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## Subpart BBB—Standards of Performance for the Rubber Tire Manufacturing Industry

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### §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.

(c) Although the affected facilities listed under §60.540(a) are defined in reference to the production of components of a “tire,” as defined under §60.541(a), the percent emission reduction requirements and VOC use cutoffs specified under §60.542(a)(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 tire types not listed in the §60.541(a) definition of “tire.”

[52 FR 34874, Sept. 15, 1987, as amended at 54 FR 38635, Sept. 19, 1989]

### §60.541 Definitions.

(a) All terms that are used in this subpart and are not defined below are given the same meaning as in the Act and in subpart A of this part.

*Bead* means rubber-covered strands of wire, wound into a circular form, which ensure a seal between a tire and the rim of the wheel onto which the tire is mounted.

*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.

*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.

*Drying area* means the area where VOC from applied cement or green tire sprays is allowed to evaporate.

*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.

*Green tire* means an assembled, uncured tire.

*Green tire spraying operation* means 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.

*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.

*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.

*Michelin-C-automatic operation* 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.

*Month* means a calendar month or a prespecified period of 28 days or 35 days (utilizing a 4-4-5-week recordkeeping and reporting schedule).

*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.

*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.

*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.

*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.

*Tire* means any agricultural, airplane, industrial, mobile home, light-duty truck and/or passenger vehicle tire that has a 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.

*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 solvent from the cemented tread ends.

*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.

*VOC emission control device* means equipment that destroys or recovers VOC.

*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.

*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 subpart are defined below:

$B_o$  = total number of beads cemented at a particular bead cementing affected facility for a month

$C_a$  = concentration of VOC in gas stream in vents after a control device (parts per million by volume)

$C_b$  = concentration of VOC in gas stream in vents before a control device (parts per million by volume)

$C_r$  = 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 (lb per gallon))

$D_r$  = density of VOC recovered by an emission control device (grams per liter (lb per gallon))

$E$  = 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 (lb) per tire)

$G_b$  = monthly average mass of VOC used per bead cemented for a particular bead cementing affected facility (grams (lb) per bead)

$L_c$  = volume of cement or spray material used for a month (liters (gallons))

$L_r$  = volume of VOC recovered by an emission control device for a month (liters (gallons))

M = total mass of VOC used for a month by all facilities served by a common cement or spray material distribution system (grams (lb))

M<sub>o</sub> = total mass of VOC used at an affected facility for a month (grams (lb))

M<sub>r</sub> = mass of VOC recovered by an emission control device for a month (grams (lb))

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 (lb) per tire)

N<sub>b</sub> = mass of VOC emitted per bead cemented for an affected facility for a month (grams (lb) per bead)

Q<sub>a</sub> = volumetric flow rate in vents after a control device (dry standard cubic meters (dry standard cubic feet) per hour)

Q<sub>b</sub> = volumetric flow rate in vents before a control device (dry standard cubic meters (dry standard cubic feet) per hour)

Q<sub>t</sub> = 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 (dry standard cubic feet) per hour)

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

T<sub>d</sub> = total number of days in monthly compliance period (days)

T<sub>o</sub> = total number of tires cemented or sprayed with water-based green tire sprays at a particular affected facility for a month

W<sub>o</sub> = weight fraction of VOC in a cement or spray material.

[52 FR 34874, Sept. 15, 1987, as amended at 65 FR 61764, Oct. 17, 2000]

#### **§60.542 Standards 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 initial startup, each owner or operator subject to the provisions of this subpart 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:

(A) 3,870 kg (8,531 lb) of VOC per 28 days,

(B) 4,010 kg (8,846 lb) of VOC per 29 days,

(C) 4,150 kg (9,149 lb) of VOC per 30 days,

(D) 4,280 kg (9,436 lb) of VOC per 31 days, or

(E) 4,840 kg (10,670 lb) 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:

(A) 3,220 kg (7,099 lb) of VOC per 28 days,

(B) 3,340 kg (7,363 lb) of VOC per 29 days,

(C) 3,450 kg (7,606 lb) of VOC per 30 days,

(D) 3,570 kg (7,870 lb) of VOC per 31 days, or

(E) 4,030 kg (8,885 lb) of VOC per 35 days.

(3) For each tread end cementing operation: Discharge into the atmosphere no more than 10 grams (0.022 lb) of VOC per tire cemented for each month.

(4) For each bead cementing operation: Discharge into the atmosphere no more than 5 grams (0.011 lb) of VOC per 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 (0.0026 lb) 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 (0.021 lb) of VOC per tire sprayed with an outside green tire spray for each month.

(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 (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:

(A) 3,220 kg (7,099 lb) of VOC per 28 days,

(B) 3,340 kg (7,363 lb) of VOC per 29 days,

(C) 3,450 kg (7,606 lb) of VOC per 30 days,

(D) 3,570 kg (7,870 lb) of VOC per 31 days, or

(E) 4,030 kg (8,885 lb) of VOC per 35 days.

(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 (0.0026 lb) 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 9.3 grams (0.021 lb) 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 tire sprays less than or equal to the levels specified under paragraph (a)(6)(ii) of this section.

(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:

(A) 1,570 kg (3,461 lb) of VOC per 28 days,

(B) 1,630 kg (3,593 lb) of VOC per 29 days,

(C) 1,690 kg (3,726 lb) of VOC per 30 days,

(D) 1,740 kg (3,836 lb) of VOC per 31 days, or

(E) 1,970 kg (4,343 lb) 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 use less than or equal to the levels specified below, depending upon the duration of the compliance period:

(A) 1,310 kg (2,888 lb) of VOC per 28 days,

(B) 1,360 kg (2,998 lb) of VOC per 29 days,

(C) 1,400 kg (3,086 lb) of VOC per 30 days,

(D) 1,450 kg (3,197 lb) of VOC per 31 days, or

(E) 1,640 kg (3,616 lb) 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 paragraph (a)(8)(ii) of this section.

[52 FR 34874, Sept. 15, 1987, as amended at 65 FR 61764, Oct. 17, 2000]

**§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 (0.055 lb) of VOC per tire processed for each month if the operation uses 25 grams (0.055 lb) or less of VOC per tire processed and does not employ a VOC emission reduction system.

(b) [Reserved]

[54 FR 38635, Sept. 19, 1989, as amended at 65 FR 61765, Oct. 17, 2000]

**§60.543 Performance test and compliance provisions.**

(a) Section 60.8(d) does not apply to the monthly performance test procedures required by this subpart. Section 60.8(d) does apply to initial performance tests and to the performance tests specified under paragraphs (b)(2) and (b)(3) of this section. Section 60.8(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 test, as required under §60.8(a), except as described under paragraph (j) of this section. 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. Initial and monthly performance tests shall be conducted according to the procedures in this section.

(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 paragraphs (f) and (g) of this section, shall repeat the performance test when directed by the Administrator 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 paragraphs (f)(2) (i) through (iv) of this section.

(3) The owner or operator of an affected facility who seeks to comply with the equipment design and performance specifications, as described under paragraph (j) of this section, shall repeat the performance test when directed by the Administrator 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 measurement of capture system retention time or face velocity. The

performance test shall be conducted in accordance with the procedures described under paragraph (f)(2)(ii) 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).

(c) 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 where the owner or operator seeks to comply with the uncontrolled monthly VOC use limits, the owner or operator shall use the following procedure to determine compliance with the applicable (depending upon duration of compliance period) uncontrolled monthly VOC use limit specified under §60.542(a) (1)(ii), (2)(ii), (6)(ii), (7)(iv), (8)(ii), (9)(ii), and (10)(ii). If both undertread cementing and sidewall cementing are performed at the same affected facility during a month, then the kg/mo limit specified under §60.542(a)(1)(ii) shall apply for that month.

(1) Determine the density and weight fraction VOC (including dilution VOC) of each cement or green tire spray from its formulation or by analysis of the cement or green tire spray using Method 24. If a dispute arises, the Administrator may require an owner or operator who used formulation data to analyze the cement or green tire spray using Method 24.

(2) Calculate the total mass of VOC used at the affected facility for the month ( $M_o$ ) 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:

$$M_o = \sum_{i=1}^a L_{c_i} D_{c_i} W_{o_i}$$

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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:

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

$$M = \sum_{i=1}^b L_{C_i} \rho_{C_i} W_{O_i}$$

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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.

(B) Determine the fraction ( $F_o$ ) 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 or by another procedure acceptable to the Administrator.

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

$$M_o = MF_o$$

(3) Determine the time duration of the monthly compliance period ( $T_d$ ).

(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 VOC emission per tire limit specified under §60.542 (a)(3), (a)(5)(i), (a)(5)(ii), (a)(7)(i), and (a)(7)(ii).

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

(2) Calculate the total mass of VOC used at the affected facility for the month ( $M_o$ ) as specified under paragraph (c)(2) of this section.

(3) Determine the total number of tires cemented or sprayed at the affected facility for the month ( $T_o$ ) by the following procedure:

(i) For a tread end cementing operation,  $T_o$  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,  $T_o$  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,  $T_o$  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 ( $G$ ):

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

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(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 VOC emission per bead limit specified under §60.542(a)(4).

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

(2) Calculate the total mass of VOC used at the affected facility for the month ( $M_o$ ) as specified under paragraph (c)(2) of this section.

(3) Determine the number of beads cemented at the affected facility during the month ( $B_o$ ) using production records;  $B_o$  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 ( $G_b$ ):

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

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(5) Calculate the mass of VOC emitted per bead cemented at the affected facility for the month ( $N_b$ ):

$$N_b = G_b$$

(f) For each tread end cementing operation and each bead cementing 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 §60.542(a) (3) and (4).

(1) Calculate the mass of VOC used per tire cemented at the affected facility for the month (G), as specified under paragraphs (d) (1) through (4) of this section, or mass of VOC used per bead cemented at the affected facility for the month ( $G_b$ ), as specified under paragraphs (e) (1) through (4) of this section.

(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.

(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 ( $F_c$ ) of total VOC used at the affected facility that enters the control device:

$$F_c = \frac{\sum_{i=1}^m C_{b_i} Q_{b_i}}{\sum_{i=1}^m C_{b_i} Q_{b_i} + \sum_{i=1}^n C_{f_i} Q_{f_i}}$$

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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:

$$E = \frac{\sum_{i=1}^m C_{b_i} Q_{b_i} - \sum_{i=1}^p C_{a_i} U_{a_i}}{\sum_{i=1}^m C_{b_i} Q_{b_i}}$$

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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):

$$R = EF_c$$

(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 ( $M_i$ ) 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:

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

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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, mg/mg-mole (lb/lb-mole).

$V$  = The volume occupied by one mole of ideal gas at standard conditions [20 °C, 760 mm Hg] on a wet basis,  $2.405 \times 10^{-5}$  m<sup>3</sup>/mg-mole (385.3 ft<sup>3</sup>/lb-mole).

$Q_i$  = Volumetric flow in the capture system during run i, on a wet basis, adjusted to standard conditions, m<sup>3</sup> (ft<sup>3</sup>) (see §60.547(a)(5)).

$10^6$  = ppm per unity.

$M_i$  = Mass of the single VOC used during run i, mg (lb).

(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:

$$FC_i = \frac{C_i}{(NC)(10^6)} \frac{(W)(Q_i)}{(V)} \frac{1}{M_i}$$

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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, mg/mg-mole (lb/lb-mole).

$V$  = The volume occupied by one mole of ideal gas at standard conditions [20 °C, 760 mm Hg] on a wet basis,  $2.405 \times 10^{-5}$  m<sup>3</sup>/mg-mole (385.3 ft<sup>3</sup>/lb-mole).

$Q_i$  = Volumetric flow in the capture system during run  $i$ , on a wet basis, adjusted to standard conditions,  $m^3$  ( $ft^3$ ) (see §60.547(a)(5)).

$10^6$  = ppm per unity.

$M_i$  = Mass of the single VOC used during run  $i$ , mg (lb).

$NC$  = Number of carbon atoms in one molecule of the single VOC.

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

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

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Where:

“ $n$ ” equals the number of runs made in the test ( $n \geq 3$ ). 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.

(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 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 percent emission reduction requirement specified under §60.542 (a) (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 paragraphs (f)(2) (i) through (iii) of this section. The performance test shall be repeated during conditions described under paragraph (b)(2) of this section. 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 §60.542(a) (3) and (4).

(1) Calculate the mass of VOC used per tire cemented at the affected facility for the month ( $G$ ), as specified under paragraphs (d) (1) through (4) of this section, or mass of VOC used per bead cemented at the affected facility for the month ( $G_b$ ), as specified under paragraphs (e) (1) through (4) of this section.

(2) Calculate the total mass of VOC recovered from the affected facility for the month ( $M_r$ ):

$M_r = L \cdot D$

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

$$R = \frac{M_r}{M_o}$$

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(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 (N<sub>b</sub>):

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

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

(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 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 percent reduction requirement specified under §60.542(a) (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 paragraph (c)(1) of this section.

(2) Calculate the total mass of VOC used at the affected facility for the month (M<sub>o</sub>) as described under paragraph (c)(2) of this section.

(3) Calculate the total mass of VOC recovered from the affected facility for the month (M<sub>r</sub>) as described under paragraph (h)(2) of this section.

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

(j) Rather than seeking to demonstrate compliance with the provisions of §60.542(a) (1)(i), (2)(i), (6)(i), (7)(iii), or (9)(i) using the performance test procedures described under paragraphs (g) and (i) of this section, 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 that use a VOC emission reduction system may seek to demonstrate compliance by meeting the equipment design and performance specifications listed under paragraphs (j)(1), (2), and (4) through (6) or under paragraphs (j)(1) and (3) through (6) of this section, and by conducting a control device efficiency performance test to determine compliance as described under paragraph (j)(7) of this section. 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 §60.8(a). 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 §60.8(a), is waived. No monthly performance tests are 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 paragraphs (j) (2), (4), and (5) of this section; 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 paragraphs (j) (3), (4), and (5) of this section.

(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 30.5 meters (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 area 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 openings 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 30.5 meters (100 feet) per minute; and
- (iii) All temporary openings are closed.

(6) All captured VOC are ducted to a VOC emission control device that is operated on a continuous basis and that achieves at least a 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 paragraph (f)(2)(ii) of this section. The control device efficiency shall be redetermined during conditions specified under paragraph (b)(3) of this section.

(k) Each owner or operator of an affected facility who initially elected to be subject to the applicable percent emission reduction requirement specified under §60.542(a)(1)(i), (2)(i), (6)(i), (7)(iii), (8)(i), (9)(i), or (10)(i) and who later seeks to comply with the applicable total (uncontrolled) monthly VOC use limit specified under §60.542(a)(1)(ii), (2)(ii), (6)(ii), (7)(iv), (8)(ii), (9)(ii), or (10)(ii) shall demonstrate, using the procedures described under paragraph (c) of this section, 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 paragraph and §60.546(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 and organic solvent-based green tire sprays including those cements or sprays used for tires other than those defined under §60.541(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 §60.541(a) when determining  $T_o$  and  $B_o$ .

(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 VOC emission per 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:

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

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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:

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

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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:

$$M_o = MF_o$$

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(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:

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

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

$$N = G$$

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

[52 FR 34874, Sept. 15, 1987; 52 FR 37874, Oct. 9, 1987, as amended at 54 FR 38635, Sept. 19, 1989; 65 FR 61765, Oct. 17, 2000]

#### **§60.544 Monitoring of operations.**

(a) Each owner or operator subject to the provisions of this subpart 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 Administrator:

(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 °C or  $\pm 0.5$  °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 °C or  $\pm 0.5$  °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 §60.543(j)(6), 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 §60.543(j)(6), shall provide to the Administrator information describing the operation of the control device and the process parameter(s) which would indicate proper operation and maintenance of the device. The Administrator may request further information and will specify appropriate monitoring procedures or requirements.

[52 FR 34874, Sept. 15, 1987, as amended at 65 FR 61765, Oct. 17, 2000]

#### **§60.545 Recordkeeping 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 (50 °F) 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 §60.543(j)(6) 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 undertread 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 VOC monthly usage 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 §60.543(b)(1), shall maintain records of the results of all monthly tests.

(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.

[52 FR 34874, Sept. 15, 1987, as amended at 54 FR 38637, Sept. 19, 1989; 65 FR 61765, Oct. 17, 2000]

### **§60.546 Reporting requirements.**

(a) Each owner or operator subject to the provisions of this subpart, at the time of notification of the anticipated initial startup of an affected facility pursuant to §60.7(a)(2), shall provide a written report to the Administrator declaring 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 the emission limit he intends to comply with and the compliance method (where §60.543(j) is applicable) to be employed.

(b) Each owner or operator subject to the provisions of this subpart, at the time of notification of the anticipated initial startup of an affected facility pursuant to §60.7(a)(2), shall specify the monthly schedule (each calendar month or a 4-4-5-week schedule) to be used in making compliance determinations.

(c) Each owner or operator subject to the provisions of this subpart shall report the results of all initial performance tests, as required under §60.8(a), and the results of the performance tests required under §60.543 (b)(2) and (b)(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 VOC monthly usage limit specified under §60.542(a): The monthly mass of VOC used ( $M_o$ ) and the number of days in the compliance period ( $T_o$ ).

(2) For each affected facility that seeks to comply with a VOC emission limit per tire or per bead specified under §60.542(a) without the use of a VOC emission reduction system: the mass of VOC used ( $M_o$ ), the number of tires cemented or sprayed ( $T_o$ ), the mass of VOC emitted per tire cemented or sprayed ( $N$ ), the number of beads cemented ( $B_o$ ), and the mass of VOC emitted per bead cemented ( $N_b$ ).

(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 VOC emission limit per tire or per bead specified under §60.542(a): The mass of VOC used ( $M_o$ ), the number of tires cemented or sprayed ( $T_o$ ), the mass of VOC emitted per tire cemented or sprayed ( $N$ ), the number of beads cemented ( $B_o$ ), the mass of VOC emitted per bead cemented ( $N_b$ ), the mass of VOC used per tire cemented or sprayed ( $G$ ), the mass of VOC per bead cemented ( $G_b$ ), the emission control device efficiency ( $E$ ), the capture system efficiency ( $F_c$ ), 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 §60.542(a): The emission control device efficiency (E), the capture system efficiency (F<sub>c</sub>), 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 VOC emission limit per tire or per bead specified under §60.542(a): The mass of VOC used (M<sub>o</sub>), the number of tires cemented or sprayed (T<sub>o</sub>), the mass of VOC used per tire cemented or sprayed (G), the number of beads cemented (B<sub>o</sub>), the mass of VOC used per bead (G<sub>b</sub>), the mass of VOC recovered (M<sub>r</sub>), 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 (N<sub>b</sub>).

(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 §60.542(a): The mass of VOC used (M<sub>o</sub>), the mass of VOC recovered (M<sub>r</sub>), and the overall system emission reduction (R).

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

(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 §60.543(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 or lb/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 paragraph (c) of this section.

(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 Administrator where a VOC recovery device other than a carbon adsorber is used.

(f) Once every 6 months each owner or operator subject to the provisions of §60.545 shall report, as applicable:

(1) Each monthly average VOC emission rate that exceeds the VOC emission limit per tire or per bead specified under §60.542(a), as applicable for the affected facility.

(2) Each monthly average VOC use rate that exceeds the monthly VOC usage limit specified under §60.542(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 §60.542(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) The requirements for semiannual reports remain in force until and unless EPA, in delegating enforcement authority to a State under Section 111(c) of the Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected facilities within the State will be relieved of the obligation to comply with these requirements, provided that they comply with the requirements established by the State.

(h) Each owner or operator of an affected facility who initially elected to be subject to the applicable percent emission reduction requirement specified under §60.542(a) and who later seeks to comply with the applicable total (uncontrolled) monthly VOC use limit specified under §60.542(a) and who has satisfied the provisions specified under §60.543(k) shall furnish the Administrator 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.

(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 of the change.

[52 FR 34874, Sept. 15, 1987; 52 FR 37874, Oct. 9, 1987, as amended at 54 FR 38637, Sept. 19, 1989; 65 FR 61765, Oct. 17, 2000]

### **§60.547 Test methods and procedures.**

(a) The test methods in appendix A to this part, except as provided under §60.8(b), shall be used to determine compliance with §60.542(a) as follows:

(1) Method 24 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 tire 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 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 Administrator at least 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 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 1.0 meter (3.3 feet). The minimum sample volume shall be 0.003 dry standard cubic meter (dscm) (0.11 dry standard cubic feet (dscf)) except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Administrator.

(3) Method 2, 2A, 2C, or 2D, 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 for determination of stack gas moisture.

(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 at least 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 1.0 meter (3.3 feet). 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) (0.11 dry standard cubic feet (dscf)) 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).

[52 FR 34874, Sept. 15, 1987, as amended at 54 FR 38638, Sept. 19, 1989; 65 FR 61765, Oct. 17, 2000]

**§60.548 Delegation of authority.**

(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authority which will not be delegated to States: §60.543(c)(2)(ii)(B).