of green tire spraying operations, using little or no organic solvent, should not be required to conduct monthly performance tests. Therefore, EPA is granting the petitioners' requests and has revised the regulation to allow the owner or operator of each green tire spraying operation using only water-based sprays (inside and/or outside) containing less than 1.0 percent by weight of VOC to 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. After the initial results of the VOC content are reported, the owner or operator of the affected facility must continue to verify the VOC content of

the spray on an annual basis unless the spray formulation changes, in which case the VOC content of the revised spray formulation must be analyzed and reported within 1 month of the formulation change.

III. Administrative Requirements

A. Docket

The docket is an organized and complete file of all the information submitted to or otherwise considered in the development of this proposed rulemaking. The principal purposes of the docket are: (1) To allow interested parties to identify readily and locate documents so that they can effectively participate in the rulemaking process; and (2) to serve as the record in case of judicial review, except for interagency review materials (section 307(d)(7)(A)).

B. Public Hearing

A public hearing will be held, if requested, to discuss the proposed rulemaking in accordance with section 307(d)(5) of the Clean Air Act. Persons wishing to make oral presentations should contact EPA at the address given in the **ADDRESSES** section of this preamble. Oral presentations will be limited to 15 minutes each. Any member of the public may file a written statement with EPA before, during, or within 30 days after the hearing. Written statements should be addressed to the Central Docket Section address given in the **ADDRESSES** section of this preamble.

A verbatim transcript of the hearing and written statements will be available for public inspection and copying during normal working hours at EPA's Central Docket Section in Washington, DC (see **ADDRESSES** section of this preamble).

C. Office of Management and Budget Reviews

Paperwork Reduction Act

Changes to the information requirements as proposed in today's notice have been submitted for approval to the Office of Management and Budget (OMB) 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 Carla Levesque, Information Policy Branch; EPA; 401 M Street SW. (PM-223); Washington, DC 20460 or by calling (202) 382-2468.

Public reporting burden for this collection of information is estimated to decrease 15 to 30 hours annually for manufacturers employing 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." The final rule will respond to any OMB or public comments on the information collection requirements contained in this proposal.

This rulemaking was submitted to the Office of Management and Budget (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 Central 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), it is unlikely that any new plant would be considered a small entity. Therefore, it is unlikely that this rulemaking, which proposes 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 proposed 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.

Date: February 7, 1989.

Jack Moore,
Acting Administrator.

For reasons set out in the preamble, it is proposed to amend 40 CFR Part 60, Subpart BBB, 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 and 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 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 Alternative 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 (promulgation of this revision), 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.

(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 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 green tire spraying operation shall submit formulation data or the results of Method 24 analysis annually to verify the VOC content of each green tire spray material, provided the spraying formulation has not changed during the previous 12 months. If the green tire 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 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), (5)(i), 5(ii), 7(i), and (7)(ii).

(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.

(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 that 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.

(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 (M_i) 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 equipment 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:

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

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 = 2.405×10^{-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:

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

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 = 2.405×10^{-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 (f)(2)(ii) and (iii) 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.

(f) Each owner or operator of a green tire spraying operation using waterbased 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 § 60.540(b) and elects to be subject to the alternate provisions for VOC under § 60.542a, shall furnish the Administrator written notification of the election no less than 60 days after promulgation of this revision.

(j) The owner or operator of 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 variables 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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