Subpart BBB - Standards of Performance for the Rubber Tire Manufacturing Industry (Adopted 3-14-89; Delegation Effective 7-18-89)

RULE 260.540. APPLICABILITY AND DESIGNATION OF AFFECTED FACILITIES.

(a) The provisions of this subpart apply to the following affected facilities in rubber tire manufacturing plants: each undertread cementing operation, each sidewall cementing operation, each tread end cementing operation, each bead cementing operation, each green tire spraying operation, each Michelin-A operation, each Michelin-B opera-tion, and each Michelin-C-automatic operation. This subpart only applies to the manufacture of new tires.

(b) The provisions of this subpart apply to each facility identified in Section (a) of this rule that commences construction or modification after January 20, 1983.

(c) Although the affected facilities listed under Rule 260.540(a) are defined in reference to the production of components of a "tire", as defined under Rule 260.541(a), the percent emission reduction requirements and VOC use cutoffs specified under Rule 260.542(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 Rule 260.541(p) definition of "tire".

RULE 260.541. DEFINITIONS

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 Regulation.

(a) **"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.

(b) **"Bead Cementing Operation"** means the system that is used to apply cement to the bead rubber or after it is wound into its 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.

(c) **"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.

(d) **"Drying Area"** means the area where VOC from applied cement or green tire spray is allowed to evaporate.

(e) **"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.

(f) **"Green Tire"** means an assembled, uncured tire.

(g) **"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.

(h) **"Michelin-A Operation"** means the operation identified as Michelin-A in the Emission Standards and Engineering Division confidential files as referenced in Docket A-80-9. Entry II-B-12.

(i) **"Michelin-B Operation"** means the operation identified as Michelin-B in the Emission Standards and Engineering Division confidential files as referenced in Docket A-80-9, Entry II-B-12.

(j) **"Michelin-C-Automatic Operation"** means the operation identified as Michelin-C-automatic in the Emission Standards and Engineering Division confidential files as referenced in Docket A-80-9, Entry II-B-12.

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

(l) **"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, or VOC as sprayed.

(m) **"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.

(n) **"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 side-wall 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.

(o) **"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.

(p) **"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 cross section dimension less than or equal to 0.325 m (12.8 in.), and that is mass produced in an assembly-line fashion.

(q) **"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 cement treads ends.

(r) **"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.

(s) **"VOC Emission Control Device"** means equipment that destroys or recovers VOC.

(t) **"VOC Emission Reduction System"** means a system composed of an enclosure, hood, or other device for containment and capture of VOC emissions and VOC emission control device.

(u) **"Volatile Organic Compounds (VOC)"** means any compound of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, ammonium carbonate, metallic carbides and carbonates, methylene chloride, 1,1,1-trichloroethane and trichlorofluoromethane, which may be emitted to the atmosphere during the application of and/or subsequent drying or curing of coatings subject to this rule.

(v) **"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.

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_f = concentration of VOC in each gas stream vented directly to the atmosphere from an affected facility or from a temporary enclosure around an affected facility (parts per million by volume).

D_c = density of VOC recovered by an emission control device (grams per liter).

D_r = density of VOC recovered by emission control device (grams per liter).

E = emission control device efficiency, inlet versus outlet (fraction).

F_c = capture efficiency, VOC captured and routed to one control device versus total VOC used for an affected facility (fraction).

F_o = fraction of total mass VOC used in a month by all facilities served by a common cement or spray material distribution system that is used by a particular affected facility served by the common distribution system.

G = monthly average mass of VOC used per tire cemented or sprayed with a water-based green tire spray for a particular affected facility (grams per tire).

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

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

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

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

M_o = total mass of VOC used at an affected facility for a month (grams).

M_r = mass of VOC recovered by an emission control device for a month (grams).

N = mass of VOC emitted to the atmosphere per tire cemented or sprayed with a water-based green tire spray for an affected facility for a month (grams per tire).

Q_a = volumetric flow rate in vents after a control device (dry standard cubic meters per hour).

Q_b = volumetric flow rate in vents before a control device (dry standard cubic meters per hour).

Q_f = volumetric flow rate of each stream vented directly to the atmosphere from an affected facility or from a temporary enclosure around an affected facility (dry standard cubic meters per hour).

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

T_d = total number of days in monthly compliance period (days).

T_o = total number of tires cemented or sprayed with water-based green tire spray at a particular affected facility for a month.

W_o = weight fraction of VOC in a cement or spray material.

RULE 260.542. STANDARDS FOR VOLATILE ORGANIC COMPOUNDS.

(a) On and after the date on which the initial performance test, required by Rule 260.8, 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 kilograms of VOC per 28 days,
(B) 4,010 kilograms of VOC per 29 days,
(C) 4,150 kilograms of VOC per 30 days,
(D) 4,280 kilograms of VOC per 31 days, or
(E) 4,840 kilograms of VOC per 35 days.

(2) For each sidewall cementing operation:

(i) Discharge into the atmosphere no more than 25 percent of the VOC use (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 kilograms of VOC per 28 days,
(B) 3,340 kilograms of VOC per 29 days,
(C) 3,450 kilograms of VOC per 30 days,
(D) 3,570 kilograms of VOC per 31 days, or
(E) 4,030 kilograms of VOC per 35 days.

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

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

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

(i) Discharge into the atmosphere no more than 1.2 grams of VOC per tire sprayed with an inside green tire spray for each month; and

(ii) Discharge into the atmosphere no more than 9.3 grams of VOC per tire sprayed with 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 kilograms of VOC per 28 days,
(B) 3,340 kilograms of VOC per 29 days,
(C) 3,450 kilograms of VOC per 30 days,
(D) 3,570 kilograms of VOC per 31 days, or
(E) 4,030 kilograms 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 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 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 Subsection (a)(6)(ii) of this rule.

(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 kilograms of VOC per 28 days,
(B) 1,630 kilograms of VOC per 28 days,
(C) 1,690 kilograms of VOC per 28 days,
(D) 1,740 kilograms of VOC per 28 days, or
(E) 1,970 kilograms of VOC per 28 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 kilograms of VOC per 28 days,
(B) 1,360 kilograms of VOC per 29 days,
(C) 1,400 kilograms of VOC per 30 days,
(D) 1,450 kilograms of VOC per 31 days, or
(E) 1,640 kilograms of VOC per 35 days.

(10) For each Michelin-C-automatic operation:

(i) Discharge into the atmosphere no more than 35 percent of the VOC used (65 percent emission reduction) for each month; or

(ii) Maintain total (uncontrolled) VOC use less than or equal to the levels specified under Subsection (a)(8)(ii) of this rule.

RULE 260.543. PERFORMANCE TEST AND COMPLIANCE PROVISIONS.

(a) Rule 260.8(d) does not apply to the monthly performance test procedures required by this subpart. Rule 260.8(d) does apply to initial performance tests and to the performance tests specified under Subsections (b)(2) and (b)(3) of this rule. Rule 260.8(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 Rule 260.8(a), except as described under Section (j) of this rule. The owner or operator of an affected facility shall thereafter conduct a performance test each month except as described under Subsections (g)(1) and Section (j) of this rule. 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 Sections (f) and (g) of this rule shall repeat the performance test when directed by the Control Officer 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 Subsections (f)(2)(i) through (iii) of this rule.

(3) The owner or operator of an affected facility who seeks to comply with the equipment design and performance specifications, as described under Section (j) of this rule , shall repeat the performance test when directed by the Control Officer 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 Subsection (f)(2)(ii) or this rule.

(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 (kg/mo) 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 limit specified under Rule 260.542(a)(1)(ii), (2)(ii), (6)(ii), (7)(iv), (8)(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 Rule 260.542(a)(1)(ii) shall apply for the 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 Control Officer 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:

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

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

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

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

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

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

(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 sprays are used (inside and/or outside) that do not use a VOC emission reductions system, the owner or operator shall use the following procedure to determine compliance with the g/tire limit specified under Rule 260.542(a)(3), (5)(i), (5ii), (7)(i), and (7)(ii).

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

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

(3) Determine the total number of tire 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 spray, 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 VOC used per tire cemented or sprayed at the affected facility for month (G):

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

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

$$N = G$$

(e) For each bead cementing operation that does not use a VOC emission reduction system, the owner or operator shall use the following procedure to determine compliance with the g/bead limit specified under Rule 260.542(a)(4).

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

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

(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):

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

(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 use a VOC emission reduction system with a control device that destroys VOC (e.g., incinerator), the owner or operator shall use the following procedure to determine compliance with the emission limit specified under Rule 260.542(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 Subsections (d)(1) through (4) of this rule, or mass of VOC used per bead cemented at the affected facility for the month (G_b), as specified under Subsections (e)(1) through (4) of this rule.

(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 Subsections (f)(2)(i) through (iii) of this rule . In subsequent months, the owner or operator may use the most recently determined overall reduction efficiency (R) for the performance test except during conditions described under Subsection (b)(2) of this rule.

(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:

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

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

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

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

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

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

$$R = EF_C$$

(g) For each undertread cementing operation, each sidewall cementing operation, each green tire spraying operation where organic solvent-based sprays are used, each Michelin-A operation, each Michelin-B operation, and each Michelin-C-automatic operation that use a VOC emission reduction system with a control device that destroys VOC (e.g., incinerator), the owner or operator shall use the following procedure to determine compliance with the percent emission reduction requirement specified under Rule 260.542 (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 Subsections (f)(2)(i) through (iii) of this rule. The performance test shall be repeated during conditions described under Subsection (b)(2) of this rule. 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 Rule 260.542(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 Subsections (d)(1) through (4) of this rule, or mass of VOC used per bead cemented at the affected facility for the month (G), as specified under Subsections (e)(1) through (4) of this rule.

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

$$M_r = L_r D_r$$

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

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

(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_b):

$$N = G\ (1\text{-}R)$$

$$N_b = G_b\ (1\text{-}R)$$

(i) For each undertread cementing operation, each sidewall cementing operation, each green tire spraying operation where organic solvent-based sprays are used, each Michelin-A operation, each Michelin-B operation, and each Michelin-C-automatic operation that use a VOC emission reduction system with a control device that recovers (VOC) (e.g., carbon adsorber), the owner or operator shall use the following procedure to determine compliance with the percent reduction requirement specified under Rule 260.542(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 Subsection (c)(1) of this rule.

(2) Calculate the total mass of VOC used at the affected facility for the month (M_o) as described under Subsection (c)(2) of this rule.

(3) Calculate the total mass of VOC recovered from the affected facility for the month (M_r) as described under Subsection (h)(2) of this rule.

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

(j) Rather than seeking to demonstrate compliance with the provisions of Rule 260.542 (a)(1)(i), (2)(i), (6)(i), (7)(iii), or (9)(i) using the performance test procedures described under Sections (g) and (i) of this rule, 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 Subsections (j)(1), (2), and (4) through (6) or under Subsections (j)(1) and (3) through (6)

of this rule, and by conducting a control device efficiency performance test to determine compliance as described under Subsection (j)(7) of this rule. The owner or operator shall conduct this performance test of the control device efficiency no later than 180 days after initial startup of the affected facility, as specified under Rule 260.8(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 Rule 260.8(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 Subsections (j)(2), (4), and (5) of this rule; 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 Subsections (j)(3), (4), and (5) of this rule.

(2) The drying area shall be enclosed between the application area and the water bath or to the extent necessary to contain all tire components for at least 30 seconds after cement application, whichever distance is less.

(3) Sprayed green tires shall remain in the enclosure for a minimum of 30 seconds after spray application.

(4) A minimum face velocity of 100 feet per minute shall be maintained continuously through each permanent opening into the enclosure when all temporary enclosure opening 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 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 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 Subsection (f)(2)(ii) of this rule. The control device efficiency shall be redetermined during conditions specified under Subsection (b)(3) of this rule.

(k) Each owner or operator of an affected facility who initially elected to be subject to the applicable percent emission reduction requirement specified under Rule 260.542 (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 Rule 260.542 (a)(1)(ii), (2)(ii), (6)(ii), (7)(iv), (8)(ii), (9)(ii), or (10)(ii) shall demonstrate, using the procedure described under Section (c) of this rule, 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 section and Rule 260.546(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 spraying including those cements, or sprays used for tires other than those defined under Rule 260.541(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 Rule 260.541(a) when determining T_o and B_o.

RULE 260.544. 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 the facility by the Administrator:

(1) Where a thermal incinerator is used for VOC emission reduction, the owner or operator shall install a temperature monitoring device equipped with a continuous recorder for measuring 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 ±0.5°C, whichever is greater.

(2) Where a catalytic incinerator is used for VOC emission reduction, temperature and pressure monitoring devices, each equipped with a continuous recorder, shall be installed for measuring the temperature and pressure 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 ±0.5°C whichever is greater. The pressure monitoring system shall have chart recordings where

the design pressure is at midscale and the accuracy of measurement is +0.1 inches of water.

(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 Rule 260.543(j)(6), an organics monitoring device shall be 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 Rule 260.543(j)(6), shall provide the Control Officer information describing the operation of the control device and the process parameter(s) which would indicate proper operation and maintenance of the device. The Control Officer may request further information and will specify appropriate monitoring procedures or requirements.

RULE 260.545. 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 and pressure of the gas stream both upstream and downstream of the catalyst bed of the incinerator, records of all 3-hour periods of operation for which the average temperature measured before the catalyst bed is more than 28°C below the gas stream temperature measured before the catalyst bed during the most recent determination of destruction efficiency of the catalytic incinerator that demonstrated that the affected facility was in compliance, and records of all 3-hour periods for which the average temperature difference across the catalyst bed is less than 80 percent of the temperature difference measured during the most recent determination of the destruction efficiency of the catalytic incinerator that demonstrated that the affected facility was in compliance.

(c) Each owner or operator of an undertread cementing operation, sidewall cementing operation, green tire spraying operation where organic solvent-based sprays are used, or Michelin-B operation that uses a carbon adsorber to meet the requirements specified under Rule 260.543 (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 tire spraying operation where organic solvent-based sprays are used, Michelin-A operation, Michelin-B operation, Michelin-C-automatic operation who seeks to comply with a specified kg/mo uncontrolled VOC use limit shall maintain records of monthly VOC use and the number of days in each compliance period.

(e) Each owner or operator that is required to conduct monthly performance tests, as specified under Rule 260.543(b)(1), shall maintain records of the results of all monthly tests.

RULE 260.546. 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 Rule 260.7 (a)(2), shall provide a written report to the Control Officer declaring for each undertread cementing operation, each sidewall cementing operation, each green tires 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 Rule 260.543(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 Rule 260.7 (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 Rule 260.8(a), and the results of the performance test required under Rule 260.543(b)(2) and (b)(3). The following data shall be included in the report of each of the above performance tests:

(1) For each affected facility for which the owner or operator seeks to comply with a kg/mo uncontrolled VOC use limit specified under Rule 260.542(a): The monthly mass of VOC used (M_o) and the number of days in the compliance period (T_d).

(2) For each affected facility that seeks to comply with a g/tire of g/bead limit speci-fied under Rule 260.542(a) without 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 VOC emitted per tire cemented or sprayed (N), the number or 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 g/tire or g/bead limit specified under Rule 260.542(a): The mass of VOC used (M_o), the number or 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 (Nb), 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 a VOC (e.g., incinerator) to comply with a percent emission reduction requirement specified under Rule 260.542(a): The emission control device efficiency (E), the capture system efficiency (Fc), the face velocity through each permanent opening in the capture system with the temporary openings closed and the overall system emission reduction (R).

(5) For each affected facility that uses a carbon adsorber to comply with a g/tire or g/bead limit specified under Rule 260.542(a): The mass of VOC used (M_o), the number of tires cemented or sprayed (T_o), the mass of VOC used per tire cemented or sprayed (G), the number of beads cemented (B_o), the mass of VOC used per bead (G_b), the mass of VOC recovered (M_r), the overall system emission reduction (R), the mass VOC emitted per tire cemented or sprayed (N), and the mass of VOC emitted per bead cemented (N_b).

(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 Rule 260.542(a): The mass of VOC used (M_o), the mass of VOC recovered (M_r), and the overall system emission reduction (R).

(d) Each owner or operator of an undertread cementing operation, sidewall cementing operation, green tire spraying operation where organic solvent-based sprays are used, or Michelin-B operation who seeks to comply with the requirements described under Rule 260.543(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), 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 Section (c) of this rule.

(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 Control Officer 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 Rule 260.545 shall report, as applicable:

(1) Each monthly average VOC emission rate that exceeds the g/tire or g/bead limit specified under Rule 260.542(a), as applicable for the affected facility.

(2) Each monthly average VOC use rate that exceeds the kg/mo VOC use limit specified under Rule 260.542 (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 Rule 260.542(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) Each owner or operator of an affected facility who initially elected to be subject to the applicable percent emission reduction requirement specified under Rule 260.542(a) and who later seeks to comply with the applicable total (uncontrolled) monthly VOC use limit specified under Rule 260.542(a) and who has satisfied the provisions specified under Rule 260.543(k) shall furnish the Control Officer 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.

RULE 260.547. TEST METHODS AND PROCEDURES.

(a) The test methods in Appendix A to this Regulation, except as provided under Rule 260.8(b), shall be used to determine compliance with Rule 260.542(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 Control Officer 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 meter. The minimum sample volume shall be 0.003 dry standard cubic meter (dscm) except the shorter sampling times or smaller volumes, when necessitated by process variables or other factors may be approved by the Control Officer.

(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 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.

NOTE: 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: Section 60.543(c)(2)(ii)(B).