

United States
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Agency

Office of Air Quality
Planning and Standards
Research Triangle Park, NC 27711

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Air



MODEL VOLATILE ORGANIC COMPOUND RULES FOR REASONABLY AVAILABLE CONTROL TECHNOLOGY

Planning for Ozone Nonattainment Pursuant to Title I of the Clean Air Act

Staff Working Document





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

24 JUN 1992

MEMORANDUM

SUBJECT: Volatile Organic Compounds (VOC) Rules for Reasonably Available Control Technology (RACT)

FROM: G.T. Helms, Chief *G.T. Helms*
Ozone/Carbon Monoxide Programs Branch (MD-15)

TO: Addressees

Attached is the final set of model VOC RACT rules, both on disk and in hard copy. A list of the major changes in the rules since the February 1992 draft is also attached. Please note that we do not plan to publish these model rules in the Federal Register and Code of Federal Regulations as originally planned. In addition to the model rules, the disk contains the latest draft of the model operating permits for 19 sources of VOC emissions (no hard copy is provided). All changes to the VOC RACT rules have been duplicated in the model permits.

You should use the model VOC RACT rules as a template for proposing Federal implementation plans (FIP's) under section 110(c)(1) of the Clean Air Act for areas that fail to submit approvable RACT corrections required under section 182(a)(2)(A). The model rules cover 29 control techniques guidelines (CTG) categories, and have been coordinated with the Environmental Protection Agency (EPA) Regional Offices; State and Territorial Air Pollution Program Administrators/Association of Local Air Pollution Control Officials; the Office of General Counsel; the Office of Enforcement; the Office of Policy, Planning, and Evaluation; and all four divisions within the Office of Air Quality Planning and Standards (OAQPS).

The model rules should not be construed to be operational guidance on the approvability of State rules. States may adopt rules that are different from these rules, yet are still fully approvable. The basis by which State rules are evaluated and findings are made is the May 25, 1988 document, "Issues Relating to VOC Cutpoints, Deficiencies, and Deviations."

Also included in the set of model rules is a generic non-CTG RACT rule. Where insufficient information is available to determine RACT for a source or source category, this rule may be considered as default RACT. However, we recommend that you seek additional information to tailor the rule to the affected

sources. Of course, the preferred method of establishing non-CTG RACT is on a case-by-case basis.

Several of the model rules include requirements for measuring capture efficiency (CE). As discussed in the John Seitz memorandum of March 20, 1992, OAQPS is currently conducting a year-long study to reevaluate the EPA CE protocols. States may defer adopting any CE test methods until the study is complete. During the interim period, no State implementation plans will be disapproved for failure to adopt CE test methods.

Although the model rules are internal guidance for Regions to use in developing FIP's, you may send copies of these rules to your States as they request examples of what we generally consider consistent with our guidance. We request that this memorandum be bound with the rules when copies are made to avoid confusion about the CE requirements.

Any questions regarding the model rules should be directed to David Cole at (919) 541-5565, and any questions regarding the model permits should be directed to David Sanders at (919) 541-3356.

Attachments

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Mention of company or product names
is not to be considered as an endorsement
by the Environmental Protection Agency.

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§ XX.3000 Definitions.

For the purpose of this subpart, the following definitions apply:

(a) "Actual emissions" means the quantity VOC's emitted from a source during a particular time period.

(b) "Ambient air" means that portion of the atmosphere, external to buildings, to which the general public has access.

(c) "As applied" means including any dilution solvents added before application of the coating.

(d) "Bulk gasoline plant" means a gasoline storage and distribution facility with an average daily throughput of 76,000 liters (L) (20,000 gallons [gal]) of gasoline or less on a 30-day rolling average.

(e) "Bulk gasoline terminal" means a gasoline storage facility that receives gasoline from refineries, delivers gasoline to bulk gasoline plants or to commercial or retail accounts, and has a daily throughput of more than 76,000 L (20,000 gal) of gasoline on a 30-day rolling average.

(f) "Capture efficiency" means the weight per unit time of VOC entering a capture system and delivered to a control device divided by the weight per unit time of total VOC generated by a source of VOC, expressed as a percentage.

(g) "Capture system" means all equipment (including, but not limited to, hoods, ducts, fans, booths, ovens,

dryers, etc.) that contains, collects, and transports an air pollutant to a control device.

(h) "Carbon adsorber" means an add-on control device that uses activated carbon to adsorb VOC's from a gas stream.

(i) "Carbon adsorption system" means a carbon adsorber with an inlet and outlet for exhaust gases and a system to regenerate the saturated adsorbent.

(j) "Coating" means a material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealants, adhesives, inks, maskants, and temporary protective coatings.

(k) "Coating unit" means a series of one or more coating applicators and any associated drying area and/or oven wherein a coating is applied, dried, and/or cured. A coating unit ends at the point where the coating is dried or cured, or prior to any subsequent application of a different coating. It is not necessary to have an oven or a flashoff area in order to be included in this definition.

(l) "Condensate" means VOC liquid, separated from natural gas, that condenses due to changes in temperature and/or pressure and remains liquid at standard conditions.

(m) "Condenser" means any heat transfer device used to liquify vapors by removing their latent heats of

vaporization. Such devices include, but are not limited to, shell and tube, coil, surface, or contact condensers.

(n) "Construction" means on-site fabrication, erection, or installation of a source, air pollution control or monitoring equipment, or a facility.

(o) "Continuous vapor control system" means a vapor control system that treats vapors displaced from tanks during filling on a demand basis without intermediate accumulation.

(p) "Control device" means equipment (such as an incinerator or carbon adsorber) used to reduce, by destruction or removal, the amount of air pollutant(s) in an air stream prior to discharge to the ambient air.

(q) "Control system" means a combination of one or more capture system(s) and control device(s) working in concert to reduce discharges of pollutants to the ambient air.

(r) "Crude oil" means a naturally occurring mixture that consists of hydrocarbons and/or sulfur, nitrogen, and/or oxygen derivatives of hydrocarbons and that is liquid at standard conditions.

(s) "Day" means a period of 24 consecutive hours beginning at midnight local time, or beginning at a time consistent with a facility's operating schedule.

(t) "Destruction or removal efficiency" means the amount of VOC destroyed or removed by a control device

expressed as a percent of the total amount of VOC entering the device.

(u) "Double block-and-bleed system" means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

(v) "Emission" means the release or discharge, whether directly or indirectly, of VOC into the ambient air.

(w) "Exempt compounds" means any of the following compounds: methane; ethane; methyl chloroform (1,1,1-trichloroethane); CFC-113 (trichlorotrifluoroethane); methylene chloride; CFC-11 (trichlorofluoromethane); CFC-12 (dichlorodifluoromethane); CFC-22 (chlorodifluoromethane); FC-23 (trifluoromethane); CFC-114 (dichlorotetrafluoroethane); CFC-115 (chloropentafluoroethane); HCFC-123 (dichlorotrifluoroethane); HFC-134a (tetrafluoroethane); HCFC-141b (dichlorofluoroethane); and HCFC-142b (chlorodifluoroethane); 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124); pentafluoroethane (HFC-125); 1,1,2,2-tetrafluoroethane (HFC-134); 1,1,1-trifluoroethane (HFC-143a); 1,1-difluoroethane (HFC-152a); and perfluorocarbon compounds which fall into these classes--

(1) Cyclic, branched, or linear, completely fluorinated alkanes,

(2) Cyclic, branched, or linear, completely fluorinated ethers with no saturations,

(3) Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations, and

(4) Sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

(x) "External floating roof" means a cover over an open-top storage tank consisting of a double deck or pontoon single deck that rests upon and is supported by the volatile organic liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.

(y) "Facility" means all of the pollutant-emitting activities that are located on one or more contiguous or adjacent properties and are under the control of the same person (or person under common control).

(z) "First attempt at repair" means to take rapid action for the purpose of stopping or reducing leakage of organic material to the atmosphere using best practices.

(aa) "Flashoff area" means the space between the coating application area and the oven.

(bb) "Gasoline" means any petroleum distillate or petroleum distillate/alcohol blend having a Reid vapor pressure of 27.6 kiloPascals (kPa) (8.15 inches of mercury [in. Hg]) or greater that is used as a fuel for internal combustion engines.

(cc) "Gasoline dispensing facility" means any site where gasoline is transferred from a stationary storage tank to a motor vehicle gasoline tank used to provide fuel to the engine of that motor vehicle.

(dd) "Gasoline tank truck" means a delivery tank truck used at bulk gasoline plants, bulk gasoline terminals, or gasoline dispensing facilities that is loading or unloading gasoline or that has loaded or unloaded gasoline on the immediately previous load.

(ee) "Heavy-duty truck" means any motor vehicle rated at greater than 3,864 kg (8,500 lb) gross weight designed primarily to transport property.

(ff) "Incinerator" means a combustion apparatus in which solid, semisolid, liquid, or gaseous combustible wastes are ignited and burned and from which the solid and gaseous residues contain little or no combustible material.

(gg) "Intermittent vapor control system" means a vapor control system that employs an intermediate vapor holder to accumulate vapors displaced from tanks during filling. The control device treats the accumulated vapors only during automatically controlled cycles.

(hh) "Knife coating" means the application of a coating material to a substrate by means of drawing the substrate beneath a knife that spreads the coating evenly over the full width of the substrate.

(ii) "Leak" means a VOC emission indicated by an instrument calibrated according to Method 21 using zero air (less than 10 parts per million [ppm] of hydrocarbon in air) and a mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane.

(jj) "Lease custody transfer" means the transfer of produced crude oil or condensate, after processing and/or treating in the producing operations, from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.

(kk) "Loading rack" means an aggregation or combination of gasoline loading equipment arranged so that all loading outlets in the combination can be connected to a tank truck or trailer parked in a specified loading space.

(ll) "Lower explosive limit" (LEL) means the concentration of a compound in air below which a flame will not propagate if the mixture is ignited.

(mm) "Maximum theoretical emissions" means the quantity of VOC that theoretically could be emitted by a source without control devices based on the design capacity or maximum production capacity of the source and 8,760 hours of operation per year. The design capacity or maximum production capacity includes use of coatings and inks with the highest VOC content used in practice by the source for

the 2 years preceding {insert date of promulgation in the FEDERAL REGISTER}.

(nn) "Maximum true vapor pressure" means the equilibrium partial pressure exerted by a stored liquid at the temperature equal to: (1) for liquids stored above or below the ambient temperature, the highest calendar-month average of the liquid storage temperature, or (2) for liquids stored at the ambient temperature, the local maximum monthly average temperature as reported by the National Weather Service. This pressure shall be determined by one of the following:

(1) In accordance with methods described in American Petroleum Institute Bulletin 2517, "Evaporation Loss From External Floating Roof Tanks."

(2) By using standard reference texts.

(3) By ASTM D2879-83.

(4) By any other method approved by the Administrator as part of a State implementation plan (SIP) or Federal implementation plan (FIP) revision.

(oo) "Multicomponent coating" means a coating which is packaged in two or more parts, which parts are combined before application, and where a coreactant from one part of the coating chemically reacts, at ambient conditions, with a coreactant from another part of the coating.

(pp) "Open-ended valve or line" means any valve, except safety relief valves, having one side of the valve

seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.

(qq) "Organic compound" means a chemical compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.

(rr) "Oven" means a chamber which is used to bake, cure, polymerize, and/or dry a coating.

(ss) "Overall emission reduction efficiency" means the weight per unit time of VOC removed or destroyed by a control device divided by the weight per unit time of VOC generated by a source, expressed as a percentage. The overall emission reduction efficiency can also be calculated as the product of the capture efficiency and the control device destruction or removal efficiency.

(tt) "Person" means any individual, partnership, copartnership, firm, company, corporation, association, joint stock company, trust, estate, political subdivision, or any other legal entity, or their legal representative, agent, or assigns.

(uu) "Petroleum" means crude oil and the oils derived from tar sands, shale, and coal.

(vv) "Petroleum liquid" means crude oil, condensate, and any finished or intermediate product manufactured or extracted at a petroleum refinery, but not including Nos. 2 through 6 fuel oils as specified in ASTM D396-78; gas

turbine fuel oils Nos. 2-GT through 4-GT as specified in ASTM D2880-78; or diesel fuel oils Nos. 2-d and 4-D, as specified in ASTM D975-78.

(ww) "Petroleum refinery" means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of petroleum or through the redistillation, cracking, or reforming of unfinished petroleum derivatives.

(xx) "Plastisol" means a coating made of a mixture of finely divided resin and a plasticizer. Plastisol is applied as a thick gel that solidifies when heated.

(yy) "Pressure release" means the emission of materials resulting from system pressure being greater than set pressure of the pressure relief device.

(zz) "Prime coat" means the first of two or more coatings applied to a surface.

(aaa) "Process unit shutdown" means a work practice or operational procedure that stops production from a process unit or part of a process unit. An unscheduled work practice or operational procedure that stops production from a process unit or part of a process unit for less than 24 hours is not a process unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping production are not process unit shutdowns.

(bbb) "Reid vapor pressure" means the absolute vapor pressure of volatile crude oil and volatile nonviscous

petroleum liquids, except liquified petroleum gases, as determined by ASTM D323-89.

(ccc) "Repaired" means that equipment is adjusted, or otherwise altered, in order to eliminate a leak as indicated by one of the following: an instrument reading of 10,000 ppm or greater, indication of liquids dripping, or indication by a sensor that a seal or barrier fluid system has failed.

(ddd) "Roll coating" means the application of a coating material to a moving substrate by means of hard rubber, elastomeric, or metal rolls.

(eee) "Rotogravure coating" means the application of a coating material to a substrate by means of a roll coating technique in which the pattern to be applied is recessed relative to the non-image area, and the coating material is picked up in these recessed areas and is transferred to the substrate.

(fff) "Shutdown" means the cessation of operation of a facility or of its emission control or emission monitoring equipment.

(ggg) "Solvent" means a substance that is liquid at standard conditions and is used to dissolve or dilute another substance; this term includes, but is not limited to, organic materials used as solvers, viscosity reducers, degreasing agents, or cleaning agents.

(hhh) "Source" means any building, structure, equipment, or installation that directly or indirectly releases or discharges, or has the potential to release or discharge, VOC's into the ambient air.

(iii) "Standard conditions" means a temperature of 20°C (68°F) and pressure of 760 mm Hg (29.92 in. Hg).

(jjj) "Startup" means the setting in operation of a source or of its emission control or emission monitoring equipment.

(kkk) "Submerged fill" means the method of filling a delivery vessel or storage vessel where product enters within 150 millimeters (mm) (5.9 inches [in.]) of the bottom of the delivery or storage vessel. Bottom filling of delivery and storage vessels is included in this definition.

(lll) "Substrate" means the surface onto which a coating is applied or into which a coating is impregnated.

(mmm) "True vapor pressure" means the equilibrium partial pressure exerted by a volatile organic liquid as determined in accordance with methods described in American Petroleum Institute Bulletin 2517, "Evaporation Loss From Floating Roof Tanks," second edition, February 1980.

(nnn) "Vapor balance system" means a closed system that allows the transfer or balancing of vapors, displaced during the loading or unloading of gasoline, from the tank being loaded to the tank being unloaded.

(ooo) "Vapor collection system" means all piping, seals, hoses, connections, pressure-vacuum vents, and other equipment between the gasoline tank truck and the vapor processing unit and/or the storage tanks and vapor holder.

(ppp) "Vapor control system" means a system that limits or prevents release to the atmosphere of organic compounds in the vapors displaced from a tank during the transfer of gasoline.

(qqq) "Vapor recovery system" means a vapor-gathering system capable of collecting VOC vapors and gases emitted during the operation of any transfer, storage, or process equipment.

(rrr) "Vapor-tight" means equipment that allows no loss of vapors. Compliance with vapor-tight requirements can be determined by checking to ensure that the concentration at a potential leak source is not equal to or greater than 100 percent of the LEL when measured with a combustible gas detector, calibrated with propane, at a distance of 2.54 centimeters (cm) (1 in.) from the source.

(sss) "Vapor-tight gasoline tank truck" means a gasoline tank truck that has demonstrated within the 12 preceding months that its product delivery tank will sustain a pressure change of not more than 75 mm (3.0 in.) of water within 5 minutes (min) after it is pressurized to 450 mm (18 in.) of water; or when evacuated to 150 mm (5.9 in.) of water, the same tank will sustain a pressure change

of not more than 75 mm (3.0 in.) of water within 5 min. This capability is to be demonstrated using the test procedures specified in Method 27 of Appendix A of 40 CFR Part 60.

(ttt) "Volatile organic compound" (VOC) means any organic compound that participates in atmospheric photochemical reactions. This includes any organic compound other than those defined as exempt compounds. These exempt compounds have been determined to have negligible photochemical reactivity. For purposes of determining compliance with emission limits, VOC will be measured by the test methods in the approved State implementation plan (SIP) or Federal implementation plan (FIP). Where such a method also measures compounds with negligible photochemical reactivity, an owner or operator may exclude these negligibly reactive compounds when determining compliance with an emission standard. However, the Administrator or State may require such owner or operator, as a precondition to excluding these compounds for purposes of determining compliance, to provide monitoring methods and monitoring results demonstrating, to the satisfaction of the Administrator or the State, the amount of negligibly reactive compounds in the source's emissions. In addition to the procedures for requesting a satisfactory compliance demonstration, where a State proposes to allow the use of a test method for excluding negligibly reactive compounds that

is different from or not specified in the approved SIP or FIP, such change shall be submitted to the Administrator for approval as part of a SIP or FIP revision.

(uuu) "Web coating line" means all of the coating applicator(s), drying area(s), or oven(s), located between an unwind station and a rewind station, that are used to apply coating onto a continuous strip of substrate (the web). A web coating line need not have a drying oven.

§ XX.3001 Applicability.

(a) All new and modified sources shall meet any applicable State or Federal rules for existing sources.

(b) Nothing in this subpart shall be construed to exempt new and modified sources from meeting any other applicable State or Federal rules, including new source review requirements.

(c) This subpart does not apply to any equipment at a facility used exclusively for chemical or physical analysis or determination of product quality and commercial acceptance provided the operation of the equipment is not an integral part of the production process and the total actual emissions from all such equipment at the facility do not exceed 204 kilograms (kg) (450 pounds [lb]) in any calendar month.

(d)(1) Any facility that becomes or is currently subject to the provisions of this subpart by exceeding an applicability threshold will remain subject to these provisions, even if its throughput or emissions later fall below the applicability threshold.

(2) Any facility that is currently subject to a State or Federal rule promulgated pursuant to the Clean Air Act Amendments of 1977 by exceeding an applicability threshold is and will remain subject to these provisions, even if its throughput or emissions have fallen or later fall below the applicability threshold.

(e) Any facility that claims exemption from the provisions of this subpart by reason of meeting the conditions in paragraph (c) of this section shall maintain the following records in a readily accessible location for at least 5 years and shall make those records available to the Administrator upon verbal or written request:

(1) Records to document the purpose of the equipment for which the exemption is claimed.

(2) Records to document the amount of each volatile organic compound (VOC)-containing material used in the equipment each calendar month and the VOC content of each material such that emissions can be determined for each calendar month.

§ XX.3002 Compliance Certification, Recordkeeping, and Reporting Requirements for Coating Sources.

(a) To establish the records required under this section, the volatile organic compound (VOC) content of each coating, as applied, and the efficiency of each capture system and control device shall be determined by the applicable test methods and procedures specified in § XX.3081 and § XX.3083 of this subpart.

(b) Requirements for coating sources exempt from emission limitations. Any owner or operator of a coating unit, line, or operation that is exempt from the emission limitations of §§ XX.3011 through XX.3020 of this subpart because combined VOC emissions from all coating units, lines, and operations at the facility are below the applicability threshold specified in the individual sections of this subpart, before the application of capture systems and control devices, shall comply with the following for each section of this subpart from which the owner or operator claims an exemption:

(1) Certification. By **{insert date 1 year from promulgation of final rule}**, the owner or operator of a facility referenced in paragraph (b) of this section shall certify to the Administrator that the facility is exempt by providing all of the following:

(i) The name and location of the facility.

(ii) The address and telephone number of the person responsible for the facility.

(iii) A declaration that the facility is exempt from the emission limitations of §§ XX.3011 through XX.3020 of this subpart because combined VOC emissions from all coating units, lines, and operations at the facility that are covered by an individual section of this subpart are below the appropriate applicability threshold before the application of capture systems and control devices.

(iv) Calculations of the daily-weighted average that demonstrate that the combined VOC emissions from all coating units, lines, and operations at the facility that are covered by an individual section of this subpart for a day representative of current maximum production levels are 6.8 kilograms (kg) (15 pounds [lb]) or less before the application of capture systems and control devices. The following equation shall be used to calculate total VOC emissions for that day:

$$T = \sum_{i=1}^n A_i B_i$$

where:

T = Total VOC emissions from coating units, lines, and operations at the facility before the application of capture systems and control devices in units of kg/day (lb/day).

- n = Number of different coatings applied on each coating unit, each coating line, or each operation at the facility.
- i = Subscript denoting an individual coating.
- A_i = Mass of VOC per volume of coating (i) (excluding water and exempt compounds), as applied, used at the facility in units of kilograms VOC per liter (kg VOC/L) (pounds VOC per gallon [lb VOC/gal]).
- B_i = Volume of coating (i) (excluding water and exempt compounds), as applied, used at the facility in units of liters per day (L/day) (gallons per day [gal/day]). The instrument or method by which the owner or operator accurately measured or calculated the volume of each coating, as applied, used shall be described in the certification to the Administrator.

(2) Recordkeeping. On and after **{insert date 1 year after date of promulgation of final rule}**, the owner or operator of a facility referenced in paragraph (b) of this section shall collect and record all of the following information each day and maintain the information at the facility for a period of 5 years:

- (i) The name and identification number of each coating, as applied.

(ii) The mass of VOC per volume (excluding water and exempt compounds) and the volume of coating (i) (excluding water and exempt compounds), as applied, used each day.

(iii) The total VOC emissions at the facility, as calculated using the equation under paragraph (b)(1)(iv) of this section.

(3) Reporting. On and after **{insert date 1 year after promulgation of the final rule}**, the owner or operator of a facility referenced in paragraph (b) of this section shall notify the Administrator of any record showing that combined VOC emissions from all coating units, lines, and operations at the coating facility exceed 6.8 kg (15 lb) on any day, before the application of capture systems and control devices. A copy of such record shall be sent to the Administrator within 30 calendar days after the exceedance occurs.

(c) Requirements for coating sources using complying coatings. Any owner or operator of a coating unit, line, or operation subject to the limitations of § XX.3011(c)(1) or §§ XX.3012 through XX.3020 of this subpart and complying by means of the use of complying coatings shall comply with the following:

(1) Certification. By **{insert date 1 year after date of promulgation of final rule}**, or upon startup of a new coating unit, line, or operation, or upon changing the method of compliance for an existing subject coating unit,

line, or operation from daily-weighted averaging or control devices to the use of complying coatings, the owner or operator of a coating unit, line, or operation referenced in paragraph (c) of this section shall certify to the Administrator that the coating unit, line, or operation is or will be in compliance with the requirements of the applicable section of this subpart on and after **{insert date 1 year after date of promulgation of final rule}**, or on and after the initial startup date. Such certification shall include:

(i) The name and location of the facility.

(ii) The address and telephone number of the person responsible for the facility.

(iii) Identification of subject sources.

(iv) The name and identification number of each coating, as applied, on each coating unit, line, or operation.

(v) The mass of VOC per volume (excluding water and exempt compounds) and the volume of each coating (excluding water and exempt compounds), as applied.

(vi) The time at which the facility's "day" begins if a time other than midnight local time is used to define a "day."

(2) Recordkeeping. On and after **{insert date 1 year after date of promulgation of final rule}**, or on and after the initial startup date, the owner or operator of a coating

unit, line, or operation referenced in paragraph (c) of this section and complying by the use of complying coatings shall collect and record all of the following information each day for each coating unit, line, or operation and maintain the information at the facility for a period of 5 years:

(i) The name and identification number of each coating, as applied, on each coating unit, line, or operation.

(ii) The mass of VOC per volume of each coating (excluding water and exempt compounds), as applied, used each day on each coating unit, line, or operation.

(3) Reporting. On and after **{insert date 1 year after date of promulgation of final rule}**, the owner or operator of a subject coating unit, line, or operation referenced in paragraph (c) of this section shall notify the Administrator in either of the following instances:

(i) Any record showing use of any non-complying coatings shall be reported by sending a copy of such record to the Administrator within 30 calendar days following that use.

(ii) At least 30 calendar days before changing the method of compliance from the use of complying coatings to daily-weighted averaging or control devices, the owner or operator shall comply with all requirements of paragraph (d)(1) or (e)(1) of this section, respectively. Upon changing the method of compliance from the use of

complying coatings to daily-weighted averaging or control devices, the owner or operator shall comply with all requirements of the section of this subpart applicable to the coating unit, line, or operation referenced in paragraph (c) of this section.

(d) Requirements for coating sources using daily-weighted averaging. Any owner or operator of a coating unit, line, or operation subject to the limitations of § XX.3011(c)(1) or §§ XX.3012 through XX.3020 of this subpart and complying by means of daily-weighted averaging on that unit, line, or operation shall comply with the following:

(1) Certification. By **{insert date 1 year after date of promulgation of final rule}**, or upon startup of a new coating unit, line, or operation, or upon changing the method of compliance for an existing subject coating unit, line, or operation from the use of complying coatings or control devices to daily-weighted averaging, the owner or operator of the subject coating unit, line, or operation shall certify to the Administrator that the coating unit, line, or operation is or will be in compliance with paragraph (d) of this section on and after **{insert date 1 year after date of promulgation of final rule}**, or on and after the initial startup date. Such certification shall include:

(i) The name and location of the facility.

(ii) The address and telephone number of the person responsible for the facility.

(iii) Identification of subject sources.

(iv) The name and identification number of each coating unit, line, or operation that will comply by means of daily-weighted averaging.

(v) The instrument or method by which the owner or operator will accurately measure or calculate the volume of each coating (excluding water and exempt compounds), as applied, used each day on each coating unit, line, or operation.

(vi) The method by which the owner or operator will create and maintain records each day as required in paragraph (d)(2) of this section.

(vii) Calculation of the daily-weighted average, using the procedure in § XX.3082(a) of this subpart, for a day representative of current or projected maximum production levels.

(viii) The time at which the facility's "day" begins if a time other than midnight local time is used to define a "day."

(2) Recordkeeping. On and after **{insert date 1 year after date of promulgation of final rule}**, or on and after the initial startup date, the owner or operator of a coating unit, line, or operation referenced in paragraph (d) of this section and complying by means of daily-weighted averaging

shall collect and record all of the following information each day for each coating unit, line, or operation and maintain the information at the facility for a period of 5 years:

(i) The name and identification number of each coating, as applied, on each coating unit, line, or operation.

(ii) The mass of VOC per volume (excluding water and exempt compounds) and the volume of each coating (excluding water and exempt compounds), as applied, used each day on each coating unit, line, or operation.

(iii) The daily-weighted average VOC content of all coatings, as applied, on each coating unit, line, or operation calculated according to the procedure in § XX.3082(a) of this subpart.

(3) Reporting. On and after **{insert date 1 year after date of promulgation of final rule}**, the owner or operator of a subject coating unit, line, or operation referenced in paragraph (d) of this section shall notify the Administrator in either of the following instances:

(i) Any record showing noncompliance with the applicable daily-weighted average requirements shall be reported by sending a copy of the record to the Administrator within 30 calendar days following the occurrence.

(ii) At least 30 calendar days before changing the method of compliance from daily-weighted averaging to the use of complying coatings or control devices, the owner or operator shall comply with all requirements of paragraph (c)(1) or (e)(1) of this section, respectively. Upon changing the method of compliance from daily-weighted averaging to the use of complying coatings or control devices, the owner or operator shall comply with all requirements of the section of this subpart applicable to the coating unit, line, or operation referenced in paragraph (d) of this section.

(e) Requirements for coating sources using control devices. Any owner or operator of a coating unit, line, or operation subject to the limitations of §§ XX.3011 through XX.3020 of this subpart and complying by means of control devices shall comply with the following:

(1) Testing of control equipment. By **{insert date 1 year after date of promulgation of final rule}**, or upon startup of a new coating unit, line, or operation, or upon changing the method of compliance for an existing coating unit, line, or operation from the use of complying coatings or daily-weighted averaging to control devices, the owner or operator of the subject coating unit, line, or operation shall perform a compliance test. Testing shall be performed pursuant to the procedures in §§ XX.3080 through XX.3083 of this subpart. The owner or operator of the subject coating

unit, line, or operation shall submit to the Administrator the results of all tests and calculations necessary to demonstrate that the subject coating unit, line, or operation is or will be in compliance with the applicable section of this subpart on and after **{insert date 1 year after date of promulgation of final rule}**, or on and after the initial startup date.

(2) Recordkeeping. On and after **{insert date 1 year after date of promulgation of final rule}**, or on and after the initial startup date, the owner or operator of a coating unit, line, or operation referenced in paragraph (e) of this section shall collect and record all of the following information each day for each coating unit, line, or operation and maintain the information at the facility for a period of 5 years:

(i) The name and identification number of each coating used on each coating unit, line, or operation.

(ii) The mass of VOC per unit volume of coating solids, as applied, the volume solids content, as applied, and the volume, as applied, of each coating used each day on each coating unit, line, or operation.

(iii) The maximum VOC content (mass of VOC per unit volume of coating solids, as applied) or the daily-weighted average VOC content (mass of VOC per unit volume of coating solids, as applied) of the coatings used each day on each coating unit, line, or operation.

(iv) The required overall emission reduction efficiency for each day for each coating unit, line, or operation as determined in §§ XX.3011(e)(3), XX.3012(e)(3), XX.3013(e)(3), XX.3014(e)(3), XX.3015(e)(3), XX.3016(e)(3), XX.3017(e)(3), XX.3018(e)(3), XX.3019(e)(3), or XX.3020(e)(3) of this subpart.

(v) The actual overall emission reduction efficiency achieved for each day for each coating unit, line, or operation as determined in § XX.3083(c) of this subpart.

(vi) Control device monitoring data.

(vii) A log of operating time for the capture system, control device, monitoring equipment, and the associated coating unit, line, or operation.

(viii) A maintenance log for the capture system, control device, and monitoring equipment detailing all routine and nonroutine maintenance performed including dates and duration of any outages.

(ix) For thermal incinerators, all 3-hour periods of operation in which the average combustion temperature was more than 28°C (50°F) below the average combustion temperature during the most recent performance test that demonstrated that the facility was in compliance.

(x) For catalytic incinerators, all 3-hour periods of operation in which the average temperature of the process vent stream immediately before the catalyst bed is more than 28°C (50°F) below the average temperature of the process

vent stream immediately before the catalyst bed during the most recent performance test that demonstrated that the facility was in compliance.

(xi) For carbon adsorbers, all 3-hour periods of operation during which either the average VOC concentration or the reading of organics in the exhaust gases is more than 20 percent greater than the average exhaust gas concentration 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 facility was in compliance.

(3) Reporting. On and after **{insert date 1 year after date of promulgation of final rule}**, the owner or operator of a subject coating unit, line, or operation referenced in paragraph (e) of this section shall notify the Administrator in either of the following instances:

(i) Any record showing noncompliance with the applicable requirements for control devices shall be reported by sending a copy of the record to the Administrator within 30 calendar days following the occurrence.

(ii) At least 30 calendar days before changing the method of compliance from control devices to the use of complying coatings or daily-weighted averaging, the owner or operator shall comply with all requirements of paragraph (c)(1) or (d)(1) of this section, respectively.

Upon changing the method of compliance from control devices to the use of complying coatings or daily-weighted averaging, the owner or operator shall comply with all requirements of the section of this subpart applicable to the coating unit, line, or operation referenced in paragraph (e) of this section.

§ XX.3003 Compliance Certification, Recordkeeping, and Reporting Requirements for Non-Coating Sources.

(a) Initial compliance certification. The owner or operator of any facility containing sources subject to this section shall submit to the Administrator an initial compliance certification by **{insert date 6 months after the date of promulgation of this rule}**. The owner or operator of any new facility containing sources that become subject to this section after **{insert date of promulgation of this rule}** shall submit an initial compliance certification immediately upon startup of the facility.

(1) The initial compliance certification shall provide at a minimum the following information:

(i) The name and location of the facility.

(ii) The address and telephone number of the person responsible for the facility.

(iii) Identification of subject sources.

(2) For each subject source, the initial compliance certification shall also provide at a minimum:

(i) The applicable emission limitation, equipment specification, or work practice.

(ii) The method of compliance.

(iii) For each source subject to numerical emission limitations of this subpart, the estimated emissions without control.

(iv) The control system(s) in use.

(v) The design performance efficiency of the control system.

(vi) For each source subject to numerical emission limitations of this subpart, the estimated emissions after control.

(vii) Certification that each subject source at the facility is in compliance with the applicable emission limitation, equipment specification, or work practice.

(viii) The time at which the facility's "day" begins if a time other than midnight local time is used to define a "day."

(b) Reports of excess emissions. The owner or operator of any facility containing sources subject to this section shall, for each occurrence of excess emissions, within 30 calendar days of becoming aware of such occurrence, supply the Administrator with the following information:

(1) The name and location of the facility.

(2) The subject sources that caused the excess emissions.

(3) The time and date of first observation of the excess emissions.

(4) The cause and expected duration of the excess emissions.

(5) For sources subject to numerical emission limitations, the estimated rate of emissions (expressed in

the units of the applicable emission limitation) and the operating data and calculations used in determining the magnitude of the excess emissions.

(6) The proposed corrective actions and schedule to correct the conditions causing the excess emissions.

(c) Requirements for sources using control devices.

(1) Testing of control equipment. By **{insert date 1 year after date of promulgation of final rule}**, or upon startup of a new source, or upon changing the method of compliance for an existing source, the owner or operator of the subject source shall perform all tests and submit to the Administrator the results of all tests and calculations necessary to demonstrate that the subject source will be in compliance with the applicable section of this subpart on and after **{insert date 1 year after date of promulgation of final rule}**, or on and after the initial startup date.

(2) Recordkeeping.

(i) Each owner or operator of a source subject to this section shall maintain up-to-date, readily accessible continuous records of any equipment operating parameters specified to be monitored in the applicable section of this subpart as well as up-to-date, readily accessible records of periods of operation during which the parameter boundaries established during the most recent performance test are exceeded. These records shall be maintained for at least 5 years. The Administrator may at any time require a report

of these data. Periods of operation during which the parameter boundaries established during the most recent performance tests are exceeded are defined as follows:

(A) For thermal incinerators, all 3-hour periods of operation in which the average combustion temperature was more than 28°C (50°F) below the average combustion temperature during the most recent performance test that demonstrated that the facility was in compliance.

(B) For catalytic incinerators, all 3-hour periods of operation in which the average temperature of the process vent stream immediately before the catalyst bed is more than 28°C (50°F) below the average temperature of the process vent stream immediately before the catalyst bed during the most recent performance test that demonstrated that the facility was in compliance.

(C) For carbon adsorbers, all 3-hour periods of operation during which either the average VOC concentration or the reading of organics in the exhaust gases is more than 20 percent greater than the average exhaust gas concentration 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 facility was in compliance.

(ii) A log of operating time for the capture system, control device, monitoring equipment, and the associated source.

(iii) A maintenance log for the capture system, control device, and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages.

§ XX.3004 General Recordkeeping.

Each owner or operator of a source subject to this subpart shall maintain all records necessary for determining compliance with this subpart at the facility for a period of 5 years.

§ XX.3005 Circumvention.

(a) No owner or operator subject to this subpart may build, erect, install, or use any article, machine, equipment, process, or other method the use of which conceals emissions that would otherwise constitute non-compliance with an applicable section of this subpart.

(b) Paragraph (a) of this section includes, but is not limited to, the use of gaseous diluents to achieve compliance, and the piecemeal carrying out of an operation to avoid coverage by a section of this subpart that applies only to operations larger than a specified size.

§ XX.3006 Handling, Storage, and Disposal of Volatile Organic Compounds (VOC's).

(a) No owner or operator of a facility subject to this subpart may cause, allow, or permit the disposal of more than 5 kilograms (kg) (11 pounds [lb]) of any VOC, or of any materials containing more than 5 kg (11 lb) of any VOC's, at that facility in any 1 day in a manner that would permit the evaporation of VOC into the ambient air. This provision does not apply to:

(1) Any VOC or material containing VOC emitted from a regulated entity that is subject to a VOC standard under this subpart.

(2) Coating sources that are exempt from the emission limitations of §§ XX.3011 through XX.3021 of this subpart.

(3) Waste paint (sludge) handling systems, water treatment systems, and other similar operations at coating facilities using complying coatings.

(b) Paragraph (a) of this section includes, but is not limited to, the disposal of VOC from VOC control devices.

(c) No owner or operator of a facility subject to this subpart shall use open containers for the storage or disposal of cloth or paper impregnated with VOC's that are used for surface preparation, cleanup, or coating removal.

(d) No owner or operator of a facility subject to this subpart shall store in open containers spent or fresh

VOC to be used for surface preparation, cleanup or coating removal.

(e) No owner or operator of a facility subject to this subpart shall use VOC for the cleanup of spray equipment unless equipment is used to collect the cleaning compounds and to minimize their evaporation to the atmosphere.

§ XX.3007 Compliance Dates.

(a) Compliance with the following is required immediately upon promulgation: [Reserved]

(b) Compliance with the following is required within 1 year of the date of promulgation: [Reserved]

§§ XX.3008-3010 [Reserved]

§ XX.3011 Automobile and Light-Duty Truck Coating Operations.

(a) Applicability.

(1) This section applies to the following coating operations in an automobile or light-duty truck assembly plant: each prime coat operation, each electrodeposition (EDP) prime coat operation, each primer surfacer operation, each topcoat operation, and each final repair operation.

(2) The requirements in paragraphs (c)(4), (f), and (i) of this section also apply to heavy-duty trucks that use EDP to apply prime coat.

(3) Antichip coatings, as applied to automobile and light-duty truck components such as, but not limited to, rocker panels, the bottom edge of doors and fenders, and the leading edge of the hood or roof, are considered primer surfacers.

(4) Application to metal parts of underbody antichip coatings (e.g., underbody plastisol) and coatings other than prime, primer surfacer, topcoat, and final repair shall be subject to the requirements of § XX.3020 of this subpart (Miscellaneous Metal Parts).

(5) The requirements in paragraph (c) of this section do not apply to automobile and light-duty truck assembly plants whose plantwide, actual emissions without control

devices are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day.

(6) An owner or operator of a facility whose emissions are below the applicability threshold in paragraph (a)(5) of this section shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(b) of this subpart.

(7) Any facility that becomes or is currently subject to all of the provisions of this section by exceeding the applicability threshold in paragraph (a)(5) of this section will remain subject to these provisions even if its emissions later fall below the applicability threshold.

(8) Any facility that is currently subject to a State or Federal rule promulgated pursuant to the Clean Air Act Amendments of 1977 by exceeding an applicability threshold is and will remain subject to these provisions, even if its throughput or emissions later fall below the applicability threshold.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Application area" means the area where a coating is applied by dipping or spraying.

"Automobile" means a motor vehicle capable of carrying no more than 12 passengers.

"Automobile and light-duty truck body" means the exterior and interior surfaces of an automobile or light-duty truck including, but not limited to, hoods, fenders, cargo boxes, doors, grill opening panels, engine compartment, all or portions of the passenger compartment, and trunk interior.

"Electrodeposition (EDP)" means a method of applying a prime coat by which the automobile or truck body is submerged in a tank filled with coating material and an electrical field is used to effect the deposition of the coating material on the body.

"EDP prime coat operation" means the application area(s), flashoff area(s), and oven(s) that are used to apply and dry or cure the EDP prime coat on components of automobile and truck bodies on a single assembly line.

"Final repair operation" means the application area(s), flashoff area(s), and oven(s) used to apply and dry or cure coatings that are used to repair topcoat on fully assembled automobiles or light-duty truck bodies from a single assembly line.

"Light-duty truck" means any motor vehicle rated at 3,864 kg (8,500 lb) gross weight or less designed primarily to transport property.

"Prime coat operation" means the application area(s), flashoff area(s), and oven(s) that are used to apply and dry

or cure the prime coat on components of automobile and light-duty truck bodies on a single assembly line.

"Primer surfacer operation" means the application area(s), flashoff area(s) and oven(s) that are used to apply and dry or cure primer surfacer between the prime coat and the topcoat operations on components of automobile and light-duty truck bodies on a single assembly line. The primer surfacer coat is also referred to as the "guidecoat."

"Solids turnover ratio (R_T)" means the ratio of total volume of coating solids that is added to the EDP system in a calendar month divided by the total volume design capacity of the EDP system.

"Topcoat" means the final coating(s) on components of automobile and light-duty truck bodies.

"Topcoat operation" means the application area(s), flashoff area(s), and oven(s) used to apply and dry or cure topcoat on components of automobile and light-duty truck bodies on a single assembly line.

"Topcoat protocol" means the EPA document "Protocol for Determining the Daily VOC Emission Rate of Automobile and Light-Duty Truck Topcoat Operations," EPA 450/3-88-018, December 1988.

"Volume design capacity" means for the EDP system the total liquid volume that is contained in the EDP system (tanks, pumps, recirculating lines, filters, etc.) at the

system's designed liquid operating level. The EDP system volume design capacity is designated L_E .

(c) Standards.

(1) No owner or operator of an automobile or light-duty truck prime coat operation or final repair operation subject to this section shall cause or allow on any day the application of any coating on that operation with VOC content, as applied, that exceeds either of the following emission limits:

(i) 0.14 kilograms per liter (kg/L) (1.2 pounds per gallon [lb/gal]) of coating, excluding water and exempt compounds, as applied, from any prime coat operation.

(ii) 0.58 kg/L (4.8 lb/gal) of coating, excluding water and exempt compounds, as applied, from any final repair operation.

(2) No owner or operator of an automobile or light-duty truck topcoat operation subject to this section shall cause or allow on any day VOC emissions which exceed either of the following:

(i) 1.8 kg/L (15.1 lb/gal) of solids deposited.

(ii) 0.34 kg/L (2.8 lb/gal) of coating, excluding water and exempt compounds, as applied.

(3) No owner or operator of an automobile or light-duty truck primer surfacer operation subject to this section shall cause or allow on any day VOC emissions which exceed either of the following:

(i) 1.8 kg/L (15.1 lb/gal) of solids deposited.

(ii) 0.34 kg/L (2.8 lb/gal) of coating, excluding water and exempt compounds, as applied.

(4) No owner or operator of an EDP prime coat operation subject to this section shall cause or allow on any day the application of any coating on that operation with VOC content, as applied, that exceeds either of the following:

(i) 0.17 kg/L (1.4 lb/gal) of coating solids from any EDP prime coat operation when the solids turnover ratio (R_T) is 0.16 or greater. R_T shall be calculated as follows:

$$R_T = \frac{T_V}{L_E}$$

where:

T_V = Total volume of coating solids that is added to the EDP system in a calendar month (liters).

L_E = Volume design capacity of the EDP system (liters).

(ii) $0.17 \times 350^{(0.160 - R_T)}$ kg VOC/L of applied coating solids from any EDP prime coat operation when R_T , calculated according to the equation in paragraph (c)(4)(i) of this section, is greater than or equal to 0.040 and less than 0.160.

(iii) When R_T , calculated according to the equation in paragraph (c)(4)(i) of this section, is less than 0.040 for any EDP prime coat operation, there is no emission limit.

(5) As an alternative to compliance with the emission limits in paragraphs (c)(1), (c)(2)(ii), and (c)(3)(ii) of this section, an owner or operator may meet the requirements of paragraph (d) or (e) of this section.

(d) Daily-weighted average limitation. No owner or operator subject to this section shall apply, during any day, coatings in any nonelectrodeposition (non-EDP) prime coat, final repair, topcoat, or primer surfacer operation whose daily-weighted average VOC content, calculated in accordance with the procedure specified in § XX.3082(a) of this subpart, exceeds the applicable emission limits in paragraphs (c)(1), (c)(2)(ii), and (c)(3)(ii) of this section.

(e) Control devices.

(1) An owner or operator subject to this section shall comply with the applicable emission limits for any non-EDP prime coat, final repair, topcoat, or primer surfacer operation by:

(i) Installing and operating a capture system on that operation.

(ii) Installing and operating a control device on that operation.

(iii) Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed for a day is the lesser of the value calculated according to the procedure in

§ XX.3082(c) of this subpart for that day or 95 percent.

(iv) Demonstrating each day that the overall emission reduction efficiency achieved for that day, as determined in § XX.3083(c) of this subpart, is greater than or equal to the overall emission reduction efficiency required for that day.

(2) An owner or operator subject to this section shall ensure that:

(i) A capture system and control device are operated at all times the coating operation is in use, and the owner or operator demonstrates compliance with this section through the applicable coating analysis and capture system and control device efficiency test methods specified in §§ XX.3081, XX.3083, and XX.3084 of this subpart and in accordance with the capture efficiency test methods in 40 CFR Part 60, Appendix A [to be published].

(ii) The control device is equipped with the applicable monitoring equipment specified in § XX.3083(b) of this subpart, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

(f) Compliance procedures for EDP prime coat operations.

(1) The owner or operator of an EDP prime coat operation subject to this section shall use the procedures

in 40 CFR 60.393(c)(1) to determine compliance if a capture system and a control device are not used to comply with the emission limits in paragraph (c)(4)(i) or (ii) of this section.

(2) The owner or operator of an EDP prime coat operation subject to this section shall use the procedures in 40 CFR 60.393(c)(2) to determine compliance if a capture system and a control device that destroys VOC (e.g., incinerator) are used to comply with the emission limits in paragraph (c)(4)(i) or (ii) of this section.

(3) The owner or operator of an EDP prime coat operation subject to this section shall use the procedures in 40 CFR 60.393(c)(3) to determine compliance if a capture system and a control device that recovers the VOC (e.g., carbon adsorber) are used to comply with the emission limits in paragraph (c)(4)(i) or (ii) of this section.

(g) Test methods.

(1) The test methods found in §§ XX.3080 through XX.3083 of this subpart shall be used to determine compliance with paragraphs (c)(1), (c)(2)(ii), (c)(3)(ii), and (c)(5) of this section.

(2) An owner or operator shall use the topcoat protocol to determine compliance with paragraphs (c)(2)(i) and (c)(3)(i) of this section.

(h) Recordkeeping and reporting for non-EDP prime coat and final repair operations.

(1) An owner or operator of an automobile or light-duty truck coating operation that is exempt from the emission limitations in paragraph (c)(1) of this section shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(b) of this subpart.

(2) An owner or operator of an automobile or light-duty truck coating operation subject to this section and complying with paragraph (c)(1) of this section by the use of complying coatings shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(c) of this subpart.

(3) An owner or operator of an automobile or light-duty truck coating operation subject to this section and complying with paragraph (c)(1) of this section by daily-weighted averaging shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(d) of this subpart.

(4) An owner or operator of an automobile or light-duty truck coating operation subject to this section and complying with paragraph (c)(1) of this section by the use of control devices shall comply with the testing, reporting, and recordkeeping requirements in § XX.3002(e) of this subpart.

(i) Recordkeeping and reporting for EDP prime coat operations. An owner or operator of an EDP prime coat operation subject to this section and complying with the requirements in paragraph (c)(4)(i), (ii), and (iii) of this section shall comply with the following:

(1) Certification. By **{insert date 1 year after date of promulgation of final rule}** or upon startup of a new EDP prime coat operation, the owner or operator shall certify to the Administrator that the coating operation is and will be in compliance with the requirements in paragraph (c)(4)(i) or (ii) of this section on and after **{insert date 1 year after date of promulgation of final rule}**, or on and after the initial startup date. Such certification shall include:

(i) The name and location of the facility.

(ii) The address and telephone number of the person responsible for the facility.

(iii) Identification of subject sources.

(iv) A copy of the calculations performed to determine R_T and the calculations performed pursuant to paragraph (f) of this section to demonstrate compliance for the EDP prime coat operation for the month prior to submittal of the certification.

(2) Recordkeeping. On and after **{insert date 1 year after date of promulgation of final rule}** or on and after the initial startup date of a new EDP prime coat operation, the owner or operator shall collect and record the following

information for each EDP prime coat operation. These records shall be maintained at the facility for at least 5 years and shall be made available to the Administrator upon verbal or written request:

(i) For each day, the total daily volume of coating solids that is added to the EDP system.

(ii) For each month, calculation of R_T using the equation in paragraph (c)(4)(i) of this section.

(iii) For each month, the calculations used in the compliance determinations specified in paragraph (f) of this section.

(3) Reporting. On and after **{insert date 1 year after promulgation of final rule}**, the owner or operator of an EDP prime coat operation subject to this section shall notify the Administrator in either of the following instances:

(i) Any record showing noncompliance with the appropriate emission limit for the EDP prime coat operation.

(ii) At least 30 calendar days before changing the method of compliance from one of the procedures in paragraph (f) of this section to another of the procedures in paragraph (f), the owner or operator shall comply with the certification requirements in paragraph (i)(1) of this section.

(j) Reporting and recordkeeping for topcoat and primer surfacer operations.

(1) An owner or operator of an automobile or light-duty truck coating operation subject to this section and complying with paragraph (c)(2)(i) or (c)(3)(i) of this section shall comply with the following:

(i) Certification. At least 180 days prior to the initial compliance date, the owner or operator of a coating operation subject to the topcoat and primer surfacer limit in paragraphs (c)(2)(i) and (c)(3)(i) of this section shall submit to the Administrator a detailed proposal specifying the method of demonstrating how the compliance test will be conducted according to the topcoat protocol. The proposal shall include a comprehensive plan (including a rationale) for determining the transfer efficiency at each booth through the use of in-plant or pilot testing; the selection of coatings to be tested (for the purpose of determining transfer efficiency), including the rationale for coating groupings; and a method for tracking coating usage during the transfer efficiency test. Upon approval by the Administrator, the owner or operator may proceed with the compliance demonstration.

(ii) Recordkeeping.

(A) The owner or operator shall maintain at the source for a period of 5 years all test results, data, and calculations used to determine VOC emissions from each

topcoat and each primer surfacer operation according to the topcoat protocol.

(B) If control devices are used to control emissions from an automobile or light-duty truck topcoat or primer surfacer operation, the owner or operator shall maintain records according to § XX.3002(e)(2)(vi) through (xi) of this subpart.

(iii) Reporting. Any instance of noncompliance with the emission limit in paragraph (c)(2)(i) or (c)(3)(i) shall be reported to the Administrator within 30 calendar days.

(2) An owner or operator of an automobile or light-duty truck coating operation subject to this section and complying with paragraphs (c)(2)(ii) and (c)(3)(ii) of this section by the use of complying coatings shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(c) of this subpart.

(3) An owner or operator of an automobile or light-duty truck coating operation subject to this section and complying with paragraphs (c)(2)(ii) and (c)(3)(ii) of this section by daily-weighted averaging shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(d) of this subpart.

(4) An owner or operator of an automobile or light-duty truck coating operation subject to this section and complying with paragraphs (c)(2)(ii) and (c)(3)(ii) of this

section by the use of control devices shall comply with the testing, reporting and recordkeeping requirements in § XX.3002(e) of this subpart.

§ XX.3012 Can Coating.

(a) Applicability.

(1) This section applies to any can coating unit used to apply the following coatings: sheet base coat, exterior base coat, interior body spray coat, overvarnish, side seam spray coat, exterior end coat, and end sealing compound coat.

(2) The emission limits of this section do not apply to can coating units within any facility whose actual emissions without control devices from all can coating units within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day.

(3) An owner or operator of a facility whose emissions are below the applicability threshold in paragraph (a)(2) of this section shall comply with the certification, recordkeeping, and reporting requirements of paragraph (g)(1) of this section.

(4) Any facility that becomes or is currently subject to the provisions of this section by exceeding the applicability threshold in paragraph (a)(2) of this section will remain subject to these provisions, even if its emissions later fall below the applicability threshold.

(5) Any facility that is currently subject to a State or Federal rule promulgated pursuant to the Clean Air Act Amendments of 1977 by exceeding an applicability threshold

is and will remain subject to these provisions, even if its throughput or emissions have fallen or later fall below the applicability threshold.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Can" means any cylindrical single-walled container, with or without a top, cover, spout, and/or handle, that is manufactured from metal sheets thinner than 29 gauge (0.0141 inch [in.]) and into which solid or liquid materials may be packaged.

"Can coating unit" means a coating unit in which any coating is applied onto the surface of cans or can components.

"End sealing compound coat" means a compound applied onto can ends that functions as a gasket when the end is assembled onto the can.

"Exterior base coat" means a coating applied to the exterior of a two-piece can body to provide protection to the metal or to provide background for any lithographic or printing operation.

"Interior body spray coat" means a coating applied to the interior of the can body to provide a protective film between the product and the can.

"Overvarnish" means a coating applied directly over a design coating or directly over ink to reduce the

coefficient of friction, to provide gloss, and to protect the finish against abrasion and corrosion.

"Sheet basecoat" means a coating applied to metal in sheet form to serve as either the exterior or interior of two-piece or three-piece can bodies or can ends.

"Side-seam spray coat" means a coating applied to the seam of a three-piece can.

"Three-piece can" means a can that is made by rolling a rectangular sheet of metal into a cylinder that is soldered, welded, or cemented at the seam and attaching two ends.

"Two-piece can" means a can whose body and one end are formed from a shallow cup and to which the other end is later attached.

"Two-piece can exterior end coat" means a coating applied by roller coating or spraying to the exterior end of a two-piece can to provide protection to the metal.

(c) Standards.

(1) No owner or operator of a can coating unit subject to this section shall cause or allow the application of any coating on that unit with VOC content, as applied, that exceeds the limits in paragraphs (c)(1)(i) through (c)(1)(vi) of this section.

		kg/L ^a	lb/gal ^a
(i)	Sheet basecoat and sheet overvarnish	0.34	2.8
(ii)	Exterior basecoat and overvarnish (two-piece can)	0.34	2.8
(iii)	Interior body spray coat	0.51	4.2
(iv)	Two-piece can exterior end coat	0.51	4.2
(v)	Side seam spray coat	0.66	5.5
(vi)	End-sealing compound coat	0.44	3.7

^aVOC content values are expressed in units of mass of VOC (kg, lb) per volume of coating (liter [L], gallon [gal]), excluding water and exempt compounds, as applied.

(2) As an alternative to compliance with the emission limits in paragraph (c)(1) of this section, an owner or operator of a can coating unit may comply with the requirements of this section by meeting the requirements of paragraph (d) or (e) of this section.

(d) Daily-weighted average limitations.

(1) No owner or operator of a can coating unit subject to this section shall apply, during any day, coatings on that unit whose daily-weighted average VOC content, calculated in accordance with the procedure specified in § XX.3082 of this subpart, exceeds the emission limits in paragraph (c)(1) of this section.

(2) Notwithstanding any other provision of this subpart, an owner or operator may use the compliance program described in the December 8, 1980, FEDERAL REGISTER (45 FR

80024). This program allows a daily weighted average of coatings between can coating units without a requirement to submit a FIP or SIP revision and without the requirement to meet the provisions of the Emissions Trading Policy Statement (51 FR 43815, December 4, 1986).

(e) Control devices.

(1) An owner or operator of a can coating unit subject to this section may comply with paragraph (c)(2) of this section by:

(i) Installing and operating a capture system on that unit.

(ii) Installing and operating a control device on that unit.

(iii) Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed for a day is the lesser of the value calculated according to the procedure in § XX.3082(c) of this subpart for that day or 95 percent.

(iv) Demonstrating each day that the overall emission reduction efficiency achieved for that day, as determined in § XX.3083(c) of this subpart, is greater than or equal to the overall emission reduction efficiency required for that day.

(2) An owner or operator of a can coating unit subject to this section shall ensure that:

(i) A capture system and control device are operated at all times that the unit is in operation, and the owner or operator demonstrates compliance with this section through the applicable coating analysis and capture system and control device efficiency test methods specified in §§ XX.3081, XX.3083, and XX.3084 of this subpart and in accordance with the capture efficiency test methods in 40 CFR Part 60, Appendix A [to be published].

(ii) The control device is equipped with the applicable monitoring equipment specified in § XX.3083(b) of this subpart, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

(f) Test methods. The test methods found in §§ XX.3080 through XX.3083 of this subpart shall be used to determine compliance with this section.

(g) Recordkeeping and reporting.

(1) An owner or operator of a can coating unit that is exempt from the emission limitations in paragraph (c) of this section shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(b) of this subpart.

(2) An owner or operator of a can coating unit subject to this section and complying with paragraph (c) of this section by using complying coatings shall comply with the

certification, recordkeeping, and reporting requirements in § XX.3002(c) of this subpart.

(3) An owner or operator of a can coating unit subject to this section and complying with paragraph (d) of this section by daily-weighted averaging shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(d) of this subpart.

(4) An owner or operator of a can coating unit subject to this section and complying with paragraph (e) of this section by using control devices shall comply with the testing, reporting, and recordkeeping requirements in § XX.3002(e) of this subpart.

§ XX.3013 Coil Coating.

(a) Applicability.

(1) This section applies to any coil coating unit.

(2) This section does not apply to any coil coating unit within a facility whose actual emissions without control devices from all coil coating units within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day.

(3) An owner or operator of a facility whose emissions are below the applicability threshold in paragraph (a)(2) of this section shall comply with the certification, recordkeeping, and reporting requirements of paragraph (g)(1) of this section.

(4) Any facility that becomes or is currently subject to the provisions of this section by exceeding the applicability threshold in paragraph (a)(2) of this section will remain subject to these provisions even if its emissions later fall below the applicability threshold.

(5) Any facility that is currently subject to a State or Federal rule promulgated pursuant to the Clean Air Act Amendments of 1977 by exceeding an applicability threshold is and will remain subject to these provisions, even if its throughput or emissions have fallen or later fall below the applicability threshold.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Coil" means any continuous metal strip with thickness of 0.15 millimeter (mm) (0.006 inch [in.]) or more that is packaged in a roll or coil.

"Coil coating line" means a web coating line where coating is applied to coil.

"Coil coating unit" means a coating application station and its associated flashoff area, drying area, and/or drying oven wherein coating is applied and dried or cured on a coil coating line. A coil coating line may include more than one coil coating unit.

(c) Standards.

(1) No owner or operator of a coil coating unit subject to this section shall cause or allow the application of any coating on that unit with VOC content in excess of 0.31 kilograms per liter (kg/L) (2.6 pounds per gallon [lb/gal]) of coating, excluding water and exempt compounds, as applied.

(2) As an alternative to compliance with the emission limit in paragraph (c)(1) of this section, an owner or operator of a coil coating unit may meet the requirements of paragraph (d) or (e) of this section.

(d) Daily-weighted average limitation. No owner or operator of a coil coating unit subject to this section

shall apply, during any day, coatings on that unit whose daily-weighted average VOC content, calculated in accordance with the procedure specified in § XX.3082 of this subpart, exceeds the emission limit in paragraph (c)(1) of this section.

(e) Control devices.

(1) An owner or operator of a coil coating unit subject to this section may comply with this section by:

(i) Installing and operating a capture system on that unit.

(ii) Installing and operating a control device on that unit.

(iii) Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed for a day is the lesser of the value calculated according to the procedure in § XX.3082(c) of this subpart for that day or 95 percent.

(iv) Demonstrating each day that the overall emission reduction efficiency achieved for that day, as determined in § XX.3083(c) of this subpart, is greater than or equal to the overall emission reduction efficiency required for that day.

(2) An owner or operator of a coil coating unit subject to this section shall ensure that:

(i) A capture system and control device are operated at all times the coating unit is in operation, and the owner

or operator demonstrates compliance with this section through the applicable coating analysis and capture system and control device efficiency test methods specified in §§ XX.3081, XX.3083, and XX.3084 of this subpart and in accordance with the capture efficiency test methods in 40 CFR Part 60, Appendix A [to be published].

(ii) The control device is equipped with the applicable monitoring equipment specified in § XX.3083(b) of this subpart, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

(f) Test methods. The test methods found in §§ XX.3080 through XX.3083 of this subpart shall be used to determine compliance with this section.

(g) Recordkeeping and reporting.

(1) An owner or operator of a coil coating unit that is exempt from the emission limitations in paragraph (c) of this section shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(b) of this subpart.

(2) An owner or operator of a coil coating unit subject to this section and complying with paragraph (c) of this section by the use of complying coatings shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(c) of this subpart.

(3) An owner or operator of a coil coating unit subject to this section and complying with paragraph (d) of this section by daily-weighted averaging shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(d) of this subpart.

(4) An owner or operator of a coil coating unit subject to this section and complying with paragraph (e) of this section by the use of control devices shall comply with the testing, reporting, and recordkeeping requirements in § XX.3002(e) of this subpart.

§ XX.3014 Paper Coating.

(a) Applicability.

(1) This section applies to any paper coating unit.

(2) This section does not apply to any paper coating unit within a facility whose actual emissions without control devices from all paper coating units within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day.

(3) An owner or operator of a facility whose emissions are below the applicability threshold in paragraph (a)(2) of this section shall comply with the certification, recordkeeping, and reporting requirements of paragraph (g)(1) of this section.

(4) Any facility that becomes or is currently subject to the provisions of this section by exceeding the applicability threshold in paragraph (a)(2) of this section will remain subject to these provisions even if its emissions later fall below the applicability threshold.

(5) Any facility that is currently subject to a State or Federal rule promulgated pursuant to the Clean Air Act Amendments of 1977 by exceeding an applicability threshold is and will remain subject to these provisions, even if its throughput or emissions have fallen or later fall below the applicability threshold.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Paper coating line" means a web coating line where coating is applied to paper. Printing presses are not considered paper coating lines. Products produced on a paper coating line include, but are not limited to, adhesive tapes and labels, book covers, post cards, office copier paper, drafting paper, and pressure sensitive tapes. Paper coating lines include, but are not limited to, application by impregnation or saturation or by the use of roll, knife, or rotogravure coating.

"Paper coating unit" means a coating application station and its associated flashoff area, drying area, and/or oven wherein coating is applied and dried or cured on a paper coating line. A paper coating line may include more than one paper coating unit.

(c) Standards.

(1) No owner or operator of a paper coating unit subject to this section shall cause, allow, or permit the application of any coating on that unit with VOC content in excess of 0.35 kilograms per liter (kg/L) (2.9 pounds per gallon [lb/gal]) of coating, excluding water and exempt compounds, as applied.

(2) As an alternative to compliance with the emission limit in paragraph (c)(1) of this section, an owner or

operator of a paper coating unit subject to this section may meet the requirements of paragraph (d) or (e) of this section.

(d) Daily-weighted average limitation. No owner or operator of a paper coating unit subject to this section shall apply, during any day, coatings on that unit whose daily-weighted average VOC content, calculated in accordance with the procedure specified in § XX.3082 of this subpart, exceeds the emission limit in paragraph (c)(1) of this section.

(e) Control devices.

(1) An owner or operator of a paper coating unit subject to this section may comply with this section by:

(i) Installing and operating a capture system on that unit.

(ii) Installing and operating a control device on that unit.

(iii) Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed for a day is the lesser of the value calculated according to the procedure in § XX.3082(c) of this subpart for that day or 95 percent.

(iv) Demonstrating each day that the overall emission reduction efficiency achieved for that day, as determined in § XX.3083(c) of this subpart, is greater than or equal to

the overall emission reduction efficiency required for that day.

(2) An owner or operator of a paper coating unit subject to this section shall ensure that:

(i) A capture system and control device are operated at all times the coating unit is in operation, and the owner or operator demonstrates compliance with this section through the applicable coating analysis and capture system and control device efficiency test methods specified in §§ XX.3081, XX.3083, and XX.3084 of this subpart and in accordance with the capture efficiency test methods in 40 CFR Part 60, Appendix A [to be published].

(ii) The control device is equipped with the applicable monitoring equipment specified in § XX.3083(b) of this subpart, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

(f) Test methods. The test methods found in §§ XX.3080 through XX.3083 of this subpart shall be used to determine compliance with this section.

(g) Recordkeeping and reporting.

(1) An owner or operator of a paper coating unit that is exempt from the emission limitations in paragraph (c) of this section shall comply with the certification,

recordkeeping, and reporting requirements in § XX.3002(b) of this subpart.

(2) An owner or operator of a paper coating unit subject to this section and complying with paragraph (c) of this section by the use of complying coatings shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(c) of this subpart.

(3) An owner or operator of a paper coating unit subject to this section and complying with paragraph (d) of this section by daily-weighted averaging shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(d) of this subpart.

(4) An owner or operator of a paper coating unit subject to this section and complying with paragraph (e) of this section by the use of control devices shall comply with the testing, reporting, and recordkeeping requirements in § XX.3002(e) of this subpart.

§ XX.3015 Fabric Coating.

(a) Applicability.

(1) This section applies to any fabric coating unit.

(2) This section does not apply to any fabric coating unit within a facility whose actual emissions without control devices from all fabric coating units within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day.

(3) An owner or operator of a facility whose emissions are below the applicability threshold in paragraph (a)(2) of this section shall comply with the certification, recordkeeping, and reporting requirements of paragraph (g)(1) of this section.

(4) Any facility that becomes or is currently subject to the provisions of this section by exceeding the applicability threshold in paragraph (a)(2) of this section will remain subject to these provisions even if its emissions later fall below the applicability threshold.

(5) Any facility that is currently subject to a State or Federal rule promulgated pursuant to the Clean Air Act Amendments of 1977 by exceeding an applicability threshold is and will remain subject to these provisions, even if its throughput or emissions have fallen or later fall below the applicability threshold.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Fabric coating line" means a web coating line where coating is applied to fabric. A fabric printing line is not considered a fabric coating line.

"Fabric coating unit" means a coating application station and its associated flashoff area, drying area, and/or oven wherein coating is applied and dried or cured in a fabric coating line. A fabric coating line may include more than one fabric coating unit.

(c) Standards.

(1) No owner or operator of a fabric coating unit subject to this section shall cause or allow the application of any coating on that unit with VOC content in excess of 0.35 kilogram per liter (kg/L) (2.9 pounds per gallon [lb/gal]) of coating, excluding water and exempt compounds, as applied.

(2) As an alternative to compliance with the emission limit in paragraph (c)(1) of this section, an owner or operator of a fabric coating unit subject to this section may meet the requirements of paragraph (d) or (e) of this section.

(d) Daily-weighted average limitation. No owner or operator of a fabric coating unit subject to this section shall apply, during any day, coatings on that unit whose

daily-weighted average VOC content, calculated in accordance with the procedure specified in § XX.3082 of this subpart, exceeds the emission limit in paragraph (c)(1) of this section.

(e) Control devices.

(1) An owner or operator of a fabric coating unit subject to this section may comply with this section by:

(i) Installing and operating a capture system on that unit.

(ii) Installing and operating a control device on that unit.

(iii) Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed for a day is the lesser of the value calculated according to the procedure in § XX.3082(c) of this subpart for that day or 95 percent.

(iv) Demonstrating each day that the overall emission reduction efficiency achieved for that day, as determined in § XX.3083(c) of this subpart, is greater than or equal to the overall emission reduction efficiency required for that day.

(2) An owner or operator of a fabric coating unit subject to this section shall ensure that:

(i) A capture system and control device are operated at all times the coating unit is in operation, and the owner or operator demonstrates compliance with this section

through the applicable coating analysis and capture system and control device efficiency test methods specified in §§ XX.3081, XX.3083, and XX.3084 of this subpart and in accordance with the capture efficiency test methods in 40 CFR Part 60, Appendix A [to be published].

(ii) The control device is equipped with the applicable monitoring equipment specified in § XX.3083(b) of this subpart, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

(f) Test methods. The test methods found in §§ XX.3080 through XX.3083 of this subpart shall be used to determine compliance with this section.

(g) Recordkeeping and reporting.

(1) An owner or operator of a fabric coating unit that is exempt from the emission limitations in paragraph (c) of this section shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(b) of this subpart.

(2) An owner or operator of a fabric coating unit subject to this section and complying with paragraph (c) of this section by the use of complying coatings shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(c) of this subpart.

(3) An owner or operator of a fabric coating unit subject to this section and complying with paragraph (d) of this section by daily-weighted averaging shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(d) of this subpart.

(4) An owner or operator of a fabric coating unit subject to this section and complying with paragraph (e) of this section by the use of control devices shall comply with the testing, reporting, and recordkeeping requirements in § XX.3002(e) of this subpart.

§ XX.3016 Vinyl Coating.

(a) Applicability.

(1) This section applies to any vinyl coating line.

(2) This section does not apply to:

(i) Application of vinyl plastisol to fabric to form the substrate that is subsequently coated.

(ii) Any vinyl coating line within a facility whose actual emissions without control devices from all vinyl coating lines within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day.

(3) An owner or operator of a facility whose emissions are below the applicability threshold in paragraph (a)(2)(ii) of this section shall comply with the certification, recordkeeping, and reporting requirements of paragraph (g)(1) of this section.

(4) Any facility that becomes or is currently subject to the provisions of this section by exceeding the applicability threshold in paragraph (a)(2)(ii) of this section will remain subject to these provisions even if its emissions later fall below the applicability threshold.

(5) Any facility that is currently subject to a State or Federal rule promulgated pursuant to the Clean Air Act Amendments of 1977 by exceeding an applicability threshold is and will remain subject to these provisions, even if its

throughput or emissions have fallen or later fall below the applicability threshold.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Vinyl coating line" means a web coating line where a decorative, functional, or protective coating is applied to a continuous web of vinyl or vinyl-coated fabric. Lines used for coating and/or printing on vinyl and coating and/or printing on urethane are considered vinyl coating lines.

(c) Standards.

(1) No owner or operator of a vinyl coating line subject to this section shall cause or allow the application of any coating on that line with VOC content in excess of 0.45 kilograms per liter (kg/L) (3.8 pounds per gallon [lb/gal]) of coating, excluding water and exempt compounds, as applied.

(2) As an alternative to compliance with the emission limit in paragraph (c)(1) of this section, an owner or operator of a vinyl coating line subject to this section may meet the requirements of paragraph (d) or (e) of this section.

(d) Daily-weighted average limitation. No owner or operator of a vinyl coating line subject to this section shall apply, during any day, coatings on any such line whose daily-weighted average VOC content, calculated in accordance

with the procedure specified in § XX.3082 of this subpart, exceeds the emission limit in paragraph (c)(1) of this section.

(e) Control devices.

(1) An owner or operator of a vinyl coating line subject to this section may comply with this section by:

(i) Installing and operating a capture system on that line.

(ii) Installing and operating a control device on that line.

(iii) Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed for a day is the lesser of the value calculated according to the procedure in § XX.3082(c) of this subpart for that day or 95 percent.

(iv) Demonstrating each day that the overall emission reduction efficiency achieved for that day, as determined in § XX.3083(c) of this subpart, is greater than or equal to the overall emission reduction efficiency required for that day.

(2) An owner or operator of a vinyl coating line subject to this section shall ensure that:

(i) A capture system and control device are operated at all times that the line is in operation, and the owner or operator demonstrates compliance with this section through

the applicable coating analysis and capture system and control device efficiency test methods specified in §§ XX.3081, XX.3083, and XX.3084 of this subpart and in accordance with the capture efficiency test methods in 40 CFR Part 60, Appendix A [to be published].

(ii) The control device is equipped with the applicable monitoring equipment specified in § XX.3083(b) of this subpart, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

(f) Test methods. The test methods found in §§ XX.3080 through XX.3083 of this subpart shall be used to determine compliance with this section.

(g) Recordkeeping and reporting.

(1) An owner or operator of a vinyl coating line that is exempt from the emission limitations in paragraph (c) of this section shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(b) of this subpart.

(2) An owner or operator of a vinyl coating line subject to this section and complying with paragraph (c) of this section by the use of complying coatings shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(c) of this subpart.

(3) An owner or operator of a vinyl coating line subject to this section and complying with paragraph (d) of this section by daily-weighted averaging shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(d) of this subpart.

(4) An owner or operator of a vinyl coating line subject to this section and complying with paragraph (e) of this section by the use of control devices shall comply with the testing, reporting, and recordkeeping requirements in § XX.3002(e) of this subpart.

§ XX.3017 Coating of Metal Furniture.

(a) Applicability.

(1) This section applies to any metal furniture coating unit.

(2) This section does not apply to any metal furniture coating unit within a facility whose actual emissions without control devices from all metal furniture coating units within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day.

(3) An owner or operator of a facility whose emissions are below the applicability threshold in paragraph (a)(2) of this section shall comply with the certification, recordkeeping, and reporting requirements of paragraph (g)(1) of this section.

(4) Any facility that becomes or is currently subject to the provisions of this section by exceeding the applicability threshold in paragraph (a)(2) of this section will remain subject to these provisions even if its emissions later fall below the applicability threshold.

(5) Any facility that is currently subject to a State or Federal rule promulgated pursuant to the Clean Air Act Amendments of 1977 by exceeding an applicability threshold is and will remain subject to these provisions, even if its throughput or emissions have fallen or later fall below the applicability threshold.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Metal furniture" means any furniture piece made of metal or any metal part that will be assembled with other metal, wood, fabric, plastic, or glass parts to form a furniture piece including, but not limited to, tables, chairs, waste baskets, beds, desks, lockers, benches, shelving, file cabinets, and room dividers. This definition shall not apply to the coating of miscellaneous metal parts or products pursuant to § XX.3020 of this subpart.

"Metal furniture coating unit" means a coating unit in which a protective, decorative, or functional coating is applied onto the surface of metal furniture.

(c) Standards.

(1) No owner or operator of a metal furniture coating unit subject to this section shall cause or allow the application of any coating on that unit with VOC content in excess of 0.36 kilograms per liter (kg/L) (3.0 pounds per gallon [lb/gal]) of coating, excluding water and exempt compounds, as applied.

(2) As an alternative to compliance with the emission limit in paragraph (c)(1) of this section, an owner or operator of a metal furniture coating unit may meet the requirements of paragraph (d) or (e) of this section.

(d) Daily-weighted average limitation. No owner or operator of a metal furniture coating unit subject to this section shall apply, during any day, coatings on that unit whose daily-weighted average VOC content, calculated in accordance with the procedure specified in § XX.3082 of this subpart, exceeds the emission limit in paragraph (c)(1) of this section.

(e) Control devices.

(1) An owner or operator of a metal furniture coating unit subject to this section may comply with this section by:

(i) Installing and operating a capture system on that unit.

(ii) Installing and operating a control device on that unit.

(iii) Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed for a day is the lesser of the value calculated according to the procedure in § XX.3082(c) of this subpart for that day or 95 percent.

(iv) Demonstrating each day that the overall emission reduction efficiency achieved for that day, as determined in § XX.3083(c) of this subpart, is greater than or equal to the overall emission reduction efficiency required for that day.

(2) An owner or operator of a metal furniture coating unit subject to this section shall ensure that:

(i) A capture system and control device are operated at all times that the unit is in operation, and the owner or operator demonstrates compliance with this section through the applicable coating analysis and capture system and control device efficiency test methods specified in §§ XX.3081, XX.3083, and XX.3084 of this subpart and in accordance with the capture efficiency test methods in 40 CFR Part 60, Appendix A [to be published].

(ii) The control device is equipped with the applicable monitoring equipment specified in § XX.3083(b) of this subpart, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

(f) Test methods. The test methods found in §§ XX.3080 through XX.3083 of this subpart shall be used to determine compliance with this section.

(g) Recordkeeping and reporting.

(1) An owner or operator of a metal furniture coating unit that is exempt from the emission limitations in paragraph (c) of this section shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(b) of this subpart.

(2) An owner or operator of a metal furniture coating unit subject to this section and complying with paragraph (c) of this section by the use of complying coatings shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(c) of this subpart.

(3) An owner or operator of a metal furniture coating unit subject to this section and complying with paragraph (d) of this section by daily-weighted averaging shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(d) of this subpart.

(4) An owner or operator of a metal furniture coating unit subject to this section and complying with paragraph (e) of this section by the use of control devices shall comply with the testing, reporting, and recordkeeping requirements in § XX.3002(e) of this subpart.

§ XX.3018 Coating of Large Appliances.

(a) Applicability.

(1) This section applies to any large appliance coating unit.

(2) This section does not apply to:

(i) Any large appliance coating unit within a facility whose actual emissions without control devices from all large appliance coating units within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day.

(ii) The use of quick-drying lacquers for repair of scratches and nicks that occur during assembly, provided that the volume of coating does not exceed 0.95 liter (L) (0.25 gallon [gal]) in any one 8-hour period.

(3) An owner or operator of a facility whose emissions are below the applicability threshold in paragraph (a)(2) of this section shall comply with the certification, recordkeeping, and reporting requirements of paragraph (g)(1) of this section.

(4) Any facility that becomes or is currently subject to the provisions of this section by exceeding the applicability threshold in paragraph (a)(2) of this section will remain subject to these provisions even if its emissions or coating volume used later fall below the applicability thresholds.

(5) Any facility that is currently subject to a State or Federal rule promulgated pursuant to the Clean Air Act Amendments of 1977 by exceeding an applicability threshold is and will remain subject to these provisions, even if its throughput or emissions have fallen or later fall below the applicability threshold.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Large appliance" means any residential or commercial washer, dryer, range, refrigerator, freezer, water heater, dishwasher, trash compactor, air conditioner, or other similar products under Standard Industrial Classification Code 363.

"Large appliance coating unit" means a coating unit in which any protective, decorative, or functional coating is applied onto the surface of component metal parts (including, but not limited to, doors, cases, lids, panels, and interior parts) of large appliances.

(c) Standards.

(1) No owner or operator of a large appliance coating unit subject to this section shall cause or allow the application of any coating on that unit with VOC content in excess of 0.34 kilograms per liter (kg/L) (2.8 pounds per gallon [lb/gal]) of coating, excluding water and exempt compounds, as applied.

(2) As an alternative to compliance with the emission limit in paragraph (c)(1) of this section, an owner or operator of a large appliance coating unit subject to this section may meet the requirements of paragraph (d) or (e) of this section.

(d) Daily-weighted average limitation. No owner or operator of a large appliance coating unit subject to this section shall apply, during any day, coatings on that unit whose daily-weighted average VOC content, calculated in accordance with the procedure specified in § XX.3082 of this subpart, exceeds the emission limit in paragraph (c)(1) of this section.

(e) Control devices.

(1) An owner or operator of a large appliance coating unit subject to this section may comply with this section by:

(i) Installing and operating a capture system on that unit.

(ii) Installing and operating a control device on that unit.

(iii) Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed for a day is the lesser of the value calculated according to the procedure in § XX.3082(c) of this subpart for that day or 95 percent.

(iv) Demonstrating each day that the overall emission reduction efficiency achieved for that day, as determined in § XX.3083(c) of this subpart, is greater than or equal to the overall emission reduction efficiency required for that day.

(2) An owner or operator of a large appliance coating unit subject to this section shall ensure that:

(i) A capture system and control device are operated at all times that the unit is in operation, and the owner or operator demonstrates compliance with this section through the applicable coating analysis and capture system and control device efficiency test methods specified in §§ XX.3081, XX.3083, and XX.3084 of this subpart and in accordance with the capture efficiency test methods in 40 CFR Part 60, Appendix A [to be published].

(ii) The control device is equipped with the applicable monitoring equipment specified in § XX.3083(b) of this subpart, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

(f) Test methods. The test methods found in §§ XX.3080 through XX.3083 of this subpart shall be used to determine compliance with this section.

(g) Recordkeeping and reporting.

(1) An owner or operator of a large appliance coating unit that is exempt from the emission limitations in paragraph (c) of this section shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(b) of this subpart.

(2) An owner or operator of a large appliance coating unit subject to this section and complying with paragraph (c) of this section by the use of complying coatings shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(c) of this subpart.

(3) An owner or operator of a large appliance coating unit subject to this section and complying with paragraph (d) of this section by daily-weighted averaging shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(d) of this subpart.

(4) An owner or operator of a large appliance coating unit subject to this section and complying with paragraph (e) of this section by the use of control devices shall comply with the testing, reporting, and recordkeeping requirements in § XX.3002(e) of this subpart.

§ XX.3019 Coating of Magnet Wire.

(a) Applicability.

(1) This section applies to any magnet wire coating unit.

(2) This section does not apply to any magnet wire coating unit within a facility whose emissions without control devices from all magnet wire coating units within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day.

(3) An owner or operator of a facility whose emissions are below the applicability threshold in paragraph (a)(2) of this section shall comply with the certification, recordkeeping, and reporting requirements of paragraph (g)(1) of this section.

(4) Any facility that becomes or is currently subject to the provisions of this section by exceeding the applicability threshold in paragraph (a)(2) of this section will remain subject to these provisions even if its emissions later fall below the applicability threshold.

(5) Any facility that is currently subject to a State or Federal rule promulgated pursuant to the Clean Air Act Amendments of 1977 by exceeding an applicability threshold is and will remain subject to these provisions, even if its throughput or emissions have fallen or later fall below the applicability threshold.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Magnet wire coating unit" means a coating unit in which an electrically insulating varnish or enamel is applied onto the surface of wire for use in electrical machinery.

(c) Standards.

(1) No owner or operator of a magnet wire coating unit subject to this section shall cause or allow the use of any coating with VOC content in excess of 0.20 kilograms per liter (kg/L) (1.7 pounds per gallon [lb/gal]) of coating, excluding water and exempt compounds, as applied.

(2) As an alternative to compliance with the emission limit in paragraph (c)(1) of this section, an owner or operator of a magnet wire coating unit subject to this section may meet the requirements of paragraph (d) or (e) of this section.

(d) Daily-weighted average limitation. No owner or operator of a magnet wire coating unit subject to this section shall apply, during any day, coatings on that unit whose daily-weighted average VOC content, calculated in accordance with the procedure specified in § XX.3082 of this subpart, exceeds the emission limit in paragraph (c)(1) of this section.

(e) Control devices.

(1) An owner or operator of a magnet wire coating unit subject to this section may comply with this section by:

(i) Installing and operating a capture system on that unit.

(ii) Installing and operating a control device on that unit.

(iii) Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed for a day is the lesser of the value calculated according to the procedure in § XX.3082(c) of this subpart for that day or 95 percent.

(iv) Demonstrating each day that the overall emission reduction efficiency achieved for that day, as determined in § XX.3083(c) of this subpart, is greater than or equal to the overall emission reduction efficiency required for that day.

(2) An owner or operator of a magnet wire coating unit subject to this section shall ensure that:

(i) A capture system and control device are operated at all times that the unit is in operation, and the owner or operator demonstrates compliance with this section through the applicable coating analysis and capture system and control device efficiency test methods specified in §§ XX.3081, XX.3083, and XX.3084 of this subpart and in

accordance with the capture efficiency test methods in 40 CFR Part 60, Appendix A [to be published].

(ii) The control device is equipped with the applicable monitoring equipment specified in § XX.3083(b) of this subpart, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

(f) Test methods. The test methods found in §§ XX.3080 through XX.3083 of this subpart shall be used to determine compliance with this section.

(g) Recordkeeping and reporting.

(1) An owner or operator of a magnet wire coating unit that is exempt from the emission limitations in paragraph (c) of this section shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(b) of this subpart.

(2) An owner or operator of a magnet wire coating unit subject to this section and complying with paragraph (c) of this section by the use of complying coatings shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(c) of this subpart.

(3) An owner or operator of a magnet wire coating unit subject to this section and complying with paragraph (d) of this section by daily-weighted averaging shall comply with

the certification, recordkeeping, and reporting requirements in § XX.3002(d) of this subpart.

(4) An owner or operator of a magnet wire coating unit subject to this section and complying with paragraph (e) of this section by the use of control devices shall comply with the testing, reporting, and recordkeeping requirements in § XX.3002(e) of this subpart.

§ XX.3020 Coating of Miscellaneous Metal Parts.

(a) Applicability.

(1) This section applies to any miscellaneous metal parts and products coating unit.

(2) This section does not apply to the coating of the following metal parts and products that are covered by other sections of this subpart:

(i) Automobiles and light-duty trucks.

(ii) Metal cans.

(iii) Flat metal sheets and strips in the form of rolls or coils.

(iv) Magnet wire for use in electrical machinery.

(v) Metal furniture.

(vi) Large appliances.

(vii) Heavy-duty trucks that use electrodeposition (EDP) to apply prime coat, which are covered under paragraphs (c)(4), (f), and (i) of § XX.3011 of this subpart.

(3) This section does not apply to:

(i) Exterior of completely assembled aircraft.

(ii) Exterior of major aircraft subassemblies, if approved by the Administrator as part of a Federal implementation plan (FIP) or State implementation plan (SIP) revision.

(iii) Automobile, light-duty truck, and heavy-duty truck refinishing.

(iv) Customized top coating of automobiles and trucks, if production is less than 35 vehicles per day.

(v) Exterior of completely assembled marine vessels.

(vi) Exterior of major marine vessel subassemblies if approved by the Administrator as part of a FIP or SIP revision.

(4) The emission limits in this section do not apply to any coating unit within a facility whose actual emissions without control devices from all miscellaneous metal part and products coating units within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day.

(5) An owner or operator of a facility whose emissions are below the applicability threshold in paragraph (a)(4) of this section shall comply with the certification, recordkeeping, and reporting requirements of paragraph (g)(1) of this section.

(6) Any facility that becomes or is currently subject to the provisions of this section by exceeding the applicability threshold in paragraph (a)(4) of this section will remain subject to these provisions even if its emissions later fall below the applicability threshold.

(7) Any facility that is currently subject to a State or Federal rule promulgated pursuant to the Clean Air Act Amendments of 1977 by exceeding an applicability threshold is and will remain subject to these provisions, even if its

throughput or emissions have fallen or later fall below the applicability threshold.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Air-dried coating" means a coating that is dried by the use of air or forced warm air at temperatures up to 90°C (194°F).

"Clear coating" means a coating that (1) either lacks color and opacity or is transparent and (2) uses the surface to which it is applied as a reflective base or undertone color.

"Drum" means any cylindrical metal shipping container of 13- to 110-gallon capacity.

"Extreme environmental conditions" means any of the following: the weather all of the time, temperatures frequently above 95°C (203°F), detergents, abrasive and scouring agents, solvents, corrosive atmospheres, or similar environmental conditions.

"Extreme performance coatings" means coatings intended for exposure to extreme environmental conditions.

"Miscellaneous metal parts and products coating unit" means a coating unit in which a coating is applied to any miscellaneous metal parts and products.

"Miscellaneous parts and products" means any metal part or metal product, even if attached to or combined with a

nonmetal part or product. Miscellaneous metal parts and products include, but are not limited to:

(1) Large farm machinery (harvesting, fertilizing and planting machines, tractors, combines, etc.).

(2) Small farm machinery (lawn and garden tractors, lawn mowers, rototillers, etc.).

(3) Small appliances (fans, mixers, blenders, crock pots, dehumidifiers, vacuum cleaners, etc.).

(4) Commercial machinery (office equipment, computers and auxiliary equipment, typewriters, calculators, vending machines, etc.).

(5) Industrial machinery (pumps, compressors, conveyor components, fans, blowers, transformers, etc.).

(6) Fabricated metal products (metal covered doors, frames, etc.).

(7) Any other metal part or product that is within one of the following Standard Industrial Classification Codes: Major Group 33 (primary metal industries), Major Group 34 (fabricated metal products), Major Group 35 (nonelectric machinery), Major Group 36 (electrical machinery), Major Group 37 (transportation equipment), Major Group 38 (miscellaneous instruments), and Major Group 39 (miscellaneous manufacturing industries).

(8) Application of underbody antichip materials (e.g., underbody plastisol) and coating application operations other than prime, primer surfacer, topcoat, and final repair

operations at automobile and light-duty truck assembly plants.

"Pail" means any cylindrical metal shipping container of 1- to 12-gallon capacity and constructed of 29-gauge and heavier material.

"Refinishing" means repainting used equipment.

(c) Standards.

(1) No owner or operator of a miscellaneous metal parts and products coating unit subject to this section shall cause or allow the application of any coating with VOC content in excess of the emission limits in paragraphs (c)(1)(i) through (c)(1)(v) of this section.

		kg/L ^a	lb/gal ^a
(i)	Clear coating	0.52	4.3
(ii)	Steel pail and drum interior	0.52	4.3
(iii)	Air-dried coating	0.42	3.5
(iv)	Extreme performance coating	0.42	3.5
(v)	All other coatings	0.36	3.0

^aVOC content values are expressed in units of mass of VOC(kg, lb) per volume of coating (liter [L], gallon [gal]), excluding water and exempt compounds, as applied.

(2) If more than one emission limit in paragraph (c)(1) applies to a specific coating, then the least stringent emission limit shall be applied.

(3) As an alternative to compliance with the emission limits in paragraph (c)(1) of this section, an owner or

operator of a miscellaneous metal parts and products coating unit may meet the requirements of paragraphs (d) or (e) of this section.

(d) Daily-weighted average limitations. No owner or operator of a miscellaneous metal parts and products coating unit that applies multiple coatings, all of which are subject to the same numerical emission limitation within paragraph (c)(1) above, during the same day (e.g., all coatings used on the unit are subject to 0.42 kg/L [3.5 lb/gal]), shall apply, during any day, coatings on that unit whose daily-weighted average VOC content calculated in accordance with the procedure specified in § XX.3082 of this subpart exceeds the coating VOC content limit corresponding to the category of coating used.

(e) Control devices.

(1) An owner or operator of a miscellaneous metal parts and products coating unit subject to this section may comply with this section by:

(i) Installing and operating a capture system on that unit.

(ii) Installing and operating a control device on that unit.

(iii) Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed for a day is the lesser of the value calculated according to the procedure in

§ XX.3082(c) of this subpart for that day or 95 percent.

(iv) Demonstrating each day that the overall emission reduction efficiency achieved for that day, as determined in § XX.3083(c) of this subpart, is greater than or equal to the overall emission reduction efficiency required for that day.

(2) An owner or operator of a miscellaneous metal parts and products coating unit subject to this section shall ensure that:

(i) A capture system and control device are operated at all times that the unit is in operation, and the owner or operator demonstrates compliance with this section through the applicable coating analysis and capture system and control device efficiency test methods specified in §§ XX.3081, XX.3083, and XX.3084 of this subpart and in accordance with the capture efficiency test methods in 40 CFR Part 60, Appendix A [to be published].

(ii) The control device is equipped with the applicable monitoring equipment specified in § XX.3083(b) of this subpart, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

(f) Test methods. The test methods found in §§ XX.3080 through XX.3083 of this subpart shall be used to determine compliance with this section.

(g) Recordkeeping and reporting.

(1) An owner or operator of a miscellaneous metal parts and products coating unit that is exempt from the emission limitations in paragraph (c) of this section shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(b) of this subpart.

(2) An owner or operator of a miscellaneous metal parts and products coating unit subject to this section and complying with paragraph (c) of this section by the use of complying coatings shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(c) of this subpart.

(3) An owner or operator of a miscellaneous metal parts and products coating unit subject to this section and complying with paragraph (d) of this section by daily-weighted averaging shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(d) of this subpart.

(4) An owner or operator of a miscellaneous metal parts and products coating unit subject to this section and complying with paragraph (e) of this section by the use of control devices shall comply with the testing, reporting, and recordkeeping requirements in § XX.3002(e) of this subpart.

§ XX.3021 Coating of Flat Wood Paneling.

(a) Applicability.

(1) This section applies to any flat wood paneling coating line.

(2) This section does not apply to:

(i) Any flat wood paneling coating line within any facility whose actual emissions without control devices from all flat wood paneling coating lines within the facility are less than 6.8 kilograms (kg) (15 pounds [lb]) of volatile organic compounds (VOC's) per day.

(ii) Class I hardboard paneling finishes, particle board used in furniture, insulation board, exterior siding, tileboard, and softwood plywood coating lines.

(3) An owner or operator of a facility whose emissions are below the applicability threshold in paragraph (a)(2)(i) of this section shall comply with the certification, recordkeeping, and reporting requirements of paragraph (g)(1) of this section.

(4) Any facility that becomes or is currently subject to the provisions of this section by exceeding the applicability threshold in paragraph (a)(2)(i) of this section will remain subject to these provisions even if its emissions later fall below the applicability threshold.

(5) Any facility that is currently subject to a State or Federal rule promulgated pursuant to the Clean Air Act Amendments of 1977 by exceeding an applicability threshold

is and will remain subject to these provisions, even if its throughput or emissions have fallen or later fall below the applicability threshold.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Class I hardboard paneling finish" means finishes that meet the specifications for Class I of Voluntary Product Standard PS-59-73 as approved by the American National Standards Institute.

"Class II hardboard paneling finish" means finishes that meet the specifications for Class II of Voluntary Product Standard PS-59-73 as approved by the American National Standards Institute.

"Flat wood paneling coating line" means a coating line used to apply and dry or cure coatings applied to one of the following flat wood paneling product categories: printed interior panels made of hardwood plywood and thin particle board (i.e., less than or equal to 0.64 centimeter (cm) (0.25 inch [in.]) in thickness); natural finish hardwood plywood panels; and hardwood paneling with Class II finishes.

"Hardboard" is a panel manufactured primarily from inter-felted ligno-cellulosic fibers that are consolidated under heat and pressure in a hot press.

"Hardwood plywood" is plywood whose surface layer is a veneer of hardwood.

"Natural finish hardwood plywood panels" means panels whose original grain pattern is enhanced by essentially transparent finishes frequently supplemented by fillers and toners.

"Printed interior panels" means panels whose grain or natural surface is obscured by fillers and basecoats upon which a simulated grain or decorative pattern is printed.

"Thin particleboard" is a manufactured board that is 0.64 cm (0.25 in.) or less in thickness made of individual wood particles that have been coated with a binder and formed into flat sheets by pressure.

"Tileboard" means paneling that has a colored, waterproof surface coating.

(c) Standards.

(1) No owner or operator of a flat wood paneling coating line subject to this section shall cause or allow, on any day, VOC emissions from the coating of any one of the following flat wood paneling product categories in excess of the emission limits in paragraphs (c)(1)(i) through (iii) of this section:

Flat wood paneling product category		kg/100 m ^{2a}	lb/1,000 ft ^{2a}
(i)	Printed interior panels	2.9	6.0
(ii)	Natural finish hardwood plywood panels	5.8	12.0
(iii)	Class II finish on hardboard panels	4.8	10.0

^aVOC emission limits are expressed in units of mass of VOC (kg, lb) per area of coated finished product (100 square meters [m²], 1,000 square feet [ft²]).

(2) As an alternative to compliance with the emission limits in paragraph (c)(1) of this section, an owner or operator of a flat wood paneling coating line may meet the requirements of paragraph (e) of this section.

(d) [Reserved]

(e) Control devices.

(1) An owner or operator of a flat wood paneling coating line subject to this section may comply with this section by:

(i) Installing and operating a capture system on that line.

(ii) Installing and operating a control device on that line.

(iii) Determining for each day the overall emission reduction efficiency needed to demonstrate compliance. The overall emission reduction needed for a day is the lesser of the value calculated according to the procedure in paragraph (f)(2) of this section for that day or 95 percent.

(iv) Demonstrating each day that the overall emission reduction efficiency achieved for that day, as determined in § XX.3083(c) of this subpart, is greater than or equal to the overall emission reduction efficiency required for that day.

(2) An owner or operator of a flat wood paneling coating line subject to this section shall ensure that:

(i) A capture system and control device are operated at all times that the line is in operation, and the owner or operator demonstrates compliance with this section through the applicable coating analysis and capture system and control device efficiency test methods specified in §§ XX.3081, XX.3083, and XX.3084 of this subpart and in accordance with the capture efficiency test methods in 40 CFR Part 60, Appendix A [to be published].

(ii) The control device is equipped with the applicable monitoring equipment specified in § XX.3083(b) of this subpart, and the monitoring equipment is installed, calibrated, operated, and maintained according to the vendor's specifications at all times the control device is in use.

(f)(1) Test methods. The test methods found in this paragraph and in §§ XX.3080, XX.3081, and XX.3083 of this subpart shall be used to determine compliance.

(2) Overall emission reduction efficiency for control systems. The required overall emission reduction efficiency

of the control system for the day shall be calculated according to the following equation:

$$E = \left[\frac{(VOC_a - S)}{VOC_a} \right] \times 100$$

where:

E = The required overall emission reduction efficiency of the control system for the day.

VOC_a = The maximum VOC content of the coatings, as applied, used each day on a coating line in units of kg VOC/100 m² of coated finished product (lb VOC/1,000 ft²), as determined by the applicable test methods and procedures specified in § XX.3081 of this subpart.

S = VOC emission limitation in terms of kg VOC/100 m² of coated finished product (lb VOC/1,000 ft²).

(g) Recordkeeping and reporting.

(1) Requirements for coating sources exempt from emission limitations. An owner or operator of a flat wood paneling coating line that is exempt from the emission limitations of paragraph (c) of this section because combined VOC emissions on any day from all flat wood paneling coating lines at the facility are below the applicability threshold specified in paragraph (a)(2)(i) of this section, before the application of capture systems and control devices, shall comply with the following:

(i) Certification. By **{insert date 1 year from promulgation of final rule}**, the owner or operator of a facility referenced in paragraph (g)(1) of this section shall certify to the Administrator that the facility is exempt by providing the following:

(A) The name and location of the facility.

(B) The address and telephone number of the person responsible for the facility.

(C) A declaration that the facility is exempt from the emission limitations of paragraph (c) of this section because combined VOC emissions on any day from all flat wood paneling coating lines at the facility are below the applicability threshold before the application of capture systems and control devices. The following equation shall be used to calculate total VOC emissions for that day:

$$T = \sum_{i=1}^n C_i D_i a$$

where:

T = Total VOC emissions from coating lines at the facility for each category of flat wood paneling (as specified in paragraph (c)(1) of this section) before the application of capture systems and control devices in units of kg VOC/day (lb VOC/day).

- n = Number of different coatings applied on each coating line at the facility.
- i = Subscript denoting an individual coating.
- C = Mass of VOC per area of coated finished product in units of kg VOC/100 m² (lb VOC/1,000 ft²).
- D = The surface area coated at the facility each day in units of m²/day (ft²/day).
- a = Constant = 100 m² if using metric units.
= 1,000 ft² if using English units.

(ii) Recordkeeping. On and after **{insert date 1 year after date of promulgation of final rule}**, the owner or operator of a facility referenced in paragraph (g)(1) of this section shall collect and record all of the following information each day and maintain the information at the facility for a period of 5 years:

(A) The name and identification number of each coating, as applied, used to coat each type of flat wood paneling product.

(B) The volume of coating (i) (excluding water and exempt compounds), as applied, used each day to coat each type of flat wood paneling product (specified in paragraph (c)(1) of the section), and the surface area coated each day of each type of flat wood paneling product.

(C) The total VOC emissions at the facility, as calculated using the equation under paragraph (g)(1)(i)(C) of this section.

(iii) Reporting. On and after **{insert date 1 year after promulgation of the final rule}**, the owner or operator of a facility referenced in paragraph (g)(1) of this section shall notify the Administrator of any record showing that combined VOC emissions from all coating lines at the coating facility exceed 6.8 kg (15 lb) on any day, before the application of capture systems and control devices. A copy of such record shall be sent to the Administrator within 30 calendar days after the exceedance occurs.

(2) Requirements for coating sources using complying coatings. An owner or operator of a flat wood paneling coating line subject to this section and complying with paragraph (c) of this section by means of the use of complying coatings shall comply with the following:

(i) Certification. By **{insert date 1 year after date of promulgation of final rule}**, or upon startup of a new coating line, or upon changing the method of compliance for an existing coating line from control devices to the use of complying coatings, the owner or operator of a coating line referenced in paragraph (g)(2) of this section shall certify to the Administrator that the coating line is or will be in compliance with the requirements of the applicable section of this subpart on and after **{insert date 1 year after date of promulgation of final rule}**, or on and after the initial startup date. Such certification shall include:

(A) The name and location of the facility.

(B) The address and telephone number of the person responsible for the facility.

(C) Identification of subject sources.

(D) The name and identification number of each coating, as applied, used to coat each type of flat wood paneling product.

(E) The mass of VOC per area of coated finished product for each type of flat wood paneling product (specified in paragraph (c)(1) of this section) in terms of kg VOC/100 m² (lb VOC/1,000 ft²) and the surface area coated each day of each type of flat wood paneling product.

(ii) Recordkeeping. On and after **{insert date 1 year after date of promulgation of final rule}**, or on and after the initial startup date, the owner or operator of a coating line referenced in paragraph (g)(2) of this section and complying by the use of complying coatings shall collect and record all of the following information each day for each coating line and maintain the information at the facility for a period of 5 years:

(A) The name and identification number of each coating, as applied, used to coat each type of flat wood paneling product.

(B) The mass of VOC per area of coated finished product for each type of flat wood paneling product (specified in paragraph (c)(1) of this section) for each coating used each day in terms of kg VOC/100 m² (lb

VOC/1,000 ft²) and the surface area coated each day of each type of flat wood paneling product.

(iii) Reporting. On and after **{insert date 1 year after date of promulgation of final rule}**, the owner or operator of a flat wood paneling coating line referenced in paragraph (g)(2) of this section shall notify the Administrator in either of the following instances:

(A) Any record showing use of any noncomplying coatings shall be reported by sending a copy of such record to the Administrator within 30 calendar days following that use.

(B) At least 30 calendar days before changing the method of compliance from the use of complying coatings to control devices, the owner or operator shall comply with all requirements of paragraph (g)(3)(i) of this section. Upon changing the method of compliance from the use of complying coatings to control devices, the owner or operator shall comply with all requirements of the section applicable to the coating line referenced in paragraph (g)(3) of this section.

(3) Requirements for coating sources using control devices. Any owner or operator of a flat wood paneling coating line subject to this section and complying with paragraph (c) of this section by the use of control devices shall comply with the following:

(i) Testing of control equipment. By **{insert date 1 year after date of promulgation of final rule}**, or upon startup of a new coating line, or upon changing the method of compliance for an existing coating line from the use of complying coatings to control devices, the owner or operator of the subject coating line shall perform a compliance test. Testing shall be performed pursuant to the procedures in §§ XX.3080, XX.3081, and XX.3083 of this subpart and paragraph (f) of this section. The owner or operator of the subject coating line shall submit to the Administrator the results of all tests and calculations necessary to demonstrate that the subject coating line is or will be in compliance with the applicable section of this subpart on and after **{insert date 1 year after date of promulgation of final rule}**, or on and after the initial startup date.

(ii) Recordkeeping. On and after **{insert date 1 year after date of promulgation of final rule}**, or on and after the initial startup date, the owner or operator of a coating line referenced in paragraph (g)(3) of this section shall collect and record all of the following information each day for each coating line and maintain the information at the facility for a period of 5 years:

(A) The name and identification number of each coating used on each coating line, as applied, used to coat each type of flat wood paneling product.

(B) The mass of VOC per area of coated finished product for each type of flat wood paneling product (specified in paragraph (c)(1) of this section) in terms of kg VOC/100 m² (lb VOC/1,000 ft²), and the surface area coated each day of each type of flat wood paneling product.

(C) The maximum VOC content of the coatings, as applied, used each day (mass of VOC per area of coated finished product in terms of kg VOC/100 m² [lb VOC/1,000 ft²]).

(D) The required overall emission reduction efficiency for each day for each coating line as determined in paragraph (f)(2) of this section.

(E) The actual overall emission reduction efficiency achieved for each day for each coating line as determined in § XX.3083(c) of this subpart.

(F) Control device monitoring data.

(G) A log of operating time for the capture system, control device, monitoring equipment, and the associated coating line.

(H) A maintenance log for the capture system, control device, and monitoring equipment detailing all routine and nonroutine maintenance performed including dates and duration of any outages.

(I) For thermal incinerators, all 3-hour periods of operation in which the average combustion temperature was more than 28°C (50°F) below the average combustion

temperature during the most recent performance test that demonstrated that the facility was in compliance.

(J) For catalytic incinerators, all 3-hour periods of operation in which the average temperature of the process vent stream immediately before the catalyst bed is more than 28°C (50°F) below the average temperature of the process vent stream immediately before the catalyst bed during the most recent performance test that demonstrated that the facility was in compliance.

(K) For carbon adsorbers, all 3-hour periods of operation during which either the average VOC concentration or the reading of organics in the exhaust gases is more than 20 percent greater than the average exhaust gas concentration 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 facility was in compliance.

(iii) Reporting. On and after **{insert date 1 year after date of promulgation of final rule}**, the owner or operator of a subject coating line referenced in paragraph (g)(3) of this section shall notify the Administrator in the following instances:

(A) Any record showing noncompliance with the applicable requirements for control devices shall be reported by sending a copy of the record to the

Administrator within 30 calendar days following the occurrence.

(B) At least 30 calendar days before changing the method of compliance from control devices to the use of complying coatings, the owner or operator shall comply with all requirements of paragraph (g)(2)(i) of this section. Upon changing the method of compliance from control devices to the use of complying coatings, the owner or operator shall comply with all requirements of the section applicable to the coating line referenced in paragraph (g)(2) of this section.

§ XX.3022 Bulk Gasoline Plants.

(a) Applicability.

(1) This section applies to all unloading, loading, and storage operations at bulk gasoline plants and to any gasoline tank truck delivering or receiving gasoline at a bulk gasoline plant.

(2) The following are subject only to the requirements of paragraphs (c)(3)(vii), (viii), and (ix) of this section:

(i) Any stationary storage tank of 2,082 liters (L) (550 gallons [gal]) capacity or less notwithstanding § XX.3006 of this subpart.

(ii) Any bulk gasoline plant with an average daily throughput of gasoline of less than 15,000 L (4,000 gal) on a 30-day rolling average provided that records are maintained according to the requirements in paragraph (e)(1) of this section. Any plant that becomes or is currently subject to all of the provisions of this section by exceeding this applicability threshold will remain subject to these provisions even if its throughput later falls below the applicability threshold. Any facility that is currently subject to a State or Federal rule promulgated pursuant to the Clean Air Act Amendments of 1977 by exceeding an applicability threshold is and will remain subject to these provisions, even if its throughput or emissions have fallen or later fall below the applicability threshold.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

(c) Standards.

(1) Each bulk gasoline plant subject to this section shall be equipped with a vapor balance system between the gasoline storage tank and the incoming gasoline tank truck designed to capture and transfer vapors displaced during filling of the gasoline storage tank. These lines shall be equipped with fittings that are vapor-tight and that automatically and immediately close upon disconnection.

(2) Each bulk gasoline plant subject to this section shall be equipped with a vapor balance system between the gasoline storage tank and the outgoing gasoline tank truck designed to capture and transfer vapors displaced during the loading of the gasoline tank truck. The vapor balance system shall be designed to prevent any vapors collected at one loading rack from passing to another loading rack.

(3) Each owner or operator of a bulk gasoline plant subject to this section shall act to ensure that the procedures in paragraphs (c)(3)(i) through (c)(3)(ix) of this section are followed during all loading, unloading, and storage operations:

(i) The vapor balance system required by paragraphs (c)(1) and (c)(2) of this section shall be

connected between the tank truck and storage tank during all gasoline transfer operations.

(ii) All storage tank openings, including inspection hatches and gauging and sampling devices, shall be vapor-tight when not in use.

(iii) The gasoline tank truck compartment hatch covers shall not be opened during product transfer.

(iv) All vapor balance systems shall be designed and operated at all times to prevent gauge pressure in the gasoline tank truck from exceeding 450 millimeters (mm) (18 inches [in.]) of water and vacuum from exceeding 150 mm (5.9 in.) of water during product transfers.

(v) No pressure vacuum relief valve in the bulk gasoline plant vapor balance system shall begin to open at a system pressure of less than 450 mm (18 in.) of water or at a vacuum of less than 150 mm (5.9 in.) of water.

(vi) All product transfers involving gasoline tank trucks at bulk gasoline plants subject to this section shall be limited to vapor-tight gasoline tank trucks.

(vii) Filling of storage tanks shall be restricted to submerged fill.

(viii) Loading of outgoing gasoline tank trucks shall be limited to submerged fill.

(ix) Owners or operators of bulk gasoline plants or owners or operators of tank trucks shall observe all parts

of the transfer and shall discontinue transfer if any vapor or liquid leaks are observed.

(4) Each calendar month, the vapor balance systems described in paragraphs (c)(1) and (c)(2) of this section and each loading rack that loads gasoline tank trucks shall be inspected for liquid or vapor leaks during product transfer operations. For purposes of this paragraph, detection methods incorporating sight, sound, or smell are acceptable. Each leak that is detected shall be repaired within 15 calendar days after it is detected.

(d) Compliance provisions. A pressure measurement device (liquid manometer, magnehelic gauge, or equivalent instrument) capable of measuring 500 mm (20 in.) of water gauge pressure within a ± 2.5 mm (0.098 in.) of water precision, shall be calibrated and installed on the bulk gasoline plant vapor balance system at a pressure tap, located as close as possible to the connection with the gasoline tank truck, to allow determination of compliance with paragraph (c)(3)(iv) of this section.

(e) Recordkeeping. The owner or operator of a facility subject to this subpart shall maintain the following records in a readily accessible location for at least 5 years and shall immediately make these records available to the Administrator upon verbal or written request.

(1) All bulk gasoline plants subject to this section shall maintain daily records showing the quantity of all gasoline loaded into gasoline tank trucks.

(2) A record of each monthly leak inspection required under paragraph (c)(4) of this section shall be kept on file at the plant. Inspection records shall include, at a minimum, the following information:

(i) Date of inspection.

(ii) Findings (may indicate no leaks discovered or location, nature, and severity of each leak).

(iii) Leak determination method.

(iv) Corrective action (date each leak repaired and reasons for any repair interval in excess of 15 calendar days).

(v) Inspector name and signature.

(f) Reporting. The owner or operator of any facility containing sources subject to this section shall comply with the requirements in § XX.3003(a) and (b) of this subpart.

§ XX.3023 Bulk Gasoline Terminals.

(a) Applicability.

(1) This section applies to the total of all the loading racks at any bulk gasoline terminal that deliver liquid product into gasoline tank trucks.

(2) Any facility that becomes or is currently subject to the provisions of this section by exceeding the throughput specified in the definition of bulk gasoline terminal in § XX.3000 of this subpart will remain subject to these provisions even if its throughput later falls below the applicability threshold. Any facility that is currently subject to a State or Federal rule promulgated pursuant to the Clean Air Act Amendments of 1977 by exceeding an applicability threshold is and will remain subject to these provisions, even if its throughput or emissions have fallen or later fall below the applicability threshold.

(b) Standards for loading racks at bulk gasoline terminals.

(1) All the loading racks at a bulk gasoline terminal subject to this section shall be equipped with a vapor collection system designed to collect the organic compound liquids or vapors displaced from gasoline tank trucks during product loading.

(2) Each vapor collection system shall be designed to prevent any VOC vapors collected at one loading rack from passing to another loading rack.

(3) Loadings of liquid product into gasoline tank trucks shall be limited to vapor-tight gasoline tank trucks using the following procedures:

(i) The owner or operator shall obtain the vapor tightness documentation described in paragraphs (d)(1) and (d)(2) of this section for each gasoline tank truck that is to be loaded at the loading racks subject to this section.

(ii) The owner or operator shall require the tank identification number to be recorded as each gasoline tank truck is loaded at the terminal.

(iii) The owner or operator shall cross-check each tank identification number obtained in paragraph (b)(3)(ii) of this section with the file of tank vapor tightness documentation within 2 weeks after the corresponding tank is loaded.

(iv) The terminal owner or operator shall notify the owner or operator of each non-vapor-tight gasoline tank truck loaded at the loading racks subject to this section that the tank truck is not vapor-tight within 3 weeks after the loading has occurred.

(v) The terminal owner or operator shall take steps to assure that the non-vapor-tight gasoline tank truck will not be reloaded at a loading rack subject to this section until vapor tightness documentation for that tank truck is obtained.

(4) The terminal owner or operator shall act to ensure that loadings of gasoline tank trucks at the loading racks subject to this section are made only into tank trucks equipped with vapor collection equipment that is compatible with the terminal's vapor collection system.

(5) The terminal owner or operator shall act to ensure that the terminal's and the tank truck's vapor collection systems are connected during each loading of a gasoline tank truck at the loading racks subject to this section.

(6) The vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the gasoline tank truck from exceeding 4,500 Pascals (Pa) (450 millimeters [mm] of water) during product loading. This level shall not be exceeded when measured by the procedures specified in paragraph (c)(1) of this section.

(7) No pressure-vacuum vent in the bulk gasoline terminal's vapor collection system shall begin to open at a system pressure less than 4,500 Pa (450 mm of water).

(8) Each calendar month, the vapor collection system, the vapor control system, and each loading rack that loads gasoline tank trucks shall be inspected for total organic compounds liquid or vapor leaks during product transfer operations. For purposes of this paragraph, detection methods incorporating sight, sound, or smell are acceptable. Each detection of a leak shall be recorded and the source of

the leak repaired within 15 calendar days after it is detected.

(9) The total organic compound emissions to the atmosphere from the vapor collection system due to the loading of liquid product into gasoline tank trucks shall not exceed 80 milligrams per liter (mg/L) (4.7 grains per gallon [grain/gal]) of gasoline loaded.

(10) Loading of gasoline tank trucks shall be restricted to the use of submerged fill.

(c) Test methods and procedures.

(1) In determining compliance with paragraph (b)(6) of this section, the following procedures shall be used:

(i) Calibrate and install a pressure measurement device (liquid manometer or equivalent instrument) capable of measuring up to 500 millimeters (mm) (20 inches [in.]) of water gauge pressure with ± 2.5 mm (0.098 in.) of water precision.

(ii) Connect the pressure measurement device to a pressure tap in the terminal's vapor collection system, located as close as possible to the connection with the gasoline tank truck.

(iii) During the performance test, record the pressure every 5 minutes (min) while a gasoline tank truck is being loaded, and record the highest instantaneous pressure that occurs during each loading. Every loading

position shall be tested at least once during the performance test.

(2) In determining compliance with the mass emission limitation of paragraph (b)(9) of this section, the following reference methods shall be used:

(i) In determining volume at the exhaust vent:

(A) Method 2B for combustion vapor control systems.

(B) Method 2A for all other vapor control systems.

(ii) In determining total organic compounds concentration at the exhaust vent, Method 25A or 25B. The calibration gas shall be either propane or butane.

(3) Immediately prior to a performance test required to determine compliance with paragraphs (b)(6) and (b)(9) of this section, all potential sources of vapor and liquid leakage from the terminal's vapor collection system equipment shall be monitored for leaks according to the procedures in § XX.3085 of this subpart. The monitoring shall be conducted only while a gasoline tank truck is being loaded. A reading of 10,000 parts per million by volume (ppmv) or greater as methane shall be considered a leak. All leaks shall be repaired prior to conducting the performance test.

(4) The test procedure for determining compliance with paragraphs (b)(6) and (b)(9) of this section is as follows:

(i) All testing equipment shall be prepared and installed as specified in the appropriate test methods.

(ii) The time period for a performance test shall be not less than 6 hours, during which at least 300,000 L (80,000 gal) of gasoline are loaded. If the throughput criterion is not met during the initial 6 hours, the test may be either continued until the throughput criterion is met, or resumed the next day with another complete 6 hours of testing. As much as possible, testing should be conducted during the 6-hour period in which the highest throughput normally occurs.

(iii) For intermittent vapor control systems:

(A) The vapor holder level shall be recorded at the start of the performance test. The end of the performance test shall coincide with a time when the vapor holder is at its original level.

(B) At least two startups and shutdowns of the vapor processor shall occur during the performance test. If this does not occur under automatically controlled operation, the system shall be manually controlled.

(iv) The volume of gasoline dispensed during the performance test period at all loading racks whose vapor emissions are controlled by the vapor processing system being tested shall be determined. This volume may be determined from terminal records or from gasoline dispensing meters at each loading rack.

(v) An emission testing interval shall consist of each 5-minute period during the performance test. For each interval:

(A) The reading from each measurement instrument shall be recorded.

(B) The volume exhausted and the average total organic compounds concentration in the exhaust vent shall be determined, as specified in the appropriate test method. The average total organic compounds concentration shall correspond to the volume measurement by taking into account the sampling system response time.

(vi) The mass emitted during each testing interval shall be calculated as follows:

$$M_{ei} = 10^{-6}KV_{es}C_e$$

where:

M_{ei} = Mass of total organic compounds (milligrams [mg]) emitted during testing interval i .

V_{es} = Volume of air-vapor mixture exhausted (cubic meters [m^3]), at standard conditions.

C_e = Total organic compounds concentration (measured as carbon) at the exhaust vent (ppmv).

K = Density of calibration gas (milligrams/cubic meter [mg/m^3]) at standard conditions.

= 1.83×10^6 for propane.

= 2.41×10^6 for butane.

s = Standard conditions, 20°C and 760 millimeters of mercury (mm Hg).

(vii) The total organic compounds mass emissions shall be calibrated as follows:

$$E = \frac{\sum_{i=1}^n M_{ei}}{L}$$

where:

E = Mass of total organic compounds emitted per volume of gasoline loaded, mg/L.

M_{ei} = Mass of total organic compounds emitted during testing interval i , mg.

L = Total volume of gasoline loaded, L.

n = Number of testing intervals.

(5) The owner or operator may adjust the emission results to exclude the methane and ethane content in the exhaust vent by any method approved by the Administrator.

(d) Recordkeeping. The owner or operator of a facility subject to the requirements of this section shall maintain the following records in a readily accessible location for at least 5 years and shall make these records available to the Administrator upon verbal or written request.

(1) The tank truck vapor tightness documentation required under paragraph (b)(3) of this section shall be

kept on file at the terminal in a permanent form available for inspection.

(2) The documentation file for each gasoline tank truck shall be updated at least once per year to reflect current test results as determined by Method 27. This documentation shall include, at a minimum, the following information:

- (i) Test title: Gasoline Delivery Tank Pressure Test--EPA Reference Method 27.
- (ii) Tank owner and address.
- (iii) Tank identification number.
- (iv) Testing location.
- (v) Date of test.
- (vi) Tester name and signature.
- (vii) Witnessing inspector, if any: Name, signature, and affiliation.
- (viii) Test results: Actual pressure change in 5 min, recorded in mm of water (average for two runs).

(3) A record of each monthly leak inspection required under paragraph (b)(8) of this section shall be kept on file at the terminal. Inspection records shall include, at a minimum, the following information:

- (i) Date of inspection.
- (ii) Findings (may indicate no leaks discovered or location, nature, and severity of each leak).
- (iii) Leak determination method.

(iv) Corrective action (date each leak repaired, reasons for any repair interval in excess of 15 calendar days).

(v) Inspector name and signature.

(4) The terminal owner or operator shall keep documentation of all notifications required under paragraph (b)(3)(iv) of this section on file at the terminal.

(5) Daily records shall be maintained of gasoline throughput.

(e) Reporting. The owner or operator of any facility containing sources subject to this section shall comply with the requirements in § XX.3003(a) and (b) of this subpart.

§ XX.3024 Gasoline Dispensing Facility--Stage I Vapor Recovery.

(a) Applicability.

(1) This section applies to any gasoline dispensing facility and the appurtenant equipment necessary to a gasoline dispensing facility.

(2) The following are subject only to paragraph (b)(1)(i) of this section:

(i) Any transfer made to a gasoline dispensing facility storage tank that is equipped with a floating roof or its equivalent that has been approved by the Administrator as part of a State implementation plan (SIP) or Federal implementation plan (FIP) revision.

(ii) Any stationary gasoline storage tank with a capacity that is less than 2,080 liters (L) (550 gallons [gal]) that is used exclusively for the fueling of implements of husbandry.

(iii) Any stationary gasoline storage tank with a capacity of less than 7,600 L (2,000 gal) that was constructed prior to January 1, 1979.

(iv) Any stationary gasoline storage tank with a capacity of less than 950 L (250 gal) that was constructed after December 31, 1978.

(3) Any gasoline dispensing facility with a 30-day rolling average throughput of less than 38,000 L (10,000 gal) is subject only to the provisions of

paragraphs (b)(1)(i) and (c) of this section. Any gasoline dispensing facility that ever exceeds this applicability threshold shall be subject to all of the provisions of this section and shall remain subject to these provisions even if its throughput later falls below the threshold.

(b) Standards.

(1) The owner or operator of each gasoline dispensing facility subject to this section shall comply with the following requirements:

(i) All gasoline storage tanks at gasoline dispensing facilities shall be loaded by submerged fill.

(ii) All vapor lines on the storage tank shall be equipped with closures that seal upon disconnect.

(iii) A vapor balance system shall be installed with a vapor-tight line from the gasoline storage tank to the gasoline tank truck. The system shall be designed such that the gauge pressure in the gasoline tank truck does not exceed 450 millimeters (mm) (18 inches [in.]) of water pressure or 150 mm (5.9 in.) of water vacuum during product transfer.

(iv) If a gauge well separate from the fill tube is used, it shall be provided with a submerged drop tube that extends to within 150 mm (5.9 in.) of the gasoline storage vessel bottom.

(v) Liquid fill connections for all systems shall be equipped with vapor tight caps.

(2) The owner or operator of a gasoline tank truck shall not unload gasoline to a gasoline storage tank at a gasoline dispensing facility subject to this section unless the following conditions are met:

(i) All hoses in the vapor balance system are properly connected.

(ii) The adapters or couplers that attach to the vapor line on the underground storage vessel have closures that seal upon disconnect.

(iii) All vapor return hoses, couplers, and adapters used in the gasoline delivery are vapor-tight.

(iv) All tank truck vapor return equipment is compatible with the vapor balance equipment installed on the gasoline dispensing facility storage tank.

(v) All hatches on the gasoline tank truck are closed and securely fastened.

(vi) The filling of storage tanks at gasoline dispensing facilities is limited to unloading by vapor-tight gasoline tank trucks. Documentation that the gasoline tank truck has met the specifications of Method 27 of 40 CFR Part 60, Appendix A, shall be carried on the tank truck. This documentation shall include all of the information required under 40 CFR 60.505. In addition, test results shall be included for both the pressure and vacuum tests.

(c) Recordkeeping. The owner or operator of each gasoline dispensing facility subject to this section shall

maintain daily records showing the quantity of all gasoline delivered to the site. These records shall be retained for at least 5 years in a readily accessible location and shall be made available to the Administrator immediately upon verbal or written request.

(d) Reporting. The owner or operator of any facility containing sources subject to this section shall comply with the requirements in § XX.3003(a) and (b) of this subpart.

§ XX.3025 Gasoline Tank Trucks.

(a) Applicability. This section applies to any gasoline tank truck equipped for gasoline vapor collection. No exemptions are allowable based on number of gasoline tank trucks or total quantity of volatile organic compound (VOC) emissions.

(b) Standards. Each owner or operator of a gasoline tank truck subject to this section shall ensure that the gasoline tank truck:

(1) Is a vapor-tight gasoline tank truck as demonstrated by Method 27 of Appendix A of 40 CFR Part 60.

(2) Displays a sticker near the Department of Transportation Certification plate required by 49 CFR 178.340-10b, that:

(i) Shows the date that the gasoline tank truck last passed the test required in paragraph (b)(1) of this section.

(ii) Shows the identification number of the truck tank.

(iii) Expires not more than 1 year after the date of the Method 27 test.

(3) Is maintained with hatches closed at all times except during measurement of product level or maintenance. Measurement of product level or maintenance shall not be performed during product loading or unloading.

(4) Is connected to vapor recovery equipment during loading and unloading.

(c) Monitoring gasoline tank trucks for vapor tightness.

(1) The Administrator may, at any time, monitor a gasoline tank truck by the method referenced in paragraph (c)(2) to confirm continuing compliance with this section.

(2) Monitoring to confirm the continuing existence of vapor-tight conditions shall be performed according to the procedures described in Appendix B of the OAQPS Guideline Series document, "Control of Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems," EPA-450/2-78-051.

(d) Test methods and procedures. The procedures in Method 27, 40 CFR Part 60, Appendix A, shall be used to determine compliance with paragraph (b)(1) of this section.

(e) Recordkeeping and reporting requirements.

(1) The owner or operator of a gasoline tank truck subject to this section shall maintain records of all certification, testing, and repairs. The records shall identify the gasoline tank truck, the date of the tests or repair, and, if applicable, the type of repair and the date of retest. The records shall be maintained in a legible, readily available condition for at least 5 years after the date the testing or repair is completed. These records

shall be made available to the Administrator immediately upon written or verbal request.

(2) The records required by paragraph (e)(1) of this section shall, at a minimum, contain:

(i) The gasoline tank truck vessel tank identification number.

(ii) The initial test pressure and the time of the reading.

(iii) The final test pressure and the time of the reading.

(iv) The initial test vacuum and the time of the reading.

(v) The final test vacuum and the time of the reading.

(vi) At the top of each report page, the company name and the date and location of the tests on that page.

(vii) The name and the title of person conducting the test.

(3) The owner or operator of a gasoline tank truck subject to this section shall certify and report to the Administrator annually that the gasoline tank truck has been tested by Method 27 as specified in paragraph (d) of this section. The certification shall include:

(i) The name and address of the company and the name and telephone number of the responsible company

representative under whose signature the certification is submitted.

(ii) A copy of the information recorded to comply with paragraph (e)(2) of this section.

(4) Copies of all records and reports under this section shall immediately be made available to the Administrator upon verbal or written request.

§ XX.3026 Petroleum Refinery Sources.

(a) Applicability.

(1) This section applies to any vacuum-producing system, wastewater separator, and process unit turnaround at petroleum refinery sources. No exemptions are allowable based on size or throughput of a facility.

(2) This section does not apply to segregated storm water runoff drain systems or to noncontact cooling water systems.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Accumulator" means the reservoir of a condensing unit receiving the condensate from the condenser.

"Firebox" means the chamber or compartment of a boiler or furnace in which materials are burned but does not mean the combustion chamber of an incinerator.

"Forebays" means the primary sections of a wastewater separator.

"Hot well" means the reservoir of a condensing unit receiving the warm condensate from the condenser.

"Refinery process unit" means any segment of the petroleum refinery in which a specific processing operation is conducted.

"Refinery fuel gas" means any gas that is generated by a petroleum refinery process unit and that is combusted, including any gaseous mixture of natural gas and fuel gas.

"Turnaround" means the procedure of shutting a refinery unit down after a run to perform necessary maintenance and repair work and then returning the unit to operation.

"Vacuum-producing system" means any reciprocating, rotary, or centrifugal blower or compressor, or any jet ejector or device that takes suction from a pressure below atmospheric pressure and discharges against atmospheric pressure.

"Wastewater (oil/water) separator" means any device or piece of equipment that utilizes the difference in density between oil and water to remove oil and associated chemicals from water, or any device, such as a flocculation tank, clarifier, etc., that removes petroleum-derived compounds from wastewater.

(c) Standards.

(1) Vacuum-producing systems. No person shall permit the emission of any uncondensed volatile organic compound (VOC) from the condensers, hot wells, or accumulators of any vacuum producing system at a petroleum refinery. The standard shall be achieved by either of the following:

(i) Piping the uncondensed vapors to a firebox or incinerator.

(ii) Compressing the vapors and adding them to the refinery fuel gas.

(2) Wastewater separators. The owner or operator of any wastewater (oil/water) separator at a petroleum refinery shall:

(i) Provide covers and seals on all separators and forebays.

(ii) Equip all openings in covers, separators, and forebays with lids or seals and keep the lids or seals in the closed position at all times except when in actual use.

(3) Process unit turnarounds. The owner or operator of a petroleum refinery shall provide for the following during process unit turnaround:

(i) Depressurization venting of the process unit or vessel to a vapor recovery system, flare, or firebox.

(ii) No emission of VOC from a process unit or vessel until its internal pressure is 136 kiloPascals (kPa) (19.7 pounds per square inch atmospheric [psia]) or less.

(iii) Recordkeeping of the following items:

(A) Date of every process unit or vessel turnaround.

(B) The internal pressure of the process unit or vessel immediately prior to venting to the atmosphere.

(d) Recordkeeping. The owner or operator of a petroleum refinery shall maintain the records required by paragraph (c)(3)(iii) of this section in a readily accessible location for at least 5 years and shall make

these records available to the Administrator upon verbal or written request.

(e) Reporting. The owner or operator of any facility containing sources subject to this section shall comply with the requirements in § XX.3003(a) and (b) of this subpart.

§ XX.3027 Leaks from Petroleum Refinery Equipment.

(a) Applicability.

(1) This section applies to all equipment in volatile organic compound (VOC) service in any process unit at a petroleum refinery, regardless of size or throughput.

(2) The requirements of paragraphs (d) through (h) of this section do not apply to:

(i) Any equipment in vacuum service.

(ii) Any pressure relief valve that is connected to an operating flare header or vapor recovery device.

(iii) Any liquid pump that has a dual mechanical pump seal with a barrier fluid system.

(iv) Any compressor with a degassing vent that is routed to an operating VOC control device.

(v) Pumps and valves in heavy liquid service except that if evidence of a leak is found by visual, audible, olfactory, or other detection method, the owner or operator shall confirm the presence of a leak using the methods specified in § XX.3085 of this subpart. If a leak is confirmed, the owner or operator shall repair the leak as specified in paragraph (g) of this section.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"[In] gas/vapor service" means that the piece of equipment in VOC service contains process fluid that is in the gaseous state at operating conditions.

"[In] heavy liquid service" means that the piece of equipment in VOC service is not in gas/vapor service or not in light liquid service.

"[In] light liquid service" means that the piece of equipment in VOC service either (1) contains a liquid that meets all of the conditions in definition A; or (2) meets the condition specified in definition B:

Definition A--(1) the vapor pressure of one or more of the components is greater than 0.3 kiloPascals (kPa) (0.044 inches of mercury [in. Hg]) at 20°C (68°F). Standard reference tests or ASTM D-2879 shall be used to determine the vapor pressures; (2) the total concentration of the pure components having a vapor pressure greater than 0.3 kPa (0.044 in. Hg) at 20°C (68°F) is equal to or greater than 20 percent by weight; and (3) the fluid is a liquid at operating conditions.

Definition B--Equipment is "in light liquid service" if the weight percent evaporated is greater than 10 percent at 150°C as determined by ASTM D86.

"[In] vacuum service" means that the equipment in VOC service is operating at an internal pressure that is at least 5 kPa (0.73 in. Hg) below ambient pressure.

"[In] VOC service" means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight. The provisions of paragraph (i)(2) of this section specify how to determine that a piece of equipment is not in VOC service.

"Process unit" means components assembled to produce intermediate or final products from petroleum, unfinished petroleum derivatives, or other intermediates; a process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.

(c) Standards: General. The owner or operator of a petroleum refinery complex subject to this section shall ensure that:

(1) Any open-ended line or valve is sealed with a second valve, blind flange, cap, or plug except during operations requiring process fluid flow through the open-ended line or valve.

(2) When a second valve is used, each open-ended line or valve equipped with a second valve is operated in such a manner that the valve on the process fluid end is closed before the second valve is closed.

(3) When a double block-and-bleed system is used, the bleed valve or line is open only during operations that require venting of the line between the block valves and is closed at all other times.

(d) Standards: Equipment inspection program. The owner or operator of a petroleum refinery shall conduct the equipment inspection program described in paragraphs (d)(1) through (d)(3) of this section using the test methods specified in § XX.3085 of this subpart.

(1) The owner or operator of a petroleum refinery shall conduct quarterly monitoring of each:

(i) Compressor.

(ii) Pump in light liquid service.

(iii) Valve in light liquid service, except as provided in paragraphs (e) and (f) of this section.

(iv) Valve in gas/vapor service, except as provided in paragraphs (e) and (f) of this section.

(v) Pressure relief valve in gas/vapor service, except as provided in paragraphs (e) and (f) of this section.

(2) The owner or operator of a petroleum refinery shall conduct a weekly visual inspection of each pump in light liquid service.

(3) The owner or operator of a petroleum refinery shall monitor each pressure relief valve after each overpressure relief to ensure that the valve has properly reseated and is not leaking.

(4) When an instrument reading of 10,000 parts per million (ppm) or greater is measured, it shall be determined that a leak has been detected.

(5) If there are indications of liquid dripping from the equipment, it shall be determined that a leak has been detected.

(6) When a leak is detected, the owner or operator shall affix a weatherproof, readily visible tag in a bright color such as red or yellow bearing the equipment identification number and the date on which the leak was detected. This tag shall remain in place until the leaking equipment is repaired. The requirements of this paragraph apply to any leak detected by the equipment inspection program and to any leak from any equipment that is detected on the basis of sight, sound, or smell.

(e) Standards: Alternative standards for valves-- skip period leak detection and repair.

(1) An owner or operator shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in paragraph (d) of this section.

(2) After two consecutive quarterly leak detection periods with the percent of valves leaking equal or less than 2.0, an owner or operator may begin to skip one of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(3) After five consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip 3 of the

quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(4) If the percent of valves leaking is greater than 2.0, the owner or operator shall comply with the requirements as described in paragraph (d) of this section but can again elect to use the requirements in paragraph (e) of this section.

(5) The percent of valves leaking shall be determined by dividing the sum of valves found leaking during current monitoring and valves for which repair has been delayed by the total number of valves subject to the requirements of this section.

(6) An owner or operator shall keep a record of the percent of valves found leaking during each leak detection period.

(f) Standards: Alternative standards for unsafe-to-monitor valves and difficult-to-monitor valves.

(1) Any valve that is designated, as described in paragraph (j)(5)(i) of this section, as an unsafe-to-monitor valve is exempt from the requirements of paragraph (d) if:

(i) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (d).

(ii) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(2) Any valve that is designated, as described in paragraph (j)(5)(i), as a difficult-to-monitor valve is exempt from the requirements of paragraph (d) if:

(i) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters (m) (6.6 feet [ft]) above a support surface.

(ii) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

(g) Standards: Equipment repair program. The owner or operator of a petroleum refinery shall:

(1) Make a first attempt at repair for any leak not later than 5 calendar days after the leak is detected.

(2) Repair any leak as soon as practicable, but not later than 15 calendar days after it is detected except as provided in paragraph (h) of this section.

(h) Standards: Delay of repair.

(1) Delay of repair of equipment for which a leak has been detected is allowed if the repair is technically infeasible without a process unit shutdown. Repair of such equipment shall occur before the end of the next process unit shutdown.

(2) Delay of repair of equipment is allowed for equipment that is isolated from the process and that does not remain in VOC service.

(3) Delay of repair beyond a process unit shutdown is allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown is not allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

(i) Test methods and procedures.

(1) In conducting the tests required to comply with paragraph (d) of this section, the owner or operator shall use the test methods specified in § XX.3085 of this subpart.

(2) The owner or operator shall test each piece of equipment as required under paragraph (d) of this section unless it is demonstrated that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:

(i) Procedures that conform to the general methods in ASTM E260, E168, and E169 shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment.

(ii) Where the test methods in paragraph (i)(2)(i) also measure exempt compounds, these compounds may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid.

(iii) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in VOC service. If the Administrator disagrees with the judgment, paragraphs (i)(2)(i) and (i)(2)(ii) of this section shall be used to resolve the disagreement.

(3) The owner or operator shall demonstrate that a piece of equipment is in light liquid service by showing one of the following:

(i) All of the following conditions apply:

(A) The vapor pressure of one or more of the components is greater than 0.3 kPa at 20°C (0.09 in. Hg at 68°F); standard reference texts or ASTM D2879 shall be used to determine the vapor pressures.

(B) The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20°C (0.09 in. Hg at 68°F) is equal to or greater than 20 percent by weight.

(C) The fluid is a liquid at operating conditions.

(ii) The percent VOC evaporated is greater than 10 percent at 150°C (302°F) as determined by ASTM D86.

(4) Samples used in conjunction with paragraphs (i)(2) and (i)(3) of this section shall be representative of the process fluid that is contained in or contacts the equipment.

(j) Recordkeeping requirements.

(1) Each owner or operator subject to the provisions of this section shall comply with the recordkeeping requirements of this section. Except as noted, these records shall be maintained in a readily accessible location for a minimum of 5 years and shall be made available to the Administrator immediately upon verbal or written request.

(2) An owner or operator of more than one affected facility subject to the provisions of this section may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.

(3) When each leak is detected as specified in paragraph (d) of this section, the following information shall be recorded in a log and shall be kept for 5 years in a readily accessible location:

(i) The instrument and operator identification numbers and the equipment identification number.

(ii) The date the leak was detected and the dates of each attempt to repair the leak.

(iii) The repair methods employed in each attempt to repair the leak.

(iv) The notation "Above 10,000" if the maximum instrument reading measured by the methods specified in § XX.3085 of this subpart after each repair attempt is equal to or greater than 10,000 ppm.

(v) The notation "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(vi) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.

(vii) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.

(viii) The dates of process unit shutdowns that occur while the equipment is unrepaired.

(ix) The date of successful repair of the leak.

(4) A list of identification numbers of equipment in vacuum service shall be recorded in a log that is kept in a readily accessible location.

(5) The following information pertaining to all valves subject to the requirements of paragraph (f) of this section shall be recorded in a log that is kept for 5 years in a readily accessible location:

(i) A list of identification numbers for valves that are designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve.

(ii) A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the schedule for monitoring each valve.

(6) The following information for valves complying with paragraph (e) of this section shall be recorded in a log that is kept for 5 years in a readily accessible location:

(i) A schedule of monitoring.

(ii) The percent of valves found leaking during each monitoring period as noted in paragraph (e)(6) of this section.

(7) Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept for 5 years in a readily accessible location for use in determining exemptions as provided in paragraph (a) of this section.

(k) Reporting. The owner or operator of any facility containing sources subject to this section shall comply with the requirements in § XX.3003(a) and (b) of this subpart.

§ XX.3028 Petroleum Liquid Storage in External Floating Roof Tanks.

(a) Applicability.

(1) This section applies to any petroleum liquid storage tank that is equipped with an external floating roof and that has a capacity greater than 150,000 liters (L) (40,000 gallons [gal]).

(2) This section does not apply to any petroleum liquid storage tank that:

(i) Is used to store waxy, heavy-pour crude oil.

(ii) Has a capacity less than 1,600,000 L (420,000 gal) and is used to store produced crude oil and condensate prior to lease custody transfer.

(iii) Contains a petroleum liquid with a maximum true vapor pressure less than 10.5 kiloPascals (kPa) (1.5 pounds per square inch atmospheric [psia]) provided that records are kept consistent with paragraph (e)(2) of this section.

(iv) Contains a petroleum liquid with a maximum true vapor pressure less than 27.6 kPa (4.0 psia) that:

(A) Is of welded construction.

(B) Presently possesses a metallic-type shoe seal, a liquid-mounted foam seal, a liquid-mounted liquid-filled type seal, or other closure device of demonstrated equivalence approved by the Administrator as part of a State implementation plan (SIP) or Federal implementation plan (FIP) revision.

(v) Is of welded construction, equipped with a metallic-type shoe primary seal and has a secondary seal from the top of the shoe seal to the tank wall (shoe-mounted secondary seal).

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Liquid-mounted seal" means a primary seal mounted in continuous contact with the liquid between the tank wall and the floating roof around the circumference of the tank.

"Vapor-mounted seal" means a primary seal mounted so there is an annular vapor space underneath the seal. The annular vapor space is bounded by the bottom of the primary seal, the tank wall, the liquid surface, and the floating roof.

"Waxy, heavy-pour crude oil" means a crude oil with a pour point of 10°C (50°F) or higher as determined by the American Society for Testing and Materials Standard D97-66, "Test for Pour Point of Petroleum Oils."

(c) Standards. No owner of a petroleum liquid storage vessel subject to this section shall store a petroleum liquid in that tank unless:

(1) The tank has been fitted with one of the following:

(i) A continuous secondary seal extending from the floating roof to the tank wall (rim-mounted secondary seal).

(ii) A closure or other device that controls VOC emissions with an effectiveness equal to or greater than a seal required under paragraph (c)(1)(i) of this section and is approved by the Administrator as part of a SIP or FIP revision.

(2) All seal closure devices meet the following requirements:

(i) There are no visible holes, tears, or other openings in the seal(s) or seal fabric.

(ii) The seal(s) are intact and uniformly in place around the circumference of the floating roof between the floating roof and the tank wall.

(iii) For vapor-mounted primary seals, the accumulated area of gaps exceeding 0.32 centimeter (cm) (0.125 inch [in.]) in width between the secondary seal and the tank wall shall not exceed 21.2 square centimeters per meter (cm^2/m) (1.0 square inch per foot [$\text{in.}^2/\text{ft}$]) of tank diameter, as determined by the method in paragraph (f) of this section.

(3) All openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves, are equipped with:

(i) Covers, seals, or lids in the closed position except when the openings are in actual use.

(ii) Projections into the tank that remain below the liquid surface at all times.

(4) Automatic bleeder vents are closed at all times except when the roof is being floated off or being landed on the roof leg supports.

(5) Rim vents are set to open when the roof is being floated off the leg supports or at the manufacturer's recommended setting.

(6) Emergency roof drains are provided with slotted membrane fabric covers or equivalent covers that cover at least 90 percent of the area of the opening.

(d) Inspections.

The owner or operator of a petroleum liquid storage tank with an external floating roof subject to this section shall:

(1) Perform routine inspections semiannually in order to ensure compliance with paragraph (c) of this section (the inspections shall include a visual inspection of the secondary seal gap).

(2) Measure the secondary seal gap annually in accordance with paragraph (f) of this section when the floating roof is equipped with a vapor-mounted primary seal.

(e) Recordkeeping.

(1) The owner or operator of any petroleum liquid storage tank with an external floating roof subject to this section shall maintain the following records in a readily accessible location for at least 5 years and shall make

copies of the records available to the Administrator upon verbal or written request:

(i) Records of the types of volatile petroleum liquids stored.

(ii) Records of the maximum true vapor pressure of the liquid as stored.

(iii) Records of the results of the inspections performed in accordance with paragraph (d) of this section.

(2) The owner or operator of a petroleum liquid storage vessel with an external floating roof exempted from this section by paragraph (a)(2)(iii), but containing a petroleum liquid with a true vapor pressure greater than 7.0 kPa (1.0 psia), shall maintain the following records in a readily accessible location for at least 5 years and shall make copies of the records available to the Administrator upon verbal or written request:

(i) Records of the average monthly storage temperature.

(ii) Records of the type of liquid stored.

(iii) Records of the maximum true vapor pressure for all petroleum liquids with a true vapor pressure greater than 7.0 kPa (1.0 psia).

(3) The Administrator may, upon written notice, require more frequent inspections or modify the monitoring and recordkeeping requirements, when necessary to accomplish the purposes of this section.

(f) Compliance provisions. Compliance with paragraph (c)(2)(iii) of this section shall be determined by:

(1) Physically measuring the length and width of all gaps around the entire circumference of the secondary seal in each place where a 0.32 cm (0.125 in.) uniform diameter probe passes freely (without forcing or binding against the seal) between the seal and tank wall.

(2) Summing the area of the individual gaps.

(g) Reporting. The owner or operator of any facility containing sources subject to this section shall comply with the requirements in § XX.3003(a) and (b) of this subpart.

§ XX.3029 Petroleum Liquid Storage in Fixed Roof Tanks.

(a) Applicability.

(1) This section applies to any fixed roof petroleum liquid storage tank with a capacity greater than 150,000 liters (L) (40,000 gallons [gal]).

(2) This section does not apply to any petroleum liquid storage tank that:

(i) Has a capacity of less than 1,600,000 L (420,000 gal) and is used to store produced crude oil and condensate prior to lease custody transfer.

(ii) Is a horizontal underground storage tank used to store JP-4 jet fuel.

(iii) Contains a petroleum liquid with a maximum true vapor pressure less than 10.5 kiloPascals (kPa) (1.5 pounds per square inch atmospheric [psia]), provided that records are maintained consistent with paragraph (e)(2) of this section.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Internal floating roof" means a cover or roof in a fixed roof tank that rests upon or is floated upon the petroleum liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.

(c) Standards. No owner or operator of a petroleum liquid storage tank subject to this section shall store petroleum liquid in that tank unless:

(1) The tank is equipped with one of the following:

(i) An internal floating roof equipped with a closure seal or seals to close the space between the roof edge and tank wall.

(ii) Equally effective alternative control, approved by the Administrator as part of a State implementation plan (SIP) or Federal implementation plan (FIP) revision.

(2) The tank is maintained such that there are no visible holes, tears, or other openings in the seal or any seal fabric or materials.

(3) All openings, except stub drains, are equipped with covers, lids, or seals such that:

(i) The cover, lid, or seal is in the closed position at all times except when in actual use.

(ii) Automatic bleeder vents are closed at all times except when the roof is being floated off or being landed on the roof leg supports.

(iii) Rim vents, if provided, are set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting.

(d) Inspections. The owner or operator of a petroleum liquid storage tank with a fixed roof subject to this section shall:

(1) For tanks equipped with a single seal system:

(A) Visually inspect the internal floating roof and its closure seal or seals through roof hatches at least once every 12 months.

(B) Perform a complete inspection of any cover and single seal whenever the tank is emptied for nonoperational reasons or at least every 10 years, whichever is more frequent.

(2) For tanks equipped with a double seal system:

(A) Visually inspect the internal floating roof and its closure seal or seals through the roof hatches at least once every 5 years.

(B) Perform a complete inspection of any cover and double seal whenever the tank is emptied for nonoperational reasons or at least every 5 years, whichever is more frequent.

(e) Recordkeeping.

(1) The owner or operator of a petroleum liquid storage tank with a fixed roof subject to this section shall maintain the following records in a readily accessible location for at least 5 years and shall make copies of the records available to the Administrator upon verbal or written request:

(i) Records of the types of volatile petroleum liquids stored in that tank.

(ii) Records of the maximum true vapor pressure of the liquid as stored.

(iii) Records of the results of the inspections required in paragraph (d) of this section.

(2) The owner or operator of a petroleum liquid storage tank with a fixed roof exempted from this section by paragraph (a)(2), but containing a petroleum liquid with a true vapor pressure greater than 7.0 kPa (1.0 psia), shall maintain the following records in a readily accessible location for at least 5 years and shall make copies of the records available to the Administrator upon verbal or written request:

(i) Records of the average monthly storage temperature.

(ii) Records of the type of liquid stored.

(iii) Records of the maximum true vapor pressure for any petroleum liquid with a true vapor pressure greater than 7.0 kPa (1.0 psia).

(f) Reporting. The owner or operator of any facility containing sources subject to this section shall comply with the requirements in § XX.3003(a) and (b) of this subpart.

§ XX.3030 Leaks from Natural Gas/Gasoline Processing Equipment.

(a) Applicability.

(1) This section applies to all equipment in volatile organic compound (VOC) service in any process unit at any onshore natural gas/gasoline processing facility.

(2) This section does not apply to:

(i) Any equipment in vacuum service.

(ii) Any equipment in heavy liquid service.

(iii) Wet gas reciprocating compressors in plants that do not have a VOC control device, such as a flare or a continuously burning process heater or boiler.

(3) The equipment inspection requirements in paragraph (d) of this section do not apply to:

(i) Any natural gas/gasoline processing facility with a design field gas capacity of less than 2.8×10^5 standard cubic meters (10×10^6 standard cubic feet) per day that does not fractionate natural gas liquids.

(ii) Any pump with dual pump seals.

(iii) Any pressure relief valve that is connected to an operating flare header or vapor recovery device.

(iv) Any compressor with a degassing vent that is routed to an operating VOC control device.

(4) Any facility that becomes or is currently subject to the provisions of this section by exceeding the applicability threshold in paragraph (a)(3)(i) of this

section will remain subject to these provisions, even if its throughput or emissions later fall below the applicability threshold. Any facility that is currently subject to a State or Federal rule promulgated pursuant to the Clean Air Act Amendments of 1977 by exceeding an applicability threshold is and will remain subject to those provisions, even if its throughput or emissions have fallen or later fall below the applicability threshold.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Equipment" means each pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, valve, and flange or other connector in VOC service or in wet gas service and any devices or systems required by this section.

"Field gas" means feedstock gas entering the natural gas processing plant.

"[In] gas/vapor service" means that the piece of equipment in VOC service contains process fluid that is in the gaseous state at operating conditions.

"[In] heavy liquid service" means that the piece of equipment in VOC service is not in gas/vapor service or not in light liquid service.

"[In] light liquid service" means that the piece of equipment in VOC service either (1) contains a liquid that

meets all of the conditions in definition A or (2) meets the condition specified in definition B:

Definition A--(1) the vapor pressure of one or more of the components is greater than 0.3 kiloPascal (kPa) (0.044 inch of mercury [in. Hg]) at 20°C (68°F). Standard reference tests or ASTM D-2879 shall be used to determine the vapor pressures; (2) the total concentration of the pure components having a vapor pressure greater than 0.3 kPa (0.044 in. Hg) at 20°C (68°F) is equal to or greater than 20 percent by weight; and (3) the fluid is a liquid at operating conditions.

Definition B--Equipment is "in light liquid service" if the weight percent evaporated is greater than 10 percent at 150°C as determined by ASTM D86.

"Liquids dripping" means any visible leakage from a seal including spraying, misting, clouding, and ice formation.

"Natural gas liquids" means the hydrocarbons, such as ethane, propane, butane, and pentane, that are extracted from field gas.

"Natural gas processing plant" (gas plant) means any processing site engaged in the extraction of natural gas liquids from field gas, fractionation of mixed natural gas liquids to natural gas products, or both.

"Nonfractionating plant" means any gas plant that does not fractionate mixed natural gas liquids into natural gas products.

"Onshore" means all facilities except those that are located in the territorial seas or on the outer continental shelf.

"Process unit" means equipment assembled for the extraction of natural gas liquids from field gas, the fractionation of the liquids into natural gas products, or other operations associated with processing natural gas products. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the products.

"Reciprocating compressor" means a piece of equipment that increases the pressure of a process gas by positive displacement, employing linear movement of the driveshaft.

"[In] vacuum service" means that the equipment in VOC service is operating at an internal pressure that is at least 5 kPa (0.73 in. Hg) below ambient pressure.

"[In] VOC service" means that the piece of equipment contains or contacts a process fluid that is at least 1 percent VOC by weight. The provisions of paragraph (i)(2) of this section specify how to determine that a piece of equipment is not in VOC service.

"[In] wet gas service" means that a piece of equipment contains or contacts the field gas before the extraction step in the process.

(c) Standards: General. The owner or operator of a natural gas/gasoline processing facility subject to this section shall ensure that:

(1) Any open-ended line or valve is sealed with a second valve, blind flange, cap, or plug except during operations requiring process fluid flow through the open-ended line or valve.

(2) When a second valve is used, each open-ended line or valve equipped with a second valve is operated in such a manner that the valve on the process fluid end is closed before the second valve is closed.

(3) When a double block-and-bleed system is used, the bleed valve or line is open only during operations that require venting of the line between the block valves and is closed at all other times.

(d) Standards: Equipment inspection program. The owner or operator of a natural gas/gasoline processing facility subject to this section shall conduct the equipment inspection program described in paragraphs (d)(1) through (d)(3) of this section using the test methods specified in § XX.3085 of this subpart.

(1) The owner or operator of a natural gas/gasoline processing facility subject to this section shall conduct quarterly monitoring of each:

(i) Compressor.

(ii) Pump in light liquid service.

(iii) Valve in light liquid service, except as provided in paragraphs (e) and (f) of this section.

(iv) Valve in gas/vapor service, except as provided in paragraphs (e) and (f) of this section.

(v) Pressure relief valve in gas/vapor service, except as provided in paragraphs (e) and (f) of this section.

(2) The owner or operator of a natural gas/gasoline processing facility subject to this section shall conduct a weekly visual inspection of each pump in light liquid service.

(3) The owner or operator of a natural gas/gasoline processing facility subject to this section shall monitor each pressure relief valve within 5 days after each overpressure relief to ensure that the valve has properly reseated and is not leaking.

(4)(i) Any pressure relief device that is located in a nonfractionating plant that is monitored only by nonplant personnel may be monitored after a pressure release the next time the monitoring personnel are on site, instead of within 5 days.

(ii) No pressure relief device described in paragraph (d)(4)(i) of this section shall be allowed to operate for more than 30 days after a pressure release without monitoring.

(5)(i) When an instrument reading of 10,000 parts per million (ppm) or greater is measured, it shall be determined that a leak has been detected.

(ii) If there are indications of liquid dripping from the equipment, it shall be determined that a leak has been detected.

(6) When a leak is detected, the owner or operator shall affix a weatherproof, readily visible tag in a bright color such as red or yellow bearing the equipment identification number and the date on which the leak was detected. This tag shall remain in place until the leaking equipment is repaired. The requirements of this paragraph apply to any leak detected by the equipment inspection program and to any leak from any equipment that is detected on the basis of sight, sound, or smell.

(e) Standards: Alternative standards for valves--skip period leak detection and repair.

(1) An owner or operator shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in paragraph (d) of this section.

(2) After two consecutive quarterly leak detection periods with the percent of valves leaking equal or less than 2.0, an owner or operator may skip one of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(3) After five consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, an owner or operator may begin to skip three of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(4) If the percent of valves leaking is greater than 2.0, the owner or operator shall comply with the requirements as described in paragraph (d) of this section but can again elect to use the requirements in paragraph (e) of this section.

(5) The percent of valves leaking shall be determined by dividing the sum of valves found leaking during current monitoring and valves for which repair has been delayed by the total number of valves subject to the requirements of this section.

(6) An owner or operator shall keep a record of the percent of valves found leaking during each leak detection period.

(f) Standards: Alternative standards for valves that are unsafe or difficult to monitor.

(1) Any valve that is designated, as described in paragraph (j)(5)(i) of this section, as an unsafe-to-monitor valve is exempt from the requirements of paragraph (d) if:

(i) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (d).

(ii) The owner or operator of the valve adheres to a written plan that requires monitoring the valve as frequently as practicable during safe-to-monitor times.

(2) Any valve that is designated, as described in paragraph (j)(5)(i), as a difficult-to-monitor valve is exempt from the requirements of paragraph (d) if:

(i) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters (m) (6.6 feet [ft]) above a support surface.

(ii) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

(g) Standards: Equipment repair program. The owner or operator of a natural gas/gasoline processing facility shall:

(1) Make a first attempt at repair for any leak not later than 5 calendar days after the leak is detected.

(2) Repair any leak as soon as practicable, but not later than 15 calendar days after it is detected except as provided in paragraph (h) of this section.

(h) Standards: Delay of repair.

(1) Delay of repair of equipment for which a leak has been detected is allowed if the repair is technically infeasible without a process unit shutdown. Such equipment shall be repaired before the end of the next process unit shutdown.

(2) Delay of repair of equipment is allowed for equipment that is isolated from the process and that does not remain in VOC service.

(3) Delay of repair beyond a process unit shutdown is allowed for a valve if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown is not allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

(i) Test methods and procedures.

(1) In conducting the tests required to comply with paragraph (d) of this section, the owner or operator shall use the test methods specified in § XX.3085 of this subpart.

(2) The owner or operator shall test each piece of equipment unless it is demonstrated that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 1 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:

(i) Procedures that conform to the general methods in ASTM E260, E168, and E169 shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment.

(ii) Where the test methods in paragraph (i)(2)(i) also measure exempt compounds, these compounds may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid.

(iii) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in VOC service. If the Administrator disagrees with the judgment, paragraphs (i)(2)(i) and (i)(2)(ii) of this section shall be used to resolve the disagreement.

(3) The owner or operator shall demonstrate that a piece of equipment is in light liquid service by showing that all of the following conditions apply:

(i) The vapor pressure of one or more of the components is greater than 0.3 kPa at 20°C (0.09 in. Hg at

68°F). Standard reference texts or ASTM D2879 shall be used to determine the vapor pressures.

(ii) The total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20°C (0.09 in. Hg at 68°F) is equal to or greater than 20 percent by weight.

(iii) The fluid is a liquid at operating conditions.

(4) Samples used in conjunction with paragraphs (i)(2) and (i)(3) of this section shall be representative of the process fluid that is contained in or contacts the equipment.

(j) Recordkeeping.

(1) Each owner or operator subject to the provisions of this section shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one facility subject to the provisions of this section may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.

(3) When each leak is detected as specified in paragraph (d) of this section, the following information shall be recorded in a log and shall be kept for 5 years in a readily accessible location:

(i) The instrument and operator identification numbers and the equipment identification number.

(ii) The date the leak was detected and the dates of each attempt to repair the leak.

(iii) The repair methods employed in each attempt to repair the leak.

(iv) The notation "Above 10,000" if the maximum instrument reading measured by the methods specified in § XX.3085 of this subpart after each repair attempt is equal to or greater than 10,000 ppm.

(v) The notation "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(vi) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.

(vii) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.

(viii) The dates of process unit shutdowns that occur while the equipment is unrepaired.

(ix) The date of successful repair of the leak.

(4) A list of identification numbers of equipment in vacuum service shall be recorded in a log that is kept in a readily accessible location.

(5) The following information pertaining to all valves subject to the requirements of paragraph (f) of this section shall be recorded in a log that is kept for 5 years in a readily accessible location:

(i) A list of identification numbers for valves that are designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve.

(ii) A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the schedule for monitoring each valve.

(6) The following information pertaining to all valves complying with paragraph (e) of this section shall be recorded in a log that is kept for 5 years in a readily accessible location:

(i) A schedule of monitoring.

(ii) The percent of valves found leaking during each monitoring period.

(7) The following information shall be recorded in a log that is kept for 5 years in a readily accessible location for use in determining exemptions as provided in paragraph (a) of this section:

(i) An analysis demonstrating the design capacity of the affected facility.

(ii) Information and data used to demonstrate that a piece of equipment is not in VOC service.

(iii) Information and data used to demonstrate that a reciprocating compressor is in wet gas service.

(k) Reporting. The owner or operator of any facility containing sources subject to this section shall comply with the requirements in § XX.3003(a) and (b) of this subpart.

§ XX.3031 Solvent Metal Cleaning.

(a) Applicability. This section applies to all solvent metal cleaning sources with the following exemptions:

(1) Any open-top vapor degreasing operation with an open area smaller than 1 square meter (m^2) (10.8 square feet [ft^2]) is exempt from paragraphs (c)(2)(iii)(B) and (c)(2)(iii)(D) of this section.

(2) Any conveyORIZED degreaser with an air/solvent interface smaller than 2.0 m^2 (21.5 ft^2) is exempt from paragraph (c)(3)(ii) of this section.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Air/solvent interface" means the surface area defined by points of contact between the solvent liquid or vapor in the cleaner/degreaser and the surrounding air.

"Cold cleaning" means the batch process of cleaning and removing soils from a metal surface by spraying, brushing, flushing, or immersion while maintaining the solvent below its boiling point. Wipe cleaning is not included in this definition.

"ConveyORIZED degreasing" means the process of cleaning and removing soils from a continuous stream of metal parts using either cold or vaporized solvents.

"Freeboard height" means, for a cold cleaner, the distance from the liquid solvent level in the degreaser tank to the lip of the tank. For an open-top vapor degreaser, it is the distance from the vapor level in the tank during idling to the lip of the tank. For a vapor-conveyORIZED degreaser, it is the distance from the vapor level to the bottom of the entrance or exit opening, whichever is lower. For a cold-conveyORIZED degreaser, it is the distance from the liquid solvent level to the bottom of the entrance or exit opening, whichever is lower.

"Freeboard ratio" means the freeboard height divided by the smaller interior dimension (length, width, or diameter) of the degreaser tank.

"Open-top vapor degreasing" means the process using condensation of hot solvent vapor to clean and remove soils from a batch of metal parts.

"Refrigerated chiller" means a device mounted above both the water jacket and the primary condenser coils which carries a refrigerant that provides a chilled air blanket above the solvent vapor, thereby reducing emissions from the degreaser bath.

"Solvent metal cleaning" means the process of cleaning soils from metal surfaces by cold cleaning, open-top vapor degreasing, or conveyORIZED degreasing.

(c) Standards.

(1) Cold cleaning facilities. The owner or operator of a cold cleaning facility shall:

(i) Equip the cleaner with a cover that is easily operated with one hand, if any one of the following:

(A) The solvent true vapor pressure is greater than 2 kiloPascals (kPa) (15 millimeters of Mercury [mm Hg] or 0.3 pound per square inch [psi]) measured at 38°C (100°F) by ASTM D323-89.

(B) The solvent is agitated.

(C) The solvent is heated.

(ii) Equip the cleaner with an internal drainage facility so that parts are enclosed under the cover while draining if the solvent true vapor pressure is greater than 4.3 kPa (32 mm Hg or 0.6 psi) measured at 38°C (100°F) by ASTM D323-89, except that the drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(iii) Implement one of the following control measures if the solvent true vapor pressure is greater than 4.3 kPa (32 mm Hg or 0.6 psi) measured at 38°C (100°F) by ASTM D323-89, or if the solvent is heated above 50°C (120°F):

(A) Freeboard that gives a freeboard ratio greater than or equal to 0.7.

(B) Water cover at least 2.54 cm (1 in.) deep (solvent shall be insoluble in and heavier than water).

(C) Another system of equivalent control, such as a refrigerated chiller or a carbon adsorber, approved by the Administrator as part of a State implementation plan (SIP) or Federal implementation plan (FIP) revision.

(iv) Provide a permanent, legible, conspicuous label, summarizing the operating requirements.

(v) Store waste solvent in covered containers.

(vi) Close the cover whenever parts are not being handled in the cleaner.

(vii) Drain the cleaned parts until dripping ceases.

(viii) If used, supply a solvent spray that is a solid fluid stream (not a fine, atomized, or shower-type spray) at a pressure that does not exceed 10 pounds per square inch gauge (psig).

(ix) Degrease only materials that are neither porous nor absorbent.

(2) Open top vapor degreasers. Except as provided under paragraph (a)(i) of this section, the owner or operator of an open top vapor degreaser shall:

(i) Equip the vapor degreaser with a cover that can be opened and closed easily without disturbing the vapor zone.

(ii) Provide the following safety switches:

(A) A vapor level thermostat that shuts off the sump heat if the condenser coolant is either not circulating or too warm.

(B) A spray safety switch that shuts off the spray pump if the vapor level drops more than 10 centimeters (cm) (4 inches [in.]).

(iii) Implement one of the following control measures:

(A) Freeboard ratio greater than or equal to 0.75 and, if the degreaser opening is greater than 1 m² (10.8 ft²), a powered cover.

(B) Refrigerated chiller.

(C) Enclosed design (cover or door opens only when the dry part is actually entering or exiting the degreaser).

(D) Carbon adsorption system, with ventilation greater than or equal to 15 cubic meters per minute per square meter (m³/min/m²) (50 cubic feet per minute per square foot [ft³/min/ft²]) of air/solvent interface (when cover is open), and exhausting less than 25 parts per million (ppm) of solvent averaged over one complete adsorption cycle, or 24 hours, whichever is less.

(E) A control system, demonstrated to have a control efficiency equivalent to or greater than any of the above and approved by the Administrator as part of a SIP or FIP revision.

(iv) Keep the cover closed at all times except when processing work loads through the degreaser.

(v) Minimize solvent carryout by:

(A) Racking parts so that solvent drains freely and is not trapped.

(B) Moving parts in and out of the degreaser at less than 3.3 meters per minute (m/min) (11 feet per minute [ft/min]).

(C) Holding the parts in the vapor zone at least 30 seconds or until condensation ceases, whichever is longer.

(D) Tipping out any pools of solvent on the cleaned parts before removal from the vapor zone.

(E) Allowing parts to dry within the degreaser for at least 15 seconds or until visually dry, whichever is longer.

(vi) Degrease only materials that are neither porous nor absorbent.

(vii) Occupy no more than one-half of the degreaser's open-top area with a workload.

(viii) Always spray within the vapor level.

(ix) Repair solvent leaks immediately, or shut down the degreaser.

(x) Store waste solvent only in covered containers.

(xi) Operate the cleaner such that water cannot be visually detected in solvent exiting the water separator.

(xii) Use no ventilation fans near the degreaser opening.

(xiii) When the cover is open, not expose the open-top vapor degreaser to drafts greater than 40 m/min (131

ft/min), as measured between 1 and 2 m upwind and at the same elevation as the tank lip.

(xiv) If a lip exhaust is used on the open top vapor degreaser, not use a ventilation rate that exceeds 20 m³/min/m² (65 ft³/min/ft²) of degreaser open area, unless a higher rate is necessary to meet OSHA requirements.

(xv) Provide a permanent, conspicuous label, summarizing the operating procedures of paragraphs (c)(2)(iv) through (c)(2)(xiv) of this section.

(3) Conveyorized degreasers. Except as provided under paragraph (a)(3) of this section, the owner or operator of a conveyorized degreaser shall:

(i) Use no workplace fans near the degreaser opening, and ensure that exhaust ventilation does not exceed 20 m³/min/m² (65 ft³/min/ft²) of degreaser opening, unless a higher rate is necessary to meet OSHA requirements.

(ii) Install one of the following control devices:

(A) Refrigerated chiller.

(B) Carbon adsorption system, with ventilation greater than or equal to 15 m³/min/m² (50 ft³/min/ft²) of air/solvent interface (when downtime covers are open), and exhausting less than 25 ppm of solvent by volume averaged over one complete adsorption cycle, or 24 hours, whichever is less.

(C) A system demonstrated to have a control efficiency equivalent to or greater than the devices listed

in paragraph (c)(3)(ii)(A) or (c)(3)(ii)(B) of this section and approved by the Administrator as part of a SIP or FIP revision.

(iii) Equip the cleaner with equipment, such as a drying tunnel or rotating (tumbling) basket, sufficient to prevent cleaned parts from carrying out solvent liquid or vapor.

(iv) Provide the following safety switches:

(A) A condenser flow switch and thermostat that shut off the sump heat if the condenser coolant is either not circulating or too warm.

(B) A spray safety switch which shuts off the spray pump or the conveyor if the vapor level drops more than 10 cm (4 in.).

(C) A vapor level control thermostat that shuts off the pump heat when the vapor level rises too high.

(v) Minimize openings during operation so that entrances and exits silhouette workloads with an average clearance between the parts and the edge of the degreaser opening of less than 10 cm (4 in.) or less than 10 percent of the width of the opening.

(vi) Provide downtime covers for closing off the entrance and exit during shutdown hours.

(vii) Minimize carryout emissions by:

(A) Racking parts so that solvent drains freely from parts and is not trapped.

(B) Maintaining the vertical conveyor speed at less than 3.3 m/min (11 ft/min).

(viii) Store waste solvent only in covered containers.

(ix) Repair solvent leaks immediately, or shut down the degreaser.

(x) Operate the cleaner such that water cannot be visually detected in solvent exiting the water separator.

(xi) Place downtime covers over entrances and exits of the conveyORIZED degreaser at all times when the conveyors and exhausts are not being operated.

(xii) Degrease only materials that are neither porous nor absorbent.

(d) Test methods. Compliance with paragraphs (c)(1)(i) through (iii), (c)(2)(iii)(D), (c)(2)(xii) through (xiv), (c)(3)(i), and (c)(3)(ii)(B) of this section shall be determined by applying the following test methods, which are found at 40 CFR Part 60, Appendix A, or the American Society for Testing and Materials (ASTM) methods, as appropriate:

(1) Methods 1-4 for determining flow rates.

(2) Method 18 for determining gaseous organic compound emissions by gas chromatography.

(3) Method 25 for determining total gaseous nonmethane organic emissions as carbon except in cases where the outlet VOC concentration of the control device is less

than 50 ppm as carbon, in which case Method 25A shall be used.

(4) Method 25A or 25B for determining total gaseous organic concentrations using flame ionization or nondispersive infrared analysis.

(5) ASTM D323-89 for measuring solvent true vapor pressure.

(e) Recordkeeping. Each owner or operator of a solvent metal cleaning source subject to this section shall maintain the following records in a readily accessible location for at least 5 years and shall make these records available to the Administrator upon verbal or written request:

(1) A record of central equipment maintenance, such as replacement of the carbon in a carbon adsorption unit.

(2) The results of all tests conducted in accordance with the requirements in paragraph (d) of this section.

(f) Reporting. The owner or operator of any facility containing sources subject to this section shall:

(1) Comply with the initial compliance certification requirements of § XX.3003(a) of this subpart.

(2) Comply with the requirements of § XX.3003(b) of this subpart regarding reports of excess emissions.

(3) Comply with the requirements of § XX.3003(c) of this subpart for excess emissions related to any control devices used to comply with paragraphs (c)(1)(iii)(C),

(c)(2)(iii)(D) or (E), and (c)(3)(i)(B) or (C) of this section.

§ XX.3032 Cutback and Emulsified Asphalt.

(a) Applicability. This section applies to the manufacture, mixing, storage, use, and application of cutback and emulsified asphalts. No exemptions are allowable based on the size or throughput of an operation.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Asphalt" means a dark-brown to black cementitious material (solid, semisolid, or liquid in consistency) of which the main constituents are bitumens that occur naturally or are a residue of petroleum refining.

"Cutback asphalt" means asphalt cement that has been liquefied by blending with petroleum solvents (diluent). Upon exposure to atmospheric conditions, the diluents evaporate, leaving the asphalt cement to perform its function.

"Emulsified asphalt" means an emulsion of asphalt cement and water that contains a small amount of an emulsifying agent; it is a heterogeneous system containing two normally immiscible phases (asphalt and water) in which the water forms the continuous phase of the emulsion, and minute globules of asphalt form the discontinuous phase.

"Penetrating prime coat" means an application of low-viscosity liquid asphalt to an absorbent surface. It is used to prepare an untreated base for an asphalt surface.

The prime coat penetrates the base, plugs the voids, and hardens and helps bind the top to the overlying asphalt course. The penetrating prime coat also reduces the necessity of maintaining an untreated base course prior to placing the asphalt pavement.

(c) Standards.

(1) No person shall cause, allow, or permit the manufacture, mixing, storage, use, or application of cutback asphalts during the ozone season without approval of the Administrator as provided in paragraph (c)(2) of this section.

(2) The Administrator may approve as part of a State implementation plan (SIP) or Federal implementation plan (FIP) revision the manufacture, mixing, storage, use, or application of cutback asphalts where either:

(i) Long-life stockpile storage is necessary.

(ii) The cutback asphalt is to be used solely as a penetrating prime coat.

(3) During the ozone season, no person shall cause, allow, or permit the manufacturing, mixing, storage, or use of emulsified asphalt that contains any volatile organic compound (VOC).

(d) Recordkeeping. The owner or operator of any facility subject to this section shall maintain records of the manufacture, mixing, storage, use, or application of any asphalt containing VOC during the ozone season. These

records shall be maintained in a readily accessible location for a minimum of 5 years and shall be made available to the Administrator upon verbal or written request.

§ XX.3033 Manufacture of Synthesized Pharmaceutical Products.

(a) Applicability. This section applies to the following sources of volatile organic compounds (VOC's) at all synthesized pharmaceutical manufacturing facilities:

- (1) Reactors.
- (2) Distillation operations.
- (3) Crystallizers.
- (4) Centrifuges.
- (5) Vacuum dryers.
- (6) Air dryers.
- (7) Production equipment exhaust systems.
- (8) Rotary vacuum filters and other filters.
- (9) In-process tanks.
- (10) Leaks.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Production equipment exhaust system" means a device for collecting and directing out of the work area VOC fugitive emissions from reactor openings, centrifuge openings, and other vessel openings to protect workers from excessive VOC exposure.

"Reactor" means a vat or vessel, which may be jacketed to permit temperature control, designed to contain chemical reactions.

"Separation operation" means a process that separates a mixture of compounds and solvents into two or more components. Specific mechanisms include extraction, centrifugation, filtration, and crystallization.

"Synthesized pharmaceutical manufacturing" means manufacture of pharmaceutical products and intermediates by chemical synthesis. The production and recovery of materials produced via fermentation, extraction of organic chemicals from vegetative materials or animal tissues, and formulation and packaging of the product are not considered synthesized pharmaceutical manufacturing.

(c) Standards.

(1) Reactors, distillation operations, crystallizers, centrifuges, and vacuum dryers. The owner or operator of a synthesized pharmaceutical manufacturing facility subject to this section shall control the VOC emissions from all vents from reactors, distillation operations, crystallizers, centrifuges, and vacuum dryers at the facility that emit 6.8 kilograms per day (kg/day) (15 pounds per day [lb/day]) or more of VOC as determined by the procedure in "Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products," Appendix B, EPA-450/2-78-029, December 1978. This report is incorporated by reference in accordance with 5 U.S.C. § 552 (a) and 1 CFR Part 51. Surface condensers or equivalent controls shall be used, provided that:

(i) If surface condensers are used, the condenser outlet gas temperature shall not exceed the allowable temperature limit described for each associated vapor pressure in the following table.

Allowable condenser outlet gas temperature,		VOC vapor pressure at	
°C	(°F)	20°C, kPa	(psi)
-25	(-13)	>40.01	(5.8)
-15	(5)	>20.0	(2.9)
0	(32)	>10.0	(1.5)
10	(50)	>7.0	(1.0)
25	(77)	>3.5	(0.5)

(ii) If equivalent controls such as carbon absorption or incineration are used, the VOC emissions shall be reduced by at least as much as they would be by using a surface condenser. The owner or operator shall calculate the efficiency equivalent to a condenser in accordance with the procedures specified on pages 4-2 through 4-6 in "Control of Volatile Organic Emissions from Manufacture of Synthesized Pharmaceutical Products," Appendix B, EPA-450/2-78-029, December 1978.

(2) Air dryers and production equipment exhaust systems. The owner or operator of a synthesized pharmaceutical manufacturing facility subject to this section shall reduce the VOC emissions from all air dryers and production equipment exhaust systems either:

(i) By at least 90 percent if emissions are 150 kg/day (330 lb/day) or more of VOC.

(ii) To 15.0 kg/day (33 lb/day) or less if emissions are less than 150 kg/day (330 lb/day) of VOC.

(3) Storage tanks. The owner or operator of a synthesized pharmaceutical manufacturing facility subject to this section shall reduce the VOC emissions from storage tanks by:

(i) Providing a vapor balance system or equivalent control that is at least 90 percent effective in reducing emissions from truck or railcar deliveries to storage tanks with capacities greater than 7,500 liters (L) (2,000 gallons [gal]) that store VOC with vapor pressures greater than 28.0 kiloPascals (kPa) (4.1 pounds per square inch [psi]) at 20°C (68°F).

(ii) Installing pressure/vacuum conservation vents set at ± 0.2 kPa (0.03 psi) on all storage tanks that store VOC with vapor pressures greater than 10.0 kPa (1.5 psi) at 20°C (68°F).

(4) Centrifuges, rotary vacuum filters, and other filters. The owner or operator of a synthesized pharmaceutical facility subject to this section shall enclose all centrifuges, rotary vacuum filters, and other filters having an exposed liquid surface where the liquid contains VOC and exerts a total VOC vapor pressure of 3.50 kPa (0.5 psi) or more at 20°C (68°F).

(5) In-process tanks. The owner or operator of a synthesized pharmaceutical facility subject to this section shall install covers on all in-process tanks that contain VOC at any time. These covers shall remain closed, unless production, sampling, maintenance, or inspection procedures require operator access.

(6) Leaks. The owner or operator of a synthesized pharmaceutical manufacturing facility subject to this section shall repair all leaks from which a liquid containing VOC can be observed running or dripping. The repair shall be completed as soon as practicable but no later than 15 calendar days after the leak is found. If the leaking component cannot be repaired until the process is shut down, the leaking component shall then be repaired before the process is restarted.

(d) Testing. The owner or operator of any facility containing sources subject to this section shall comply with the testing requirements in § XX.3084 of this subpart.

(e) Monitoring for air pollution control equipment.

(1) At a minimum, continuous monitors for the following parameters shall be installed on air pollution control equipment used to control sources subject to this section:

(i) Destruction device combustion temperature.

(ii) Temperature rise across a catalytic incinerator bed.

(iii) VOC concentration on a carbon adsorption unit to determine breakthrough.

(iv) Outlet gas temperature of a refrigerated condenser.

(v) Temperature of a nonrefrigerated condenser coolant supply system.

(2) Each monitor shall be equipped with a recording device.

(3) Each monitor shall be calibrated quarterly.

(4) Each monitor shall operate at all times while the associated control equipment is operating.

(f) Recordkeeping.

(1) The owner or operator of a pharmaceutical manufacturing facility subject to this section shall maintain the following records:

(i) Parameters listed in paragraph (e) of this section shall be recorded.

(ii) For sources subject to this section, the solvent true vapor pressure as determined by ASTM D323-89 shall be recorded for every process.

(2) For any leak subject to paragraph (c)(6) of this section, which cannot be readily repaired within 1 hour after detection, the following records shall be kept:

(i) The name of the leaking equipment.

(ii) The date and time the leak is detected.

(iii) The action taken to repair the leak.

(iv) The date and time the leak is repaired.

(g) Reporting. The owner or operator of any facility containing sources subject to this section shall comply with the requirements in § XX.3003(a) and (b) of this subpart.

§ XX.3034 Pneumatic Rubber Tire Manufacturing.

(a) Applicability.

(1) This section applies to the following operations in all pneumatic rubber tire manufacturing facilities:

(i) Undertread cementing.

(ii) Tread-end cementing.

(iii) Bead cementing.

(iv) Green tire spraying.

(2) The provisions of this section do not apply to the production of specialty tires for antique or other vehicles when produced on an irregular basis or with short production runs. This exemption applies only to tires produced on equipment separate from normal production lines for passenger-type tires.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"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.

"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.

"Passenger-type tire" means an agricultural, airplane, industrial, mobile home, light- or medium-duty truck, or passenger vehicle tire with a bead diameter up to 50.8 centimeters (cm) (20.0 inches [in.]) and cross-sectional dimension up to 32.5 cm (12.8 in.).

"Pneumatic rubber tire manufacturing" means the production of pneumatic rubber passenger-type tires on a mass-production basis.

"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 allow evaporation of solvent from the cemented rubber.

"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 solvent to evaporate solvent from the cemented tread or combined tread/sidewall.

"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.

(c) Standards.

(1) Undertread cementing operations. The owner or operator of an undertread cementing operation subject to this section shall do one of the following:

(i) Install and operate a capture and control system for emissions from the undertread cementing operation that achieves an overall emission reduction of at least 75

percent calculated according to the procedures in § XX.3083 of this subpart.

(ii) Meet the equipment design and performance specifications in 40 CFR 60.543(j)(1), (2), and (4) through (6), or under paragraphs (j)(1) and (3) through (6), and conduct a control device efficiency performance test to determine compliance as described under paragraph (j)(7).

(iii) Maintain total (uncontrolled) VOC use less than or equal to the levels specified in 40 CFR 60.542(a)(1)(ii)(A) through (E).

(2) Sidewall cementing operations. The owner or operator of a sidewall cementing operation subject to this section shall do one of the following:

(i) Install and operate a capture and control system for emissions from the sidewall cementing operation that achieves an overall emission reduction of at least 75 percent calculated according to the procedures in § XX.3083 of this subpart.

(ii) Meet the equipment design and performance specifications in 40 CFR 60.543(j)(1), (2), and (4) through (6), or under paragraphs (j)(1) and (3) through (6), and conduct a control device efficiency performance test to determine compliance as described under paragraph (j)(7).

(iii) Maintain total (uncontrolled) VOC use less than or equal to the levels specified in 40 CFR 60.542(a)(2)(ii)(A) through (E).

(3) Alternate standard for undertread cementing and sidewall cementing.

(i) The owner or operator of each undertread cementing and sidewall cementing operation at a rubber tire manufacturing facility that meets the criteria in paragraphs (c)(3)(ii)(A) through (C) of this section shall have the option of complying with the alternate standard in 40 CFR 60.542(a) in lieu of the standards in paragraphs (c)(1) and (c)(2) of this section. The election of complying with this paragraph shall be irreversible.

(ii) The owner or operator may elect to comply with the alternate standard in 40 CFR 60.542(a) provided that the undertread cementing and sidewall cementing operation meets all of the following criteria:

(A) Commenced construction, modification, or reconstruction after January 20, 1983, and before September 15, 1987.

(B) Uses 25 g (0.06 lb) or less of VOC per tire per month.

(C) Does not use a control device to control VOC emissions from the operations complying with this paragraph.

(4) Green tire spraying operations.

(i) Water-based sprays. The owner or operator of a green tire spraying operation subject to this section and where only water-based sprays are used shall meet the g/tire limits in 40 CFR 60.542(a)(5)(i) and (ii).

(ii) Organic solvent-based sprays. The owner or operator of a green tire spraying operation subject to this section and where only organic solvent-based sprays are used shall do one of the following:

(A) Install and operate a capture and control system for emissions from the green tire spraying operation that achieves an overall emission reduction of at least 75 percent calculated according to the procedures in § XX.3083 of this subpart.

(B) Meet the equipment design and performance specifications in 40 CFR 60.543(j)(1), (2), and (4) through (6), or under paragraphs (j)(1) and (3) through (6), and conduct a control device efficiency performance test to determine compliance as described under paragraph (j)(7).

(C) Meet the g/tire limits in 40 CFR 60.542(a)(6)(ii)(A) through (E).

(iii) Both water-based and organic solvent-based sprays. The owner or operator of a green tire spraying operation subject to this section and where both water-based and organic solvent-based sprays are used shall meet the emission limits in 40 CFR 60.542(a)(7).

(5) Tread-end cementing. The owner or operator of a tread-end cementing operation subject to this section shall do one of the following:

(i) Install and operate a capture and control system for emissions from these operations that achieves an overall

emission reduction of at least 75 percent calculated according to the procedures in § XX.3083 of this subpart.

(ii) Meet the g/tire limit in 40 CFR 60.542(a)(3).

(6) Bead cementing. The owner or operator of a bead cementing operation subject to this section shall do one of the following:

(i) Install and operate a capture and control system for emissions from these operations that achieves an overall emission reduction of at least 75 percent calculated according to the procedures in § XX.3083 of this subpart.

(ii) Meet the g/bead limit in 40 CFR 60.542(a)(4).

(d) Compliance procedures. The compliance procedures in this paragraph shall be used to determine compliance with the standards in paragraph (c) of this section.

(1) Tread-end cementing/no VOC control device. An owner or operator of a tread-end cementing operation who does not use a VOC control device and who is seeking to comply with the g/tire standards in paragraph (c)(5)(ii) shall:

(i) Determine the density and weight fraction VOC (including dilution VOC) of each cement by analysis of the cement using Method 24 (40 CFR Part 60).

(ii) Calculate the total mass of VOC used at the tread-end cementing operation for the day (M_d) as follows:

(A) For each tread-end cementing operation subject to this section for which cement is delivered in batch or via a

distribution system that serves only that tread-end cementing operation, use the following equation to calculate the total mass of VOC used per day (M_d):

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

where:

a = The number of different cements used during the day that are delivered in batch or via a distribution system that serves only a single operation subject to this section.

L_c = Volume of cement used for a day (liters).

D_c = Density of cement (grams per liter).

W_o = Weight fraction of VOC in a cement.

(B) For each tread-end cementing operation subject to this section for which cement is delivered via a common distribution system that also serves other operations that may or may not be subject to this section:

(1) Calculate the total mass of VOC used for all operations served by the common distribution system for the day (M):

$$M = \sum_{i=1}^b L_{c_i} D_{c_i} W_{o_i}$$

where:

b = The number of different cements used during the day that are delivered via a common distribution system that also serves other operations.

(2) Determine the fraction (F_o) of M used at the operation subject to this section by comparing the production records and process specifications for the material cemented at the subject operation for the day to the production records and process specifications for all the material cemented at all other operations served by the common distribution system for the day.

(3) Calculate the total mass of VOC used at the operation subject to this section for the day (M_d):

$$M_d = MF_o$$

where:

M = Total mass of VOC used for a day by all operations served by a common cement distribution system (grams).

F_o = Fraction of total mass of VOC used in a day by all operations served by a common cement distribution system that is used by a particular operation subject to this section served by the common distribution system.

(iii) Determine the total number of tread or combined tread/sidewall components that receive an application of

cement for the day at the tread-end cementing operation subject to this section (T_o).

(iv) Calculate the mass of VOC used per tire cemented at the tread-end cementing operation subject to this section for the day (G):

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

(v) Calculate the mass of VOC emitted per tire cemented at the tread-end cementing operation subject to this section for the day (N):

$$N = G$$

(2) Bead cementing/no VOC control device. An owner or operator of a bead cementing operation who does not use a VOC control device and who is seeking to comply with the g/bead standard in paragraph (c)(6)(ii) shall:

(i) Determine the density and weight fraction VOC of each cement as specified under paragraph (d)(1)(i) of this section.

(ii) Calculate the total mass of VOC used at the bead cementing operation subject to this section for the day (M_d) as specified under paragraph (d)(1)(ii) of this section.

(iii) Determine the number of beads cemented at the operation subject to this section for the day (B_d) using production records; B_d equals the number of beads that receive an application of cement for the day.

(iv) Calculate the mass of VOC used per bead cemented at the operation subject to this section (G_b):

$$G_b = \frac{M_d}{B_d}$$

(v) Calculate the mass of VOC emitted per bead cemented at the operation subject to this section for the day (N_b):

$$N_b = G_b$$

(3) Tread-end cementing and bead cementing/VOC destruction device. For each tread-end cementing operation or each bead cementing operation that uses a VOC control device that destroys VOC (e.g., an incinerator), the owner or operator shall use the following procedure to determine compliance with the g/tire or g/bead standards in paragraphs (c)(5)(ii) and (c)(6)(ii) of this section:

(i) Calculate the mass of VOC used per tire cemented (G) at the tread-end cementing operation subject to this section as specified under paragraphs (d)(1)(i) through (d)(1)(iv) of this section, or calculate the mass of VOC used per bead cemented (G_b) at the bead cementing operation subject to this section as specified in paragraphs (d)(2)(i) through (d)(2)(iv) of this section.

(ii) Calculate the mass of VOC emitted per tire cemented (N) or per bead cemented (N_b) at the operation subject to this section:

$$\begin{aligned} N &= G(1-R) \\ N_b &= G_b(1-R) \end{aligned}$$

where:

R = Overall efficiency of an emission reduction system (fraction) as determined by the procedures specified in paragraphs (d)(3)(iii)(A) through (d)(3)(iii)(C) of this section.

(iii) For the initial compliance test, determine the overall reduction efficiency (R) as specified in paragraphs (d)(3)(iii)(A) through (d)(3)(iii)(C) below:

(A) The owner or operator shall construct a temporary total enclosure around the application and drying areas during the test for the purpose of capturing fugitive VOC emissions. The enclosure shall 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 operation subject to this section that enters the control device:

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

where:

C_b = Concentration of VOC in the gas stream in the vents prior to a control device (parts per million by volume [ppmv]).

C_f = Concentration of VOC in each gas stream vented directly to the atmosphere from an operation subject to this section or from a temporary total enclosure around an operation subject to this section (ppmv).

m = The number of vents from the operation subject to this section to the control device.

n = The number of vents from the operation subject to this section to the atmosphere and from the temporary total enclosure.

Q_b = Volumetric flow rate in the vents before a control device (dry standard cubic meters per hour [dscm/hr]).

Q_f = Volumetric flow rate of each stream vented directly to the atmosphere from an operation subject to this section or from a temporary total enclosure around an operation subject to this section (dscm/hr).

(B) Determine the destruction efficiency of the control device (E) by using values of the volumetric flow rate (Q) of each of the gas streams and the VOC concentration (as carbon) (C) of each of the gas streams in and out of the control device:

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

where:

p = Number of vents after the control device.

C_a = Concentration of VOC in the gas stream in the vents after the control device (ppmv).

Q_a = Volumetric flow rate in vents after the control device (dscm/hr).

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

$$R = EF_c$$

(iv) If subsequent compliance tests are required, the owner or operator may use the most recently determined overall reduction efficiency (R) if the conditions under which the capture system and control device are being operated have not changed since R was most recently determined. If the conditions under which the capture system and control device are being operated are different from those in effect when R was determined, the owner or operator shall re-establish R as specified in paragraphs (d)(2)(iii)(A) through (d)(2)(iii)(C).

(4) Tread-end cementing and bead cementing/VOC recovery device. For each tread-end cementing operation and each bead cementing operation subject to this section that

uses a VOC emission reduction system with a control device that recovers VOC (e.g., a carbon adsorber), the owner or operator shall use the following procedure to determine compliance with the g/tire or g/bead standards specified under paragraphs (c)(5)(ii) and (c)(6)(ii) of this section:

(i) Calculate the mass of VOC used per tire cemented at the operation subject to this section for the day (G) as specified under paragraphs (d)(1)(i) through (d)(1)(iv) of this section, or the mass of VOC used per bead cemented for the day (G_b) as specified in paragraphs (d)(2)(i) through (d)(2)(iv) of this section.

(ii) Calculate the total mass of VOC recovered from the operation subject to this section for the day (M_r):

$$M_r = L_r D_r$$

where:

L_r = Volume of VOC recovered by a control device for a day (liters).

D_r = Density of VOC recovered by a control device (grams per liter).

(iii) Calculate the overall reduction efficiency for the VOC emission reduction system (R) for the day:

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

(iv) Calculate the mass of VOC emitted per tire cemented at the operation subject to this section for the

day (N) or mass of VOC emitted per bead cemented at the operation subject to this section for the day (N_b):

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

(e) Monitoring requirements. Each owner or operator subject to the provisions of this section shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:

(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 combustion temperature being measured in $^{\circ}\text{C}$ or ± 0.5 $^{\circ}\text{C}$, whichever is greater.

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

(3) Where a carbon adsorber is used for VOC emission reduction, 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.

(f) Recordkeeping.

(1) Each owner or operator of a facility subject to this section that uses a thermal incinerator shall maintain the following records:

(i) Continuous records of the temperature of the gas stream in the combustion zone of the incinerator.

(ii) 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 facility was in compliance.

(2) Each owner or operator of a facility subject to this section that uses a catalytic incinerator shall maintain the following records:

(i) Continuous records of the temperature of the gas stream both upstream and downstream of the incinerator.

(ii) Records for 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 facility was in compliance.

(iii) 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 facility was in compliance.

(3) Each owner or operator of a facility subject to this section that uses a carbon adsorber 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 reading measured by the organics monitoring device during the most recent determination of the recovery efficiency of the carbon adsorber that demonstrated that the facility was in compliance.

(f) Reporting. The owner or operator of any facility containing emission sources subject to this section shall comply with the reporting requirements in § XX.3003(a) and (b) of this subpart.

§ XX.3035 Graphic Arts Systems.

(a) Applicability.

(1) This section applies to any packaging rotogravure, publication rotogravure, or flexographic printing press at any facility whose maximum theoretical emissions of volatile organic compounds (VOC's) (including solvents used to clean each of these printing presses) without control devices from all printing presses are greater than or equal to 90.7 megagrams (Mg) (100 tons) per year.

(2) An owner or operator of a facility whose emissions are below the applicability threshold in paragraph (a)(1) of this section shall comply with the certification, recordkeeping, and reporting requirements of paragraph (g)(1) of this section.

(3) Any facility that becomes or is currently subject to the provisions of this section by exceeding the applicability threshold in paragraph (a)(1) of this section will remain subject to these provisions even if its emissions later fall below the applicability threshold.

(4) Any facility that is currently subject to a State or Federal rule promulgated pursuant to the Clean Air Act Amendments of 1977 by exceeding an applicability threshold is and will remain subject to these provisions, even if its throughput or emissions have fallen or later fall below the applicability threshold.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Flexographic printing press" means a printing press that uses a roll printing technique in which the pattern to be applied is raised above the printing roll and the image carrier is made of rubber or other elastomeric materials.

"Packaging rotogravure printing press" means a rotogravure printing press used to print on paper, paper board, metal foil, plastic film, and other substrates that are, in subsequent operations, formed into packaging products and labels, and other nonpublication products.

"Printing press" means equipment used to apply words, pictures, or graphic designs to either a continuous substrate or a sheet. A continuous substrate consists of paper, plastic, or other material that is unwound from a roll, passed through coating or ink applicators and any associated drying areas. The press includes all coating and ink applicators and drying areas between unwind and rewind of the continuous substrate. A sheet consists of paper, plastic, or other material that is carried through the process on a moving belt. The press includes all coating and ink applicators and drying operations between the time that the sheet is put on the moving belt until it is taken off.

"Publication rotogravure printing press" means a rotogravure printing press on which the following paper products are printed:

- (1) Catalogues, including mail order and premium.
- (2) Direct mail advertisements, including circulars, letters, pamphlets, cards, and printed envelopes.
- (3) Display advertisements, including general posters, outdoor advertisements, car cards, window posters; counter and floor displays; points-of-purchase, and other printed display material.
- (4) Magazines, books.
- (5) Miscellaneous advertisements, including brochures, pamphlets, catalogue sheets, circular folders, announcements, package inserts, book jackets, market circulars magazine inserts, and shopping news.
- (6) Newspapers, magazine and comic supplements for newspapers, and preprinted newspaper inserts, including hi-fi and spectacolor rolls and sections.
- (7) Periodicals.
- (8) Telephone and other directories, including business reference services.

"Roll printing" means the application of words, designs, and pictures to a substrate, usually by means of a series of rolls each with only partial coverage.

"Rotogravure printing press" means any printing press designed to print on a substrate using a gravure cylinder.

(c) Standards.

(1) No owner or operator of a packaging rotogravure or flexographic printing press subject to this section shall apply any coating or ink unless the VOC content is equal to or less than one of the following:

(i) 40 percent VOC by volume of the coating or ink, excluding water and exempt compounds, as applied.

(ii) 25 percent VOC by volume of the volatile content in the coating or ink, as applied.

(iii) 0.5 kilogram (kg) VOC per kg (0.5 pound [lb] VOC per lb) coating solids, as applied.

(2) No owner or operator of a publication rotogravure printing press subject to this section shall apply any coating or ink unless the VOC content is equal to or less than one of the following:

(i) 40 percent VOC by volume of the coating or ink, excluding water and exempt compounds, as applied.

(ii) 25 percent VOC by volume of the volatile content in the coating or ink, as applied.

(3) As an alternative to compliance with the limits in paragraphs (c)(1) or (c)(2) of this section, an owner or operator of a packaging rotogravure, publication rotogravure, or flexographic printing press may comply with the requirements of this section by meeting the requirements of paragraph (d) or (e) of this section.

(d) Daily-weighted average limitations.

(1) No owner or operator of a packaging rotogravure, publication rotogravure, or flexographic printing press shall apply, during any day, coatings or inks on the subject printing press unless the daily-weighted average, by volume, VOC content of all coatings and inks, as applied, each day on the subject printing press is equal to or less than the limitation specified in either paragraph (c)(1)(i) or (c)(2)(i) (as determined by paragraph (d)(4)); (c)(1)(ii) or (c)(2)(ii) (as determined by paragraph (d)(5)); or, in the case of packaging rotogravure or flexographic printing, (c)(1)(iii) (as determined by paragraph (d)(6)) of this section.

(2) An owner or operator may comply with the daily-weighted average limitation by grouping coatings or inks used on a printing press into two categories that meet the conditions in paragraphs (d)(2)(i) and (ii) of this section. Any use of averaging between the two categories of coating or inks used on a packaging rotogravure press or on a flexographic press requires compliance with the emission standard in paragraph (c)(1)(iii), as determined by the equation in paragraph (d)(6).

(i) The daily-weighted average VOC content for the first category shall comply with paragraph (c)(1)(i) or (c)(2)(i) of this section, as determined by applying the

equation in paragraph (d)(4) of this section to the coatings or inks in this first category.

(ii) The daily weighted-average VOC content for the second category shall comply with paragraph (c)(1)(ii) or (c)(2)(ii) of this section, as determined by applying the equation in paragraph (d)(5) of this section to the coatings or inks in this second category.

(3) Compliance with this section shall be demonstrated through the applicable coating or ink analysis test methods and procedures specified in § XX.3081 of this subpart and the recordkeeping and reporting requirements specified in paragraph (g)(3) of this section.

(4) The following equation shall be used to determine if the weighted average VOC content of all coatings and inks, as applied, each day on the subject printing press exceeds the limitation specified in paragraph (c)(1)(i) or (c)(2)(i) of this section:

$$VOC_{(i)(A)} = \frac{\sum_{i=1}^n L_i V_{VOCI}}{\sum_{i=1}^n L_i (V_{SI} + V_{VOCI})} \times 100$$

where:

$VOC_{(i)(A)}$ = The weighted average VOC content in units of percent VOC by volume of all coatings and inks (excluding water and exempt compounds) used each day.

i = Subscript denoting a specific coating or ink, as applied.

n = The number of different coatings and/or inks, as applied, each day on a printing press.

L_i = The liquid volume of each coating or ink, as applied, used that day in units of liters (L) (gallons [gal]).

V_{si} = The volume fraction of solids in each coating or ink, as applied.

V_{VOCi} = The volume fraction of VOC in each coating or ink, as applied.

(5) The following equation shall be used to determine if the weighted average VOC content of all coatings and inks, as applied, each day on the subject printing press exceeds the limitation specified in paragraph (c)(1)(ii) or (c)(2)(ii) of this section:

$$VOC_{(i)(B)} = \frac{\sum_{i=1}^n L_i V_{VOCi}}{\sum_{i=1}^n L_i V_{Vci}} \times 100$$

where:

$VOC_{(i)(B)}$ = The weighted average VOC content in units of percent VOC by volume of the volatile content of all coatings and inks used each day.

i = Subscript denoting a specific coating or ink, as applied.

n = The number of different coatings and/or inks, as applied, each day on each printing press.

L_i = The liquid volume of each coating or ink, as applied, in units of L (gal).

V_{VOCi} = The volume fraction of VOC in each coating or ink, as applied.

V_{VCI} = The volume fraction of volatile matter in each coating or ink, as applied.

(6) The following equation shall be used to determine if the weighted average VOC content of all coatings and inks, as applied, each day on the subject printing press exceeds the limitation specified in paragraph (c)(1)(iii) of this section:

$$VOC_{(i)(C)} = \frac{\sum_{i=1}^n L_i D_i W_{VOCi}}{\sum_{i=1}^n L_i D_i W_{si}}$$

where:

$VOC_{(i)(C)}$ = The weighted average VOC content in units of mass of VOC per mass of coating solids.

i = Subscript denoting a specific coating or ink, as applied.

- n = The number of different coatings and/or inks, as applied, each day on a printing press.
- L_i = The liquid volume of each coating or ink, as applied, used on the day in units of L (gal).
- D_i = The density of each coating or ink, as applied, in units of mass of coating or ink per unit volume of coating or ink.
- W_{VOCi} = The weight fraction of VOC in each coating or ink, as applied.
- W_{Si} = The weight fraction of solids in each coating or ink, as applied.

(e) Control devices.

(1) No owner or operator of a packaging rotogravure, publication rotogravure, or flexographic printing press equipped with a control system shall operate the printing press unless the owner or operator meets one of the requirements under paragraphs (e)(1)(i) and (ii) of this section.

(i)(A) A carbon adsorption control device is used that reduces the VOC emissions delivered from the capture system to the control device by at least 90 percent by weight.

(B) An incineration control device is used to reduce VOC emissions delivered from the capture system to the control device by at least 90 percent, by weight.

(C) Any other VOC emission control device is used to reduce the VOC emissions delivered from the capture system to the control device by at least 90 percent.

(ii) The printing press is equipped with a capture system and control device that provides an overall emission reduction efficiency of at least:

(A) 75 percent for a publication rotogravure printing press.

(B) 65 percent for a packaging rotogravure printing press.

(C) 60 percent for a flexographic printing press.

(2) An owner or operator of a packaging rotogravure, publication rotogravure, or flexographic printing press equipped with a control system shall ensure that:

(i) A capture system and control device are operated at all times that the printing press is in operation, and the owner or operator demonstrates compliance with this section through the applicable coating analysis and capture system and control device efficiency test methods specified in §§ XX.3081, XX.3083, and XX.3084 of this subpart and in accordance with the capture efficiency test methods in 40 CFR Part 60, Appendix A (to be published).

(ii) The control device is equipped with the applicable monitoring equipment specified in § XX.3083(b) of this subpart, and the monitoring equipment is installed, calibrated, operated, and maintained according to the

vendor's specifications at all times the control device is in use.

(f) Test methods. The VOC content of each coating and ink and the efficiency of each capture system and control device shall be determined by the applicable test methods and procedures specified in §§ XX.3080 through XX.3083 of this subpart to establish the records required under paragraph (g) of this section.

(g) Recordkeeping and reporting.

(1) Requirements for exempt sources. By **{insert date 1 year from promulgation of final rule}** any owner or operator of a printing press that is exempt from the requirements of this section because of the criteria in paragraph (a) of this section shall comply with the following:

(i) Initial certification. The owner or operator shall certify to the Administrator that the facility is exempt under the provisions of paragraph (a) of this section. Such certification shall include:

(A) The name and location of the facility.

(B) The address and telephone number of the person responsible for the facility.

(C) A declaration that the facility is exempt from this section because of the criteria in paragraph (a) of this section.

(D) Calculations demonstrating that total potential emissions of VOC from all flexographic and rotogravure printing presses at the facility are and will be less than 90.7 Mg (100 tons) per calendar year before the application of capture systems and control devices. Total potential emissions of VOC for a flexographic or rotogravure printing facility is the sum of potential emissions of VOC from each flexographic and rotogravure printing press at the facility. The following equation shall be used to calculate total potential emissions of VOC per calendar year before the application of capture systems and control devices for each flexographic and rotogravure printing press at the facility:

$$E_p = A \times B$$

where:

E_p = Total potential emissions of VOC from one flexographic or rotogravure printing press in units of kilograms per year (kg/yr) (pounds per year [lb/yr]).

A = Weight of VOC per volume of solids of the coating or ink with the highest VOC content, as applied, each year on the printing press in units of kilograms VOC per liter (kg VOC/L) (pounds of VOC per gallon [lb VOC/gal]) of coating or ink solids.

B = Total volume of solids for all coatings and inks that can potentially be applied each year on the printing press in units of liters per year (L/yr) (gallons per year [gal/yr]).

The instrument and/or method by which the owner or operator accurately measured or calculated the volume of coating and ink solids applied and the amount that can potentially be applied each year on the printing press shall be described in the certification to the Administrator.

(ii) Recordkeeping. The owner or operator shall collect and record all of the following information each year for each printing press and maintain the information at the facility for a period of 5 years:

(A) The name and identification number of each coating and ink, as applied, each year on each printing press.

(B) The weight of VOC per volume of coating solids and the volume of solids of each coating and ink, as applied, each year on each printing press.

(C) The total potential emissions as calculated in paragraph (g)(1)(i)(D) of this section using VOC content for that year.

(iii) Reporting. Any record showing that total potential emissions of VOC from all printing presses exceed 90.7 Mg (100 tons) in any calendar year before the application of capture systems and control devices shall be

reported by sending a copy of such record to the Administrator within 30 calendar days after the exceedance occurs.

(2) Requirements for sources using complying coatings or inks. Any owner or operator of a printing press subject to this section and complying by means of use of complying coatings or inks, shall comply with the following:

(i) Initial certification. By **{insert date 1 year from promulgation of final rule}**, or upon initial startup of a new printing press, or upon changing the method of compliance for an existing subject printing press from daily-weighted averaging or control devices to use of complying coatings or inks, the owner or operator of a subject printing press shall certify to the Administrator that the printing press will be in compliance with paragraph (c)(1) or (c)(2) of this section on and after **{insert date 1 year from promulgation of final rule}**, or on and after the initial startup date. Such certification shall include:

(A) The name and location of the facility.

(B) The address and telephone number of the person responsible for the facility.

(C) Identification of subject sources.

(D) The name and identification number of each coating and ink, as applied.

(E) The VOC content of all coatings and inks, as applied.

(ii) Recordkeeping. By **{insert date 1 year after promulgation of final rule}**, or on and after the initial startup date, the owner or operator of a printing press subject to the limitations of this section and complying by means of paragraph (c)(1)(i) or (c)(2)(i) shall collect and record all of the following information each day for each printing press and maintain the information at the facility for a period of 5 years:

(A) The name and identification number of each coating and ink, as applied.

(B) The VOC content of each coating and ink, as applied, expressed in units necessary to determine compliance.

(iii) Reporting.

(A) Any record showing an exceedance of the VOC contents of paragraph (c)(1) or (c)(2) of this section shall be reported by the owner or operator of the subject printing press to the Administrator within 30 calendar days following the exceedance.

(B) At least 30 calendar days before changing the method of compliance with this section from the use of complying coatings to daily-weighted averaging or control devices, the owner or operator shall comply with all requirements of paragraph (g)(3)(i) or (g)(4)(i) of this

section, respectively. Upon changing the method of compliance with this section from the use of complying coatings to daily-weighted averaging or control devices, the owner or operator shall comply with all requirements of paragraph (g)(3) or (g)(4) of this section, respectively.

(3) Requirements for sources using daily-weighted averaging. Any owner or operator of a printing press subject to the limitations of this section and complying by means of daily-weighted averaging shall comply with the following:

(i) Initial certification. By **{insert date 1 year from promulgation of final rule}**, or upon initial startup of a new printing press, or upon changing the method of compliance for an existing subject press from use of complying coating or control devices to daily-weighted averaging, the owner or operator of the subject printing press shall certify to the Administrator that the printing press will be in compliance with paragraph (d) of this section on and after **{insert date 1 year after promulgation of final rule}**, or on and after the initial startup date. Such certification shall include:

(A) The name and location of the facility.

(B) The address and telephone number of the person responsible for the facility.

(C) The name and identification of each printing press that will comply by means of paragraph (d) of this section.

(D) The name and identification number of each coating and ink available for use on each printing press.

(E) The VOC content of each coating and ink, as applied, each day on each printing press, expressed in units necessary to determine compliance.

(F) The instrument or method by which the owner or operator will accurately measure or calculate the volume of each coating and ink, as applied, each day on each printing press.

(G) The method by which the owner or operator will create and maintain records each day as required in paragraph (g)(3)(ii) of this section.

(H) An example of the format in which the records required in paragraph (g)(3)(ii) of this section will be kept.

(ii) Recordkeeping. On and after **{insert date 1 year after promulgation of final rule}**, or on and after the initial startup date, the owner or operator of a printing press subject to the limitations of this section and complying by means of daily-weighted averaging shall collect and record all of the following information each day for each printing press and maintain the information at the facility for a period of 5 years:

(A) The name and identification number of each coating and ink, as applied, on each printing press.

(B) The VOC content and the volume of each coating and ink, as applied, each day on each printing press, expressed in units necessary to determine compliance.

(C) The daily-weighted average VOC content of all coatings and inks, as applied, on each printing press.

(iii) Reporting. On and after **{insert date 1 year after promulgation of final rule}**, the owner or operator of a subject printing press shall notify the Administrator in the following instances:

(A) Any record showing noncompliance with paragraph (d) shall be reported by sending a copy of such record to the Administrator within 30 calendar days following the occurrence.

(B) At least 30 calendar days before changing the method of compliance with this section from daily-weighted averaging to use of complying coatings or control devices, the owner or operator shall comply with all requirements of paragraph (g)(2)(i) or (g)(4)(i) of this section, respectively. Upon changing the method of compliance with this section from daily-weighted averaging to use of complying coatings or control devices, the owner or operator shall comply with all requirements of paragraph (g)(2) or (g)(3) of this section, respectively.

(4) Requirements for sources using control devices.

Any owner or operator of a printing press subject to this section and complying by means of control devices shall comply with § XX.3002(e) of this subpart and the following:

(i) Initial certification. By **{insert date 1 year after promulgation of final rule}**, or upon initial startup of a new printing press, or upon changing the method of compliance for an existing printing press from use of complying coatings or daily-weighted averaging to control devices, the owner or operator of the subject printing press shall perform all tests and submit to the Administrator the results of all tests and calculations necessary to demonstrate that the subject printing press will be in compliance with paragraph (e) of this section, on and after **{insert date 1 year after promulgation of final rule}**, or on and after the initial startup date.

(ii) Recordkeeping. On and after **{insert date 1 year after promulgation of final rule}**, or on and after the initial startup date, the owner or operator of a printing press subject to the limitations of this section and complying by means of control devices shall collect and record all of the following information each day for each printing press and maintain the information at the facility for a period of 5 years:

(A) Control device monitoring data.

(B) A log of operating time for the capture system, control device, monitoring equipment and the associated printing press.

(C) A maintenance log for the capture system, control device, and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages.

(iii) Reporting. On and after **{insert date 1 year after promulgation of final rule}**, the owner or operator of a subject printing press shall notify the Administrator in the following instances:

(A) Any record showing non-compliance with paragraph (e), shall be reported by sending a copy of such record to the Administrator within 30 calendar days following the occurrence.

(B) At least 30 calendar days before changing the method of compliance with this section from control devices to use of complying coatings or daily-weighted averaging, the owner or operator shall comply with all requirements of paragraph (g)(2)(i) or (g)(3)(i) of this section, respectively. Upon changing the method of compliance with this section from control devices to use of complying coatings or daily-weighted averaging, the owner or operator shall comply with all requirements of paragraph (g)(2) or (g)(3) of this section, respectively.

§ XX.3036 Petroleum Solvent Dry Cleaners.

(a) Applicability.

(1) This section applies to petroleum solvent dry cleaning facilities.

(2) Any petroleum solvent dry cleaning facility that consumes less than 123,000 liters (L) (32,500 gallons [gal]) of petroleum solvent per year is subject only to the requirements of paragraph (e)(1) of this section. Any facility that becomes or is currently subject to all of the provisions of this section by exceeding this applicability threshold will remain subject to these provisions even if its consumption of petroleum solvent later falls below the applicability threshold. Any facility that is currently subject to a State or Federal rule promulgated pursuant to the Clean Air Act Amendments of 1977 by exceeding an applicability threshold is and will remain subject to these provisions, even if its throughput or emissions have fallen or later fall below the applicability threshold.

(3) This section does not apply to facilities that use only petroleum-based solvents that contain chlorine.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Filter cartridge" means a replaceable filter unit containing filtration paper and carbon or carbon only.

"Perceptible leaks" means any petroleum solvent vapor or liquid leaks that are conspicuous from visual observation or that bubble after application of a soap solution, such as pools or droplets of liquid, open containers of solvent, or solvent-laden waste standing open to the atmosphere.

"Petroleum solvent cartridge filtration system" means a process in which soil-laden solvent is pumped under pressure from a washer through a sealed vessel containing filter cartridges that remove entrained solids and impurities from the solvent.

"Petroleum solvent dry cleaning facility" means a facility engaged in the cleaning of fabrics, clothing, and other articles in a petroleum solvent by means of one or more washes in the solvent, extraction of excess solvent by spinning, and drying by tumbling in an airstream. Equipment at the facility includes, but is not limited to, any petroleum solvent washer, dryer, solvent filter system, settling tank, vacuum still, and any other container or conveyor of petroleum solvent.

"Settling tank" means a container, and any associated piping and ductwork, that gravimetrically separates oils, grease, and dirt from petroleum solvent.

"Solvent filter" means a discrete solvent filter unit containing a porous medium that traps and removes contaminants from petroleum solvent, together with the piping and ductwork used in installing this device.

"Solvent recovery dryer" means a class of dry cleaning dryers that employs a condenser to condense and recover solvent vapors evaporated in a closed-loop stream of heated air, together with the piping and ductwork used in installing this device.

"Standard dryer" means a device that dries dry-cleaned articles by tumbling in a heated airstream.

"Still" means a device used to volatilize, separate, and recover petroleum solvent from contaminated solvent, together with the piping and ductwork used in installing this device.

"Washer" means a machine which agitates fabric articles in a petroleum solvent bath and spins the articles to remove the solvent, together with the piping and ductwork used in installing this device.

(c) Standards.

(1) Fugitive emissions. The owner or operator of a petroleum solvent dry cleaning facility subject to this section shall ensure that:

(i) There are no perceptible leaks from any portion of the equipment.

(ii) All washer lint traps, button traps, access doors, and other parts of the equipment where solvent may be exposed to the atmosphere are kept closed at all times except when opening is required for proper operation or maintenance.

(2) Leak repair. The owner or operator of a petroleum solvent dry cleaning facility subject to this section shall repair any perceptible leaks in any portion of the dry cleaning equipment within 3 working days after the leak is detected. If necessary repair parts are not on hand, the owner or operator shall order these parts within 3 working days and repair the leaks no later than 3 working days after the parts arrive.

(3) Dryers. The owner or operator of a petroleum solvent dry cleaning facility subject to this section shall do one of the following:

(i) Limit the volatile organic compound (VOC) emissions from each standard dryer to 1.6 kilograms (kg) (3.5 pounds [lb]) VOC per 45 kg (100 lb) dry weight of articles dry cleaned.

(ii) Install, maintain, and operate a solvent-recovery dryer such that the dryer remains closed and the recovery phase continues until a final recovered solvent flow rate of no greater than 50 milliliters per minute (ml/min) (0.013 gallons per minute [gal/min]) is attained.

(4) Filtration systems. The owner or operator of a petroleum solvent filtration system subject to this section shall do either paragraph (c)(4)(i) or (c)(4)(ii) of this section:

(i) Reduce the VOC content in filtration waste to 1 kg (2.2 lb) VOC per 100 kg (220 lb) dry weight of articles dry cleaned.

(ii)(A) Install, maintain, and operate a cartridge filtration system according to the manufacturer's instructions.

(B) Drain all filter cartridges in their sealed housings for 8 hours or more before removing them.

(d) Test methods and procedures.

(1) To be in compliance with paragraph (c)(3)(i) of this section, each owner or operator of a petroleum solvent dry cleaning facility subject to this section shall:

(i) Calculate the weight of VOC's vented from the dryer emission control device calculated by using Methods 1, 2, and 25A (40 CFR Part 60, Appendix A) with the following specifications:

(A) Field calibration of the flame ionization analyzer with propane standards.

(B) Laboratory determination of the ratio of the flame ionization analyzer response to a given parts per million (ppm) by volume concentration of propane to the response to the same ppm concentration of the VOC's to be measured.

(C) Determination of the weight of VOC's vented to the atmosphere by:

(1) Multiplying the ratio determined in paragraph (d)(1)(i)(B) of this section by the measured concentration of VOC gas (as propane) as indicated by the flame ionization analyzer response output record.

(2) Converting the ppm by volume value calculated in paragraph (d)(1)(i)(C)(1) of this section into a mass concentration value for the VOC's present.

(3) Multiplying the mass concentration value calculated in paragraph (d)(1)(i)(C)(2) of this section by the exhaust flow rate determined by using Methods 1 and 2.

(ii) Calculate the dry weight of articles dry cleaned.

(iii) Repeat paragraphs (d)(1)(i) and (d)(1)(ii) of this section for normal operating conditions that encompass at least 30 dryer loads, which total not less than 1,800 kg (4,000 lb) dry weight and represent a normal range of variations in fabrics, solvents, load weights, temperatures, flow rates, and process deviations.

(2) To determine initial compliance with paragraph (c)(3)(ii) of this section, the owner or operator of a petroleum solvent dry cleaning facility shall:

(i) Verify that the flow rate of recovered solvent from the solvent-recovery dryer at the end of the recovery phase is no greater than 50 ml/min (0.013 gal/min) by:

(A) Determining the appropriate location for measuring the flow rate of recovered solvent; the suggested point is at the outlet of the solvent-water separator.

(B) Near the end of the recovery cycle, diverting the flow of recovered solvent to a graduated cylinder.

(C) Continuing the cycle until a flow rate of solvent no greater than 50 ml/min (0.013 gal/min) is reached.

(D) Recording the type of articles dry cleaned and the length of the cycle.

(ii) To determine initial compliance with paragraph (c)(3)(ii) of this section, conduct the procedure in paragraph (d)(2)(i) for at least 50 percent of the dryer loads over a period of no less than 2 consecutive weeks.

(3) To be in compliance with paragraph (c)(4) of this section, the owner or operator of a petroleum solvent dry cleaning facility subject to this section shall:

(i) Calculate the weight of volatile organic compounds (VOC's) contained in each of at least five 1-kg (2.2-lb) samples of filtration waste material taken at intervals of at least 1 week, by employing ASTM D322-80 (Standard Test Method for Gasoline Diluent in Used Gasoline Engine Oils by Distillation).

(ii) Calculate the total dry weight of articles dry cleaned during the intervals between removal of filtration waste samples, as well as the total mass of filtration waste produced in the same period.

(iii) Calculate the weight of VOC's contained in filtration waste material per 100 kg (220 lb) dry weight of articles dry cleaned.

(4) Compliance with paragraph (c) of this section requires that each owner or operator of a petroleum solvent dry cleaning facility subject to this section make weekly inspections of washers, dryers, solvent filters, settling tanks, vacuum stills, and all containers and conveyors of petroleum solvent to identify perceptible VOC vapor or liquid leaks.

(e) Recordkeeping requirements.

(1) The owner or operator of a petroleum solvent dry cleaning facility claiming exemption from this section shall maintain records of annual solvent consumption in a readily accessible location for at least 5 years to document whether the applicability threshold in paragraph (a)(2) of this section has been exceeded.

(2) The owner or operator of a petroleum solvent dry cleaning facility subject to this section shall maintain the following records in a readily accessible location for at least 5 years:

(i) Records of the weight of VOC's vented from the dryer emission control device calculated according to paragraph (d)(1)(i) of this section.

(ii) Records of the dry weight of articles dry cleaned for use in the calculations required in paragraphs (d)(1), (d)(2), and (d)(3) of this section.

(iii) Records of the weight of VOC's contained in the filtration waste samples required by paragraph (d)(3)(i) of this section.

(iv) Records of the weight of VOC's in filtration waste material per 100 kg (220 lb) dry weight of articles dry cleaned.

(f) Reporting requirements. The owner or operator of any facility containing sources subject to this section shall:

(1) Comply with the initial compliance certification requirements of § XX.3003(a) of this subpart.

(2) Comply with the requirements of § XX.3003(b) of this subpart for excess emissions related to the control devices required to comply with paragraphs (c)(2), (c)(3)(ii), and (c)(4)(ii) of this section.

§ XX.3037 Perchloroethylene Dry Cleaning.

(a) Applicability.

(1) This section applies to any perchloroethylene dry cleaning facility.

(2) Perchloroethylene dry cleaning facilities that are coin-operated are exempt from the provisions of paragraphs (c)(1) and (c)(2) of this section.

(3) Any other facilities that the Administrator determines are demonstrated to experience hardships that justify exclusion are exempt from the provisions of paragraphs (c)(1) and (c)(2) of this section provided that their exemption is approved as part of a State implementation plan (SIP) or Federal implementation plan (FIP) revision.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Dry cleaning facility" means a facility engaged in the cleaning of fabrics in an essentially nonaqueous solvent by means of one or more washes in solvent, extraction of excess solvent by spinning, and drying by tumbling in an airstream. The facility includes, but is not limited to, any washer, dryer, filter and purification system, waste disposal system, holding tank, pump, and attendant piping and valves.

(c) Standards. The owner or operator of a perchloroethylene dry cleaning facility subject to this section shall:

(1) Vent the entire dryer exhaust through a properly functioning carbon adsorption system or equally effective control device.

(2) Emit no more than 100 parts per million volumetric (ppmv) of volatile organic compounds (VOC's) from the dryer control device before dilution.

(3) Maintain the system so as to prevent the leaking of liquid VOC and prevent perceptible vapor losses from gaskets, seals, ducts, and related equipment.

(4) Cook or treat all diatomaceous earth filters so that the residue contains 25 kilograms (kg) (55 pounds [lb]) or less of VOC per 100 kg (220 lb) of wet waste material.

(5) Reduce the VOC's from all solvent stills to 60 kg (132 lb) or less per 100 kg (220 lb) of wet waste material.

(6) Drain all filtration cartridges in the filter housing for at least 24 hours before discarding the cartridges.

(7) Dry or store all drained cartridges so that VOC is not emitted to the atmosphere.

(d) Compliance provisions.

(1) Compliance with paragraphs (c)(1), (c)(6), and (c)(7) of this section shall be determined by means of a visual inspection.

(2) Compliance with paragraph (c)(3) of this section shall be determined by means of a visual inspection of the following components:

- (i) Hose connections, unions, couplings and valves.
- (ii) Machine door gaskets and seatings.
- (iii) Filter head gasket and seating.
- (iv) Pumps.
- (v) Base tanks and storage containers.
- (vi) Water separators.
- (vii) Filter sludge recovery.
- (viii) Distillation unit.
- (ix) Diverter valves.
- (x) Saturated lint from lint basket.
- (xi) Cartridge filters.

(3) Compliance with paragraph (c)(2) of this section shall be determined by one of the following:

(i) A test as described in EPA Guideline Series document, "Measurement of Volatile Organic Compounds," EPA-450/2-78-041.

(ii) Proof of the proper installation, operation, and maintenance of equipment that has been demonstrated to be adequate to meet the emission limit in paragraph (c)(2) of this section.

(4) Compliance with paragraphs (c)(4) and (c)(5) of this section shall be determined by means of the test method in paragraph (e) of this section.

(e) Test Methods. The test method in paragraph (e) of this section shall be used to determine compliance with paragraphs (c)(4) and (c)(5) of this section.

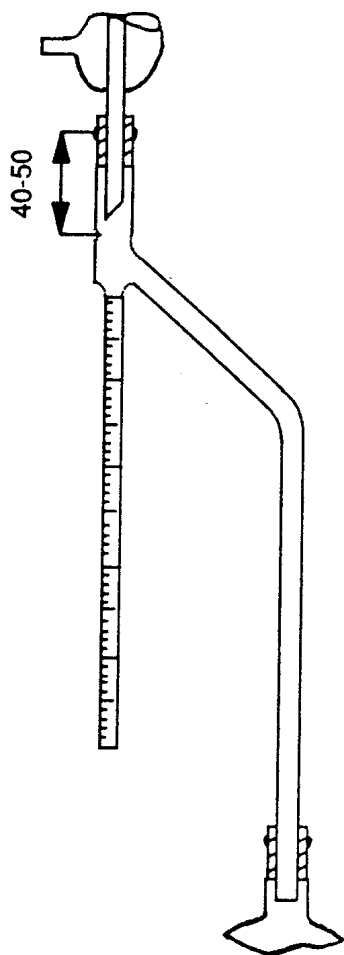
(1) Applicability of the method. This method is applicable to the sampling and determination of perchloroethylene in wet waste material from diatomaceous earth filters and solvent stills at perchloroethylene dry cleaners on a weight percent basis.

(2) Principle. Samples are obtained from waste material at a perchloroethylene dry cleaning facility. A known sample mass is mixed with water and placed in a glass still equipped with a Liebig straight-tube-type reflux condenser and a Bidwell-Sterling-type graduated trap. Water and perchloroethylene in the sample are separated through repeated distillation until all of the perchloroethylene has been recovered in the trap and the volume recorded. The mass of perchloroethylene collected is determined from the product of its volume and specific gravity. The total weight of perchloroethylene obtained is divided by the total weight of sample analyzed to obtain the perchloroethylene content of the wet waste residue.

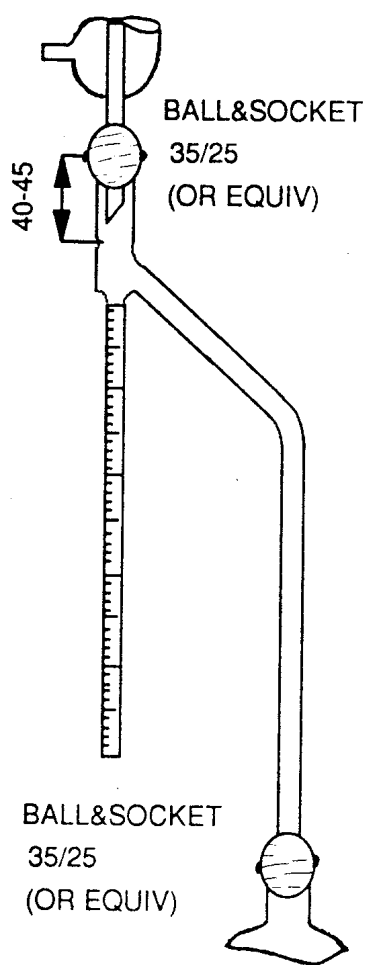
(3) Apparatus. The following apparatus shall be used:

(i) Flask. Round-bottom, short-necked flask having a nominal capacity of 500 milliliters (ml). Figure 1 shows recommended designs of glass connections.

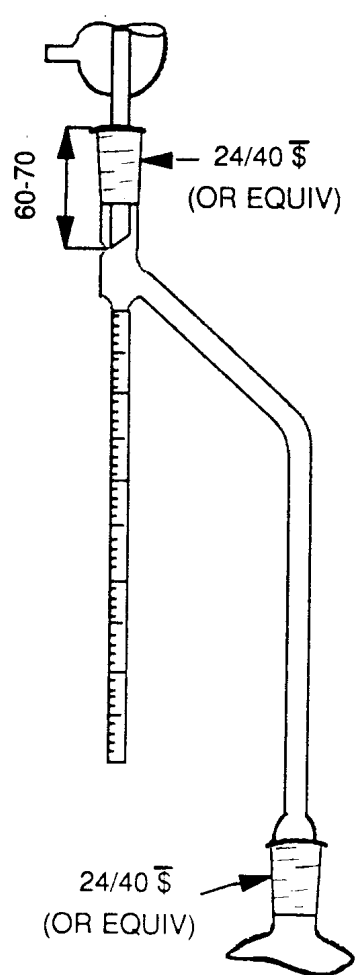
LIEBIG
CONDENSER



LIEBIG
CONDENSER



LIEBIG
CONDENSER



ALL DIMENSIONS ARE IN MILLIMETERS

Figure 1. Alternative Closures for Trap

(ii) Condenser. Liebig straight-tube type, with a jacket not less than 400 millimeters (mm) long and with an inner tube having an outside diameter of 10 to 13 mm.

Figure 1 shows recommended designs of glass connections.

(iii) Trap. Bidwell-Sterling type, graduated from 0 to 5 ml in 0.1-ml divisions. Calibrate at four or more points by first filling the trap with water and then adding a hydrophobic solvent with a specific gravity greater than water from a standard buret having a calibrated capacity at least equal to that of the trap. The error of the indicated volume shall not exceed 0.05 ml. Figure 2 shows details of a suitable trap.

(iv) Heater. Any suitable gas burner or electric heater for the glass flask.

(v) Sample container. Metal can with a leakproof closure, 150 ml.

(4) Sampling procedure.

(i) From distiller (cooker).

(A) After a cycle of perchloroethylene distilling and when the still bottoms have come approximately to room temperature (i.e., 21 to 38°C), obtain three 150-ml samples of the wet waste residue from the distiller (cooker) drain. Completely fill each of the three sample containers to prevent evaporation loss.

(B) Immediately close the sample container lids securely.

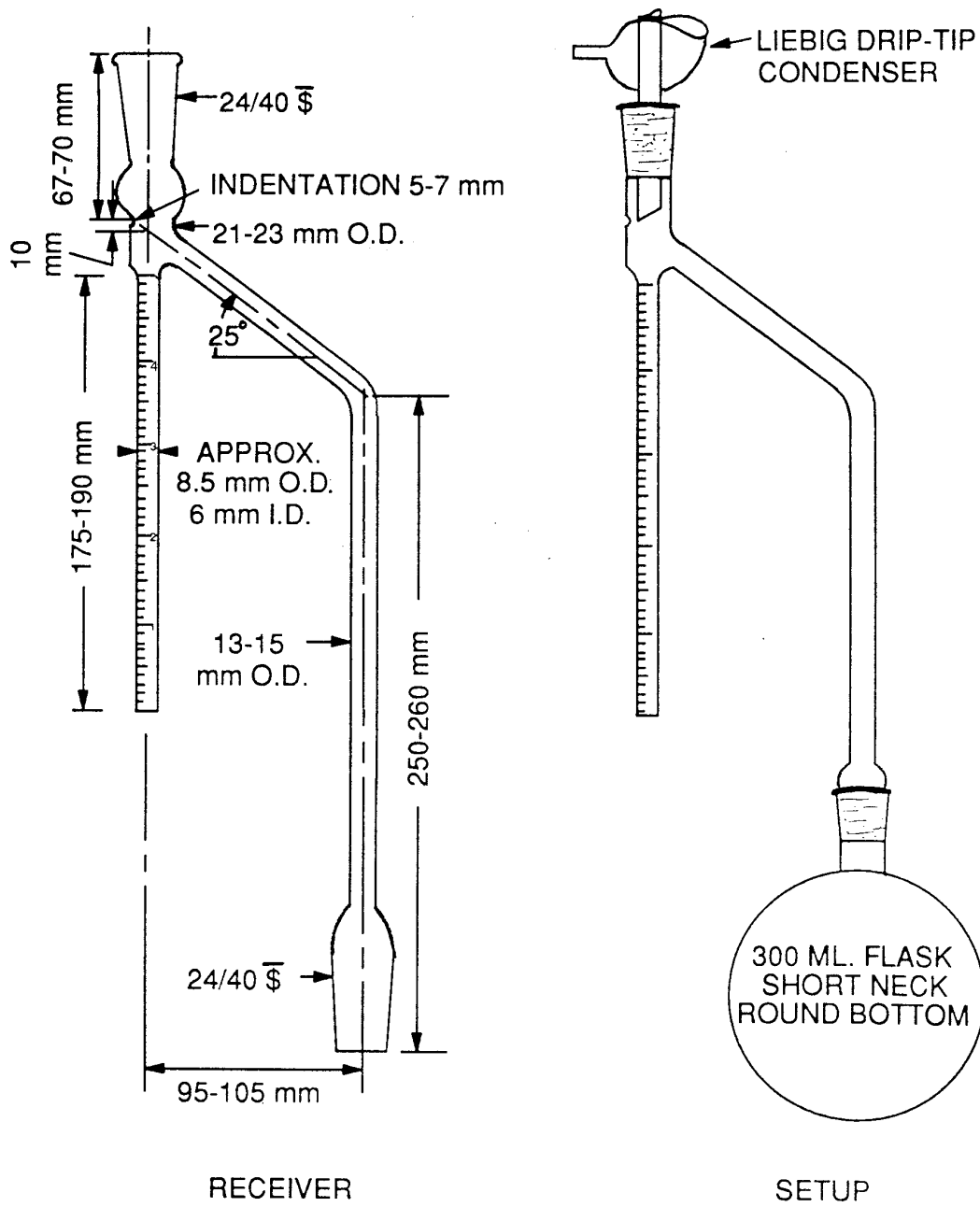


Figure 2 Apparatus for Determining Perchloroethylene Content of Wet Waste Materials

(C) Label the containers using waterproof and oil-proof ink.

(D) Store the samples in a cool, dry atmosphere.

(E) Transfer the samples to the appropriate laboratory for analysis within 48 hours of obtaining the samples. The samples shall remain sealed until the time of analysis.

(ii) From wet waste containers.

(A) Large unmixed containers. Using a clean sampling spoon, spatula, or other appropriate device, obtain three 150-ml samples. Each sample shall be comprised of three 50-ml subsamples, one each from the top, midpoint, and bottom of the wet waste container. Transfer the three subsamples that comprise each of the 150-ml samples to a sample container. Each of the three sample containers should be completely filled to prevent evaporation loss.

(B) Small containers. If the waste container can be thoroughly mixed prior to sampling, mix the container contents thoroughly and obtain three 150-ml samples by pipetting. The pipette should have a capacity of at least 150 ml and should be long enough to reach within 2 cm of the bottom of the wet waste container. Each 150-ml sample should be transferred to a sample container. Each sample container should be completely filled to prevent evaporation loss.

(C) Immediately close the sample container lids securely.

(D) Label the containers using waterproof and oil-proof ink.

(E) Store the samples in a cool, dry atmosphere.

(F) Transfer the samples to the appropriate laboratory for analysis within 48 hours of obtaining the samples. The samples shall remain sealed until the time of analysis.

(5) Analysis procedure.

(i) Conduct duplicate analyses of each sample and record the recovered perchloroethylene from each analysis.

(ii) For each analysis, weigh and record the weight of an empty flask and stopper (W_i) to the nearest 0.1 mg.

(iii) Mix each unopened sample container by shaking.

(iv) Open the sample container and immediately transfer approximately 20 ml of wet waste material to the flask.

(v) Stopper the flask and reseal the sample container.

(vi) Weigh and record the weight of the flask plus added portion, d_i , to the nearest 0.1 g. The mass added to the flask shall not exceed 35 g.

(vii) Add water to the flask to make a total mixture volume of approximately 250 ml.

(viii) Fill the trap with cold water.

(ix) Connect the flask to the distillation trap.

(x) Assemble the apparatus as shown in Figure 1 or 2 so that the tip of the condenser is directly over the indentation in the trap.

(xi) Heat the flask so that refluxing starts within 7 to 10 minutes. Adjust the rate of boiling so that the condensed distillate is discharged from the condenser at a rate of 1 to 3 drops per second.

(xii) From the time refluxing starts, obtain readings of the amount of perchloroethylene collected after 5, 15, and 30 minutes, and each following 15 minutes. End the test when the volume of perchloroethylene is increased by not more than 0.1 ml in a 15-minute period or the amount of perchloroethylene exceeds the trap capacity.

(xiii) At the end of the test run, turn off the heater. Allow the equipment to stand at least 30 minutes to allow the distillate to settle clear and to cool to room temperature.

(xiv) Read the volume of perchloroethylene collected in the trap. If the amount of perchloroethylene exceeded the calibrated capacity of the trap, report the volume of perchloroethylene as 5.0 ml plus.

(6) Calculations.

(i) Calculate the total mass of the portion in the flask:

$$S_i = d_i - W_i$$

where:

S_i = Weight of wet waste portion, g.

W_i = Weight of the empty flask and stopper, g.

d_i = Weight of flask plus wet waste portion, g.

(ii) Calculate the total mass of perchloroethylene (f_i) collected in the trap from each analysis:

$$f_i = V_i \times D$$

where:

f_i = Weight of perchloroethylene in the wet waste portion, g.

V_i = Volume of perchloroethylene collected in the trap, ml.

D = Density of perchloroethylene at 20°C,
1.6227 g/ml.

(iii) Calculate the perchloroethylene content of the wet waste (R) using the following equation:

$$R = \frac{\sum_{i=1}^n f_i}{\sum_{i=1}^n S_i} \times 100$$

where:

R = The perchloroethylene content of the wet waste, expressed in kg per 100 kg (lb per 200 lb) wet waste material.

f_i = Weight of perchloroethylene in the wet waste portion, g.

S_i = Weight of wet waste portion, g.

n = The total number of analyses.

(7) Precision and Accuracy.

(i) Accuracy. Concentrations of audit samples obtained by the analyst shall agree within 10 percent of the actual concentrations. If the 10-percent specification is not met, reanalyze the compliance samples and audit samples, and include initial and reanalysis values in the test report.

(ii) Precision. Duplicate results produced by the same analyst should be considered suspect if they differ by more than 5 percent.

(f) Recordkeeping. Each owner or operator of a perchloroethylene dry cleaning facility subject to this section shall maintain the following records in a readily accessible location for at least 5 years and shall make these records available to the Administrator upon verbal or written request:

(1) A record of control equipment maintenance, such as replacement of the carbon in a carbon adsorption unit.

(2) A record of the results of visual leak inspections conducted in accordance with paragraph (d) of this section.

(3) The results of all tests conducted in accordance with the requirements described in paragraphs (d)(3) and (d)(4) of this section.

(g) Reporting requirements. The owner or operator of any facility containing sources subject to this section shall:

(1) Comply with the initial compliance certification requirements of § XX.3003(a) of this subpart.

(2) Comply with the requirements of § XX.3003(b) of this subpart for excess emissions related to the control devices required to comply with paragraph (c) of this section.

§ XX.3038 Leaks from Synthetic Organic Chemical, Polymer, and Resin Manufacturing Equipment.

(a) Applicability.

(1)(i) This section applies to all equipment in volatile organic compound (VOC) service in any process unit at a synthetic organic chemical, polymer, and resin manufacturing facility.

(ii) A piece of equipment is not in VOC service if the VOC content of the process fluid can never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:

(A) Procedures that conform to the general methods in ASTM E260, E168, and E169 shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment.

(B) Organic compounds that are considered by the Administrator to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid.

(C) Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in VOC service. If the Administrator disagrees with the judgment, paragraphs (i)(2)(i), (i)(2)(ii), and (i)(2)(iii) of this section shall be used to resolve the disagreement.

(2) This section does not apply to any synthetic organic chemical, polymer, or resin manufacturing facility whose annual design production capacity is less than 1,000 megagrams (Mg) (1,100 tons) of product.

(3) The requirements of paragraph (d) of this section do not apply to:

(i) Any equipment in vacuum service.

(ii) Any pressure-relief valve that is connected to an operating flare header or vapor recovery device.

(iii) Any liquid pump that has a dual mechanical pump seal with a barrier fluid system.

(iv) Any compressor with a degassing vent that is routed to an operating VOC control device.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"[In] gas/vapor service" means that the piece of equipment in VOC service contains process fluid that is in the gaseous state at operating conditions.

"[In] heavy liquid service" means that the piece of equipment in VOC service is not in gas/vapor service or not in light liquid service.

"[In] light liquid service" means that the piece of equipment in VOC service contacts a fluid that contains greater than 10 percent by weight light liquid and meets the following conditions: (1) the vapor pressure of one or more

of the components is greater than 0.3 kiloPascal (kPa) (0.044 inch of mercury [in. Hg]) at 20°C (68°F) (standard reference tests or ASTM D-2879 shall be used to determine the vapor pressures); and (2) the fluid is a liquid at operating conditions.

"Process unit" means components assembled to produce, as intermediate or final products, one or more of the chemicals listed in 40 CFR 60.489. A process unit can operate independently if supplied with sufficient feed or raw materials and sufficient storage facilities for the product.

"[In] vacuum service" means that the equipment in VOC service is operating at an internal pressure that is at least 5 kPa (0.73 in. Hg) below ambient pressure.

"[In] VOC service" means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight. The provisions of paragraph (a)(1)(ii) of this section specify how to determine that a piece of equipment is not in VOC service.

(c) Standards: General. The owner or operator of a synthetic organic chemical, polymer, or resin manufacturing facility subject to this section shall ensure that:

(1) Any open-ended line or valve is sealed with a second valve, blind flange, cap, or plug except during operations requiring process fluid flow through the open-ended line or valve.

(2) When a second valve is used, each open-ended line or valve equipped with a second valve is operated in such a manner that the valve on the process fluid end is closed before the second valve is closed.

(3) When a double block-and-bleed system is used, the bleed valve or line is open only during operations that require venting of the line between the block valves and is closed at all other times.

(d) Standards: Equipment inspection program. The owner or operator of a synthetic organic chemical, polymer, or resin manufacturing facility shall conduct the equipment inspection program described in paragraphs (d)(1) through (d)(3) of this section using the test methods specified in § XX.3085 of this subpart.

(1) The owner or operator of a synthetic organic chemical, polymer, or resin manufacturing facility shall conduct quarterly monitoring of each:

(i) Compressor.

(ii) Pump in light liquid service.

(iii) Valve in light liquid service, except as provided in paragraphs (e) and (f) of this section.

(iv) Valve in gas/vapor service, except as provided in paragraphs (e) and (f) of this section.

(v) Pressure relief valve in gas/vapor service, except as provided in paragraphs (e) and (f) of this section.

(2) The owner or operator of a synthetic organic chemical or resin manufacturing facility shall conduct a weekly visual inspection of each pump in light liquid service.

(3) The owner or operator of a synthetic organic chemical, polymer, or resin manufacturing facility shall monitor each pressure relief valve after each overpressure relief to ensure that the valve has properly reseated and is not leaking.

(4)(i) When an instrument reading of 10,000 parts per million (ppm) or greater is measured, it shall be determined that a leak has been detected.

(ii) If there are indications of liquid dripping from the equipment, it shall be determined that a leak has been detected.

(5) When a leak is detected, the owner or operator shall affix a weatherproof, readily visible tag in a bright color such as red or yellow bearing the equipment identification number and the date on which the leak was detected. This tag shall remain in place until the leaking equipment is repaired. The requirements of this paragraph apply to any leak detected by the equipment inspection program and to any leak from any equipment that is detected on the basis of sight, sound, or smell.

(e) Standards: Alternative standards for valves--
skip period leak detection and repair.

(1) An owner or operator shall comply with the requirements for valves in gas/vapor service and valves in light liquid service as described in paragraph (d) of this section except as provided in paragraph (e)(2) of this section.

(2)(i) If the percent of valves leaking is equal or less than 2.0 for two consecutive quarters, an owner or operator may skip alternate quarterly leak detection periods for the valves in gas/vapor and light liquid service.

(ii) If the percent of valves leaking is equal to or less than 2.0 for five consecutive quarters, an owner or operator may skip three of the quarterly leak detection periods per year for the valves in gas/vapor and light liquid service, provided that each valve shall be monitored once each year.

(iii) If at any time the percent of valves leaking is greater than 2.0, the owner or operator shall resume compliance with the requirements in paragraph (d) of this section but may again elect to comply with the alternative standards in paragraph (e) of this section.

(iv) The percent of valves leaking shall be determined by dividing the sum of valves found leaking during current monitoring and previously leaking valves for

which repair has been delayed by the total number of valves subject to the requirements of this section.

(v) An owner or operator shall keep a record of the percent of valves found leaking during each leak detection period.

(f) Standards: Alternative standards for unsafe-to-monitor valves and difficult-to-monitor valves.

(1) Any valve is exempt from the requirements of paragraph (d) as an unsafe-to-monitor valve if:

(i) The owner or operator of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (d).

(ii) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(2) Any valve is exempt from the requirements of paragraph (d) as a difficult-to-monitor valve if:

(i) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters (m) (6.6 feet [ft]) above a support surface.

(ii) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

(3) The alternative standards of paragraph (e) are not available to valves subject to the requirements of paragraph (f) of this section.

(g) Standards: Equipment repair program. The owner or operator of a synthetic organic chemical, polymer, or resin manufacturing facility refinery shall:

(1) Make a first attempt at repair for any leak not later than 5 calendar days after the leak is detected.

(2) Repair any leak as soon as practicable, but not later than 15 calendar days after it is detected except as provided in paragraph (h) of this section.

(h) Standards: Delay of repair.

(1) Delay of repair of equipment for which a leak has been detected is allowed if repair is technically infeasible without a process unit shutdown. Repair of such equipment shall occur before the end of the first process unit shutdown after the leak is detected.

(2) Delay of repair of equipment is also allowed for equipment that is isolated from the process and that does not remain in VOC service after the leak is detected.

(3) Delay of repair beyond a process unit shutdown is allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, and if valve assembly supplies have been depleted, where valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the first process

unit shutdown is not allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

(i) Test methods and procedures.

(1) In conducting the monitoring required to comply with paragraph (d) of this section, the owner or operator shall use the test methods specified in § XX.3085 of this subpart.

(2) The owner or operator shall demonstrate that a piece of equipment is in light liquid service by showing that all of the following conditions apply:

(i) The vapor pressure of one or more of the components is greater than 0.3 kPa (0.044 in. Hg) at 20°C (68°F) standard reference texts or ASTM D2879 shall be used to determine the vapor pressures.

(ii) The total concentration of the pure components having a vapor pressure greater than 0.3 kPa (0.044 in. Hg) at 20°C (68°F) is equal to or greater than 20 percent by weight.

(iii) The fluid is a liquid at operating conditions.

(3) Samples used in conjunction with paragraphs (i)(2) and (i)(3) of this section shall be representative of the process fluid that is contained in or contacts the equipment.

(j) Recordkeeping requirements.

(1) Each owner or operator subject to the provisions of this section shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one facility subject to the provisions of this section may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.

(3) When each leak is detected as specified in paragraph (d) of this section, the following information shall be recorded in a log and shall be kept for 5 years in a readily accessible location:

(i) The instrument and operator identification numbers and the equipment identification number.

(ii) The date the leak was detected and the dates of each attempt to repair the leak.

(iii) The repair methods employed in each attempt to repair the leak.

(iv) The notation "Above 10,000" if the maximum instrument reading measured by the methods specified in § XX.3085 of this subpart after each repair attempt is equal to or greater than 10,000 ppm.

(v) The notation "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after the leak is discovered.

(vi) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a process shutdown.

(vii) The expected date of successful repair of the leak if a leak is not repaired within 15 days.

(viii) The dates of process unit shutdowns that occur while the equipment is unrepaired.

(ix) The date of successful repair of the leak.

(4) A list of identification numbers of equipment in vacuum service shall be recorded in a log that is kept in a readily accessible location.

(5) The following information for valves complying with paragraph (e) of this section shall be recorded in a log that is kept for 5 years in a readily accessible location:

(i) A schedule of monitoring.

(ii) The percent of valves found leaking during each monitoring period.

(6) The following information pertaining to all valves subject to the requirements of paragraph (f) of this section shall be recorded in a log that is kept for 5 years in a readily accessible location:

(i) A list of identification numbers for valves that are designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve.

(ii) A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the schedule for monitoring each valve.

(7) The following information shall be recorded in a log that is kept for 5 years in a readily accessible location for use in determining exemptions as provided in paragraph (a) of this section:

(i) An analysis demonstrating the design capacity of the affected facility.

(ii) Information and data used to demonstrate that a piece of equipment is not in VOC service.

(k) Reporting. The owner or operator of any facility containing sources subject to this section shall comply with the requirements in § XX.3003(a) and (b) of this subpart.

§ XX.3039 Manufacture of High-Density Polyethylene, Polypropylene, and Polystyrene Resins.

(a) Applicability.

(1) This section applies to the following process sections at facilities engaged in manufacturing high-density polyethylene, polypropylene, and polystyrene:

(i) For manufacturing high-density polyethylene using a liquid-phase slurry process: each material recovery section and each product finishing section.

(ii) For manufacturing polypropylene using a liquid-phase process: each polymerization reaction section, each material recovery section, and each product finishing section.

(iii) For manufacturing polystyrene using a continuous process: each material recovery section.

(2) Facilities having all process sections with uncontrolled emission rates at or below those identified in paragraphs (a)(2)(i) through (vi) of this section are exempt from the requirements of this section except that owners or operators seeking to comply with this section by complying with the uncontrolled emission rates in paragraphs (a)(2)(i) through (vi) are still required to comply with the initial certification requirements at § XX.3003(a) of this subpart.

	Production Process	Process Section	Uncontrolled emission rate, megagram of product per year (Mg/yr)
(i)	High-density polyethylene, liquid-phase slurry process	material recovery section	7
(ii)	High-density polyethylene, liquid-phase slurry process	product finishing section	19
(iii)	Polypropylene, liquid-phase process	polymerization reaction section	7
(iv)	Polypropylene, liquid-phase process	material recovery section	8
(v)	Polypropylene, liquid-phase process	product finishing section	36
(vi)	Polystyrene, continuous process	material recovery section	7

(3) Any facility that becomes or is currently subject to the provisions of this section by exceeding the applicability thresholds in paragraph (a)(2) of this section will remain subject to these provisions even if its emissions later fall below the thresholds.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Continuous process" means a polymerization process in which reactants are introduced continuously and products are removed either continuously or intermittently at regular intervals so that the process can be operated and polymers produced essentially continuously.

"Flame zone" means that portion of the combustion chamber in a boiler occupied by the flame envelope.

"High-density polyethylene" means a linear, thermoplastic polymer comprised of at least 50 percent ethylene by weight and having a density greater than 0.94 grams per cubic centimeter (g/cm^3) (59 pounds per cubic foot [lb/ft^3]).

"Liquid-phase process" means a polymerization process in which the polymerization reaction is carried out in the liquid phase; i.e., the monomer(s) and any catalyst are dissolved or suspended in a liquid solvent.

"Liquid-phase slurry process" means a liquid-phase polymerization process in which the monomer(s) are in solution (completely dissolved) in a liquid solvent, but the polymer is in the form of solid particles suspended in the liquid reaction mixture during the polymerization reaction, sometimes called a particle-form process.

"Polypropylene" means a polymer comprised of at least 50 percent propylene by weight.

"Polystyrene" means a thermoplastic polymer comprised of at least 80 percent styrene or para-methylstyrene by weight.

"Process line" means a group of equipment assembled that can operate independently if supplied with sufficient raw materials to produce polypropylene, high-density polyethylene, or polystyrene. A process line consists of

the equipment in the following process sections (to the extent that these process sections are present at a plant): raw materials preparation, polymerization reaction, product finishing, product storage, and material recovery.

"Process section" means the equipment designed to accomplish a general but well-defined task in polymer production. Process sections include raw materials preparation, polymerization reaction, material recovery, product finishing, and product storage and may be dedicated to a single process line or common to more than one process line.

"Product finishing section" means the equipment that treats, shapes, or modifies the polymer or resin to produce the finished end product of the particular facility. Product finishing equipment may extrude and pelletize, cool and dry, blend, introduce additives, cure, or anneal. Product finishing does not include polymerization or shaping such as fiber spinning, molding, or fabricating or modification such as fiber stretching and crimping.

(c) Standards: High-density polyethylene and polypropylene.

(1) The owner or operator of a high-density polyethylene or polypropylene process line containing a process section subject to this section shall comply with one of the following:

(i) Reduce emissions of total volatile organic compounds (VOC's) by 98 weight percent, determined according to the procedure specified in paragraph (e)(1) of this section, or to a VOC concentration of 20 parts per million volumetric (ppmv), as determined by the procedure specified in paragraph (e)(2) of this section, on a dry basis, whichever is less stringent. Total VOC is expressed as the sum of the actual compounds, not carbon equivalents. If an owner or operator elects to comply with the 20 ppmv concentration standard, the concentration shall include a correction to 3 percent oxygen only when supplemental combustion air is used to combust the vent stream. The procedure in paragraph (e)(3) shall be used to correct the concentration to 3 percent oxygen.

(ii) Combust the emissions in a boiler or process heater with a design heat input capacity of 150 million British thermal units per hour (Btu/hr) or greater by introducing the vent stream into the flame zone of the boiler or process heater.

(iii) Combust the emissions in a flare as follows:

(A) Flares shall be designed for and operated with no visible emissions as determined by the method specified in paragraph (e)(4)(i) of this section, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(B) Flares shall be operated with a flame present at all times, as determined by the method specified in paragraph (e)(4)(ii) of this section.

(C) Flares used to comply with provisions of this section shall be steam-assisted, air-assisted, or nonassisted.

(D) Flares shall be used only with the net heating value of the gas being combusted being 11.2 megajoules per standard cubic meter (MJ/scm) (300 Btu per standard cubic foot [Btu/scf]) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the method specified in paragraph (e)(5)(vii) of this section.

(E)(1) Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity, as determined by the method specified in paragraph (e)(5)(iv) of this section, less than 18.3 meters per second (m/s) (60 feet per second [ft/s]), except as provided in paragraphs (c)(1)(iii)(E)(2) and (3) of this section.

(2) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(5)(iv) of this section equal to or greater than 18.3 m/s (60 ft/s) but less than 122 m/s (400 ft/s) are allowed if the net heating value of

the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(3) Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(5)(iv) of this section, less than the velocity, V_{\max} , as determined by the method specified in paragraph (e)(5)(v) of this section and less than 122 m/s (400 ft/s) are allowed.

(F) Air-assisted flares shall be designed and operated with an exit velocity less than the velocity, V_{\max} , as determined by the method specified in paragraph (e)(5)(vi) of this section.

(d) Standards: Polystyrene. The owner or operator of a polystyrene process line containing process sections subject to this section shall comply with one of the following:

(1) Not allow continuous VOC emissions from the material recovery section to be greater than 0.12 kilogram (kg) VOC per 1,000 kg of product (0.12 lb VOC per 1,000 lb of product).

(2) Not allow the outlet gas stream from each final condenser in the material recovery section to exceed -25°C (-13°F).

(e) Test methods and procedures.

(1) The owner or operator shall determine compliance with the percent emission reduction standard in paragraph (c)(1)(i) of this section as follows:

(i) The emission reduction of total VOC shall be determined using the following equation:

$$P = \frac{E_{inlet} - E_{outlet}}{E_{inlet}} \times 100$$

where:

P = Percent emission reduction, by weight.

E_{inlet} = Mass rate of total VOC entering the control device, kg VOC/hr.

E_{outlet} = Mass rate of total VOC discharged to the atmosphere, kg VOC/hr.

(ii) The mass rates of total VOC (E_i , E_o) shall be computed using the following equations:

$$E_i = K_1 \left(\sum_{j=1}^n C_{ij} M_{ij} \right) Q_i$$

$$E_o = K_1 \left(\sum_{j=1}^n C_{o j} M_{o j} \right) Q_o$$

where:

C_{ij}, C_{oj} = Concentration of sample component "j" of the gas stream at the inlet and outlet of the control device, respectively, dry basis, ppmv.

M_{ij}, M_{oj} = Molecular weight of sample component "j" of the gas stream at the inlet and outlet of the control device respectively, g/gmole (lb/lb-mole).

Q_i, Q_o = Flow rate of the gas stream at the inlet and outlet of the control device, respectively, dscm/hr (dscf/hr).

$K_1 = 4.157 \times 10^{-8} [(kg)/(g-mole)] / [(g)(ppm)(dscm)] \{ 5.711 \times 10^{-15} [(lb)/(lb-mole)] / [(lb)(ppm)(dscf)] \}$.

(iii) Method 18 shall be used to determine the concentration of each individual organic component (C_{ij}, C_{oj}) in the gas stream. Method 1 or 1A, as appropriate, shall be used to determine the inlet and outlet sampling sites. The inlet site shall be before the inlet of the control device and after all product recovery units.

(iv) Method 2, 2A, 2C, or 2D, as appropriate, shall be used to determine the volumetric flow rates (Q_i, Q_o). If

necessary, Method 4 shall be used to determine the moisture content. Both determinations shall be compatible with the Method 18 determinations.

(v) Inlet and outlet samples shall be taken simultaneously. The sampling time for each run shall be 1 hour in which either an integrated sample or four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at 15-minute intervals.

(2) The owner or operator shall determine compliance with the emission concentration standard in paragraph (c)(1)(i) of this section as follows:

(i) The total VOC concentration is the sum of the individual components and shall be computed for each run using the following equation:

$$C_{VOC} = \sum_{j=1}^n C_j$$

where:

C_{VOC} = Concentration of total VOC, dry basis, ppmv.

C_j = Concentration of sample component j, ppm.

n = Number of components in the sample.

(ii) Method 18 shall be used to determine the concentration of each individual inorganic component (C_j) in the gas stream. Method 1 or 1A as appropriate, shall be used to determine the sampling site at the outlet of the

control device. Method 4 shall be used to determine the moisture content, if necessary.

(iii) The sampling time for each run shall be 1 hour in which either an integrated sample or four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at 15-minute intervals.

(3)(i) If supplemental combustion air is used, the total VOC concentration shall be corrected to 3 percent oxygen and shall be computed using the following equation:

$$C_{CORR} = C_{MEAS} \left(\frac{17.9}{20.9 - \%O_{2d}} \right)$$

where:

C_{CORR} = Concentration of total VOC corrected to 3 percent oxygen, dry basis, ppmv.

C_{MEAS} = Concentration of total VOC, dry basis, ppmv, as calculated in paragraph (e)(2)(i) above.

$\%O_{2d}$ = Concentration of O_2 , dry basis, percent by volume.

(ii) The emission rate correction factor, integrated sampling and analysis procedure of Method 3 shall be used to determine the oxygen concentration ($\%O_{2d}$). The sampling site shall be the same as that of the total VOC sample and the samples shall be taken during the same time that the total VOC samples are taken.

(4) When a flare is used to comply with paragraph (c)(1)(iii) of this section:

(i) Method 22 shall be used to determine the compliance of flares with the visible emission requirement in paragraph (c)(1)(iii)(A) of this section. The observation period is 2 hours and shall be used according to Method 22.

(ii) The presence of a flare pilot flame shall be monitored using a thermocouple or other equivalent monitoring device to detect the presence of a flame.

(5) The test methods in 40 CFR Part 60, Appendix A, shall be used as reference methods for determining the VOC emission rate in terms of kg emission per megagram (Mg) of product, exit velocities, or net heating value of the gas combusted to determine compliance under paragraphs (c) and (d) of this section as follows:

(i) Method 1 or 1A, as appropriate, for selecting the sampling site. The sampling site for the molar composition and vent stream flow rate determination prescribed in paragraphs (e)(5)(ii) and (e)(5)(iii) of this section shall be prior to the inlet of any combustion device and prior to any dilution of the stream with air.

(ii) The composition of the process vent stream shall be determined as follows:

(A) Method 18 and ASTM D2504-67 (reapproved 1977) to measure the concentration of VOC and the concentration of

all other compounds present except water vapor and carbon monoxide.

(B) Method 4 to measure the content of water vapor.

(iii) The volumetric flow rate shall be determined using Method 2, 2A, 2C, or 2D, as appropriate.

(iv) The actual exit velocity of a flare shall be determined by dividing the volumetric flow rate (in units of standard temperature and pressure), as determined by Method 2, 2A, 2C, or 2D as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(v) The maximum permitted velocity, V_{\max} , for flares complying with paragraph (c)(1)(iii)(E)(1) of this section shall be determined using the following equation:

$$\text{Log}_{10} (V_{\max}) = \frac{H_T + 28.8}{31.7}$$

where:

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

28.8 = Constant.

31.7 = Constant.

H_T = The net heating value as determined in paragraph (e)(5)(vii) of this section.

(vi) The V_{\max} for air-assisted flares shall be determined by the following equation:

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

where:

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

8.706 = Constant.

0.7084 = Constant.

H_T = The net heating value as determined in paragraph (e)(5)(vii) of this section.

(vii) The net heating value of the process vent stream being combusted in a flare shall be calculated using the following equation:

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

where:

H_T = Net heating value of the sample, MJ/scm, where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 millimeters of Mercury (mm Hg) (77°F and 29.92 inches of Mercury [in. Hg]), but the standard temperature for determining the volume corresponding to one mole is 20°C (68°F).

K = Constant:

$$K = 1.740 \times 10^{-7} \frac{(1)}{\text{ppm}} \frac{(g \text{ mole})}{\text{scm}} \frac{(MJ)}{\text{kcal}}$$

where standard temperature for $\frac{(g \text{ mole})}{scm}$ is 20°C.

C_i = Concentration of sample components i in ppm on a wet basis, as measured for organics by Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-82.

H_i = Net heat of combustion of sample component i , kcal/g-mole at 25°C (77°F) and 760 mm Hg (29.92 in. Hg). The heats of combustion of process vent stream components may be determined using ASTM D2382-76 (reapproved 1977) if published values are not available or cannot be calculated.

(viii) The emission rate of VOC in the process vent stream shall be calculated using the following equation:

$$E_{VOC} = K \left(\sum_{i=1}^n C_i M_i \right) Q_s$$

where:

E_{VOC} = Emission rate of total organic compounds in the sample, kilogram per hour (kg/hr).

K = Constant, 2.494×10^{-6} (1/ppm)(g-mole/scm)(kg/g)(min/hr), where standard temperature for (g-mole/scm) is 20°C (68°F).

C_i = Concentration of sample component i , ppm.

M_i = Molecular weight of sample component i , g/g-mole.

Q_s = Vent stream flow rate (scm/min), at a standard temperature of 20°C (68°F).

(ix) The rate of polymer produced, P_p (kg/hr), shall be determined by dividing the weight of polymer pulled in kg from the process line during the performance test by the number of hours (hr) taken to perform the performance test. The polymer pulled, in kg, shall be determined by direct measurement or, subject to prior approval by the Administrator and acceptance as part of a State implementation plan (SIP) or Federal implementation plan (FIP) revision, computed from materials balance by good engineering practice.

(x) The emission rate of VOC in terms of kilograms of emissions per megagram of production shall be calculated using the following equation:

$$ER_{voc} = \frac{VOC}{P_p \times \frac{1Mg}{1,000kg}}$$

where:

ER_{VOC} = Emission rate of VOC, kg VOC/Mg product.

E_{VOC} = Emission rate of VOC in the sample, kg/hr.

P_p = The rate of polymer produced, kg/hr.

(f) Recordkeeping. The owner or operator of a facility subject to this subpart shall maintain the following records in a readily accessible location for at

least 5 years and shall make these records available to the Administrator upon verbal or written request:

(1) For facilities complying with the standards listed in paragraph (c)(1)(i), parameters listed in paragraphs (e)(1), (e)(2), and, where applicable, (e)(5).

(2) For facilities complying with the standards listed in paragraph (c)(1)(ii), parameters listed in paragraphs (e)(3), and, where applicable, (e)(5).

(3) For facilities complying with the standards listed in paragraph (c)(1)(iii), parameters listed in paragraphs (e)(4), and, where applicable, (e)(5).

(4) For facilities complying with the standards listed in paragraph (d), parameters listed in paragraph (e)(5) where applicable.

(5) For all facilities containing sources subject to this subpart, the following records shall be kept:

(i) The time, date, and duration of any excess emissions.

(ii) The subject source of any excess emissions.

(iii) The cause of any excess emissions.

(iv) The estimated rate of emissions (expressed in the units of the applicable emission limitation) and the operating data and calculations used in determining the magnitude of any excess emissions.

(v) Any corrective actions and schedules utilized to correct the conditions causing any excess emissions.

(g) Reporting requirements. The owner or operator of any facility containing sources subject to this section shall:

(1) Comply with the initial compliance certification requirements of § XX.3003(a) of this subpart.

(2) Comply with the requirements of § XX.3003(b) of this subpart for excess emissions related to the control devices required to comply with paragraphs (c)(1)(ii), (c)(1)(iii), or (d)(2) of this section.

§ XX.3040 Air Oxidation Processes in the Synthetic Organic Chemical Manufacturing Industry.

(a) Applicability.

(1) This section applies to the following air oxidation facilities in the synthetic organic chemical manufacturing industry:

(i) Each air oxidation reactor not discharging its vent stream into a recovery system.

(ii) Each combination of an air oxidation reactor and the recovery system into which its vent stream is discharged.

(iii) Each combination of two or more air oxidation reactors and the common recovery system into which their vent streams are discharged.

(2) Any air oxidation reactor vent stream that has a total resource effectiveness (TRE) index value greater than 1.0 is exempt from all provisions of this section except the requirements in paragraphs (c), (e)(2), and (f)(10) of this section.

(b) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Air oxidation facility" means a product recovery system and all associated air oxidation process reactors discharging directly into that system or any such reactors discharging directly into the atmosphere.

"Air oxidation process" means a reactor in which air is used as an oxidizing agent to produce an organic chemical.

"Air oxidation reactor" means any device or process vessel in which one or more organic reactants are combined with air or a combination of air and oxygen to produce one or more organic compounds. Ammoxidation and oxychlorination are included in this definition.

"Air oxidation reactor recovery train" means an individual recovery system receiving the vent stream from at least one air oxidation reactor, along with all air oxidation reactors feeding vent streams into this system.

"Product recovery system" means any equipment used to collect volatile organic compounds (VOC's) for use, reuse, or sale. Such equipment includes, but is not limited to, absorbers, adsorbers, condensers, and devices that recover non-VOC's such as ammonia and HCl.

"Synthetic organic chemical manufacturing industry" means the industry that produces, as intermediates or final products, one or more of the chemicals listed at 40 CFR 60.489.

"Total resource effectiveness index value," or TRE index value, means a measure of the supplemental total resource requirement per unit of VOC emission reduction associated with an individual air oxidation vent stream, based on vent stream flow rate, emission rate of VOC, net

heating value, and corrosive properties, as quantified by the equation given under paragraph (e)(1) of this section.

"Vent stream" means any gas stream containing nitrogen that was introduced as air to the air oxidation reactor and released to the atmosphere directly from any air oxidation reactor recovery train or indirectly, after diversion through other process equipment.

(c) Standards. For each vent stream from an air oxidation reactor or combination air oxidation reactor and recovery train subject to this section, the owner or operator shall comply with paragraph (c)(1), (2), or (3) of this section.

(1) Reduce total VOC emissions by 98 weight percent or to 20 parts per million volumetric (ppmv) on a dry basis corrected to 3 percent oxygen, whichever is less stringent. If a boiler or process heater is used to comply with this paragraph, the vent stream shall be introduced into the flame zone of the boiler or process heater.

(2) Combust the emissions in a flare that meets the requirements of 40 CFR 60.18.

(3) Maintain a TRE index value greater than 1.0 without the use of VOC emission control devices.

(d) Monitoring requirements.

(1) The owner or operator of an air oxidation facility that uses an incinerator to seek to comply with the VOC emission limit specified under paragraph (c)(1) of this

section shall install, calibrate, maintain, and operate according to manufacturer's specifications the following equipment:

(i) A temperature monitoring device equipped with a continuous recorder and having an accuracy of ± 1 percent of the temperature being monitored expressed in degrees Celsius or $\pm 0.5^{\circ}\text{C}$, whichever is greater.

(A) Where an incinerator other than a catalytic incinerator is used, a temperature monitoring device shall be installed in the firebox.

(B) Where a catalytic incinerator is used, temperature monitoring devices shall be installed in the gas stream immediately before and after the catalyst bed.

(ii) A flow indicator that provides a record of vent stream flow to the incinerator at least once every hour for each air oxidation facility. The flow indicator shall be installed in the vent stream from each air oxidation facility at a point closest to the inlet of each incinerator and before being joined with any other vent stream.

(2) The owner or operator of an air oxidation facility that uses a flare to seek to comply with paragraph (c)(2) of this section shall install, calibrate, maintain, and operate according to manufacturer's specifications the following equipment:

(i) A heat-sensing device, such as an ultra-violet sensor or thermocouple, at the pilot light to indicate the continuous presence of a flame.

(ii) A flow indicator that provides a record of vent stream flow to the flare at least once every hour for each air oxidation facility. The flow indicator shall be installed in the vent stream from each air oxidation facility at a point closest to the flare and before being joined with any other vent stream.

(3) The owner or operator of an air oxidation facility that uses a boiler or process heater to seek to comply with paragraph (c)(1) of this section shall install, calibrate, maintain, and operate according to the manufacturer's specifications the following equipment:

(i) A flow indicator that provides a record of vent stream flow to the boiler or process heater at least once every hour for each air oxidation facility. The flow indicator shall be installed in the vent stream from each air oxidation reactor within a facility at a point closest to the inlet of each boiler or process heater and before being joined with any other vent stream.

(ii) A temperature monitoring device in the firebox equipped with a continuous recorder and having an accuracy of ± 1 percent of the temperature being measured expressed in degrees Celsius or ± 0.5 °C, whichever is greater, for boilers or process heaters of less than 44 megawatts (MW)

(150 million British thermal units per hour [Btu/hr]) heat input design capacity.

(iii) Monitor and record the periods of operation of the boiler or process heater if the design input capacity of the boiler or process heater is 44 MW (150 million Btu/hr) or greater. The records shall be readily available for inspection.

(4) The owner or operator of an air oxidation facility that seeks to demonstrate compliance with the TRE index value limit specified under paragraph (c)(3) of this section shall install, calibrate, maintain, and operate according to manufacturer's specifications the following equipment:

(i) Where an absorber is the final recovery device in a recovery system:

(A) A scrubbing liquid temperature monitoring device having an accuracy of ± 1 percent of the temperature being monitored, expressed in degrees Celsius or $\pm 0.5^{\circ}\text{C}$, whichever is greater, and a specific gravity monitoring device having an accuracy of ± 0.02 specific gravity unit, each equipped with a continuous recorder.

(B) An organic monitoring device used to indicate the concentration level of organic compounds exiting the recovery device based on a detection principle such as infrared, photoionization, or thermal conductivity, each equipped with a continuous recorder.

(ii) Where a condenser is the final recovery device in a recovery system:

(A) A condenser exit (product side) temperature monitoring device equipped with a continuous recorder and having an accuracy of ± 1 percent of the temperature being monitored expressed in degrees Celsius or $\pm 0.5^{\circ}\text{C}$, whichever is greater.

(B) An organic monitoring device used to indicate the concentration level of organic compounds exiting the recovery device based on a detection principle such as infrared, photoionization, or thermal conductivity, each equipped with a continuous recorder.

(iii) Where a carbon adsorber is the final recovery device in a recovery system:

(A) An integrating steam flow monitoring device having an accuracy of ± 10 percent, and a carbon bed temperature monitoring device having an accuracy of ± 1 percent of the temperature being monitored expressed in degrees Celsius or $\pm 0.5^{\circ}\text{C}$, whichever is greater, both equipped with a continuous recorder.

(B) An organic monitoring device used to indicate the concentration level of organic compounds exiting the recovery device based on a detection principle such as infrared, photoionization, or thermal conductivity, each equipped with a continuous recorder.

(e) Test methods and procedures. The following methods shall be used as reference methods to demonstrate compliance with paragraph (c) of this section:

(1) The following equation shall be used to calculate the TRE index for a given vent stream:

$$TRE = \frac{1}{E} [a+b (FL)^{0.88} + c(FL) + d(FL) (H_T) + e(FL)^{0.88} (H_T)^{0.88} + f(FL)^{0.5}]$$

where:

TRE = The total resource effectiveness index value.

E = The measured hourly emissions in units of kilograms per hour (kg/hr).

FL = The vent stream flow rate in standard cubic meter per minute (scm/min), at a standard temperature of 20°C. For a Category E stream (see Table 1), the factor $f(FL)^{0.5}$ should be replaced with:

$$f \left[(FL) \frac{(H_T)^{0.5}}{3.6} \right]$$

where:

H_T = Vent stream net heating value in units of megajoules per standard cubic meter (MJ/scm), where the net enthalpy per mole of offgas is based on combustion at 25°C (68°F) and 760 millimeters of Mercury (mm Hg), but the standard temperature for determining the volume corresponding to one mole is 20°C, as in the definition of FL.

a, b, c, d, e, and f = Specific coefficients for six different general categories of process vent streams. The set of coefficients that apply to a given air oxidation process vent stream are specified in Table 1.

(2) Each owner or operator of an air oxidation facility seeking to comply with paragraph (a)(2) or (c)(3) of this section shall recalculate the TRE index value for that air oxidation facility whenever process changes are made. Some examples of process changes are changes in production capacity, feedstock type, or catalyst type, or whenever recovery equipment is replaced, removed, or added. The TRE index value shall be recalculated based on test data or on best engineering estimates of the effects of the change to the recovery system.

(3) Method 1 or 1A, as appropriate, for selection of the sampling sites. The control device inlet sampling site for determining vent stream molar composition or VOC reduction efficiency shall be prior to the inlet of the control device and after the recovery system.

(4) Method 2, 2A, 2C, or 2D, as appropriate, for determining the volumetric flow rates.

(5) The emission rate correction factor, integrated sampling, and analysis procedure of Method 3 shall be used to determine the oxygen concentration (%O_{2d}) for determining compliance with the 20 ppmv limit. The sampling site shall

TABLE 1. COEFFICIENTS OF THE TOTAL RESOURCE EFFECTIVENESS (TRE) INDEX EQUATION

A1. FOR CHLORINATED PROCESS VENT STREAMS, IF 0 # NET HEATING VALUE (MJ/scm) # 3.5:						
FL = vent stream flow rate (scm/min)	a	b	c	d	e	f
FL # 13.5	48.73	0	0.404	-0.1632	0	0
13.5 < FL # 700	42.35	0.624	0.404	-0.1632	0	0.0245
700 < FL # 1,400	84.38	0.678	0.404	-0.1632	0	0.0346
1,400 < FL # 2,100	126.41	0.712	0.404	-0.1632	0	0.0424
2,100 < FL # 2,800	168.44	0.747	0.404	-0.1632	0	0.0490
2,800 < FL # 3,500	210.47	0.758	0.404	-0.1632	0	0.0548
A2. FOR CHLORINATED PROCESS VENT STREAMS, IF 3.5 < NET HEATING VALUE (MJ/scm):						
FL = vent stream flow rate (scm/min)	a	b	c	d	e	f
FL # 13.5	47.76	0	-0.292	0	0	0
13.5 < FL # 700	41.58	0.605	-0.292	0	0	0.0245
700 < FL # 1,400	82.84	0.658	-0.292	0	0	0.0346
1,400 < FL # 2,100	123.10	0.691	-0.292	0	0	0.0424
2,100 < FL # 2,800	165.36	0.715	-0.292	0	0	0.0490
2,800 < FL # 3,500	206.62	0.734	-0.292	0	0	0.0548
B. FOR NONCHLORINATED PROCESS VENT STREAMS, IF 0 # NET HEATING VALUE (MJ/scm) # 0.48:						
FL = vent stream flow rate (scm/min)	a	b	c	d	e	f
FL # 13.5	19.05	0	0.113	-0.214	0	0
13.5 < FL # 1,350	16.61	0.239	0.113	-0.214	0	0.0245
1,350 < FL # 2,700	32.91	0.260	0.113	-0.214	0	0.0346
2,700 < FL # 3,500	49.21	0.273	0.113	-0.214	0	0.0424
C. FOR NONCHLORINATED PROCESS VENT STREAMS, IF 0.48 < NET HEATING VALUE (MJ/scm) # 1.9:						
FL = vent stream flow rate (scm/min)	a	b	c	d	e	f
FL # 13.5	19.74	0	0.400	-0.202	0	0
13.5 < FL # 1,350	18.30	0.138	0.400	-0.202	0	0.0245
1,350 < FL # 2,700	36.28	0.150	0.400	-0.202	0	0.0346
2,700 < FL # 4,050	54.26	0.158	0.400	-0.202	0	0.0424
D. FOR NONCHLORINATED PROCESS VENT STREAMS, IF 1.9 < NET HEATING VALUE (MJ/scm) # 3.6:						
FL = vent stream flow rate (scm/min)	a	b	c	d	e	f
FL # 13.5	15.24	0	0.033	0	0	0
13.5 < FL # 1,190	13.63	0.157	0.033	0	0	0.0245
1,190 < FL # 2,380	26.95	0.171	0.033	0	0	0.0346
2,380 < FL # 3,570	40.27	0.179	0.033	0	0	0.0424
E. FOR NONCHLORINATED PROCESS VENT STREAMS, IF 3.6 < NET HEATING VALUE (MJ/scm):						
FL = vent stream flow rate (scm/min)	a	b	c	d	e	f
FL # 13.5	15.24	0	0	0.0090	0	0
13.5 < FL # 1,190	13.63	0	0	0.0090	0.0503	0.0245
1,190 < FL # 2,380	26.95	0	0	0.0090	0.0546	0.0346
2,380 < FL # 3,570	40.27	0	0	0.0090	0.0573	0.0424

be the same as that of the VOC samples, and the samples shall be taken during the same time that the VOC samples are taken. The VOC concentration corrected to 3 percent O₂ (C_c) shall be computed using the following equation:

$$C_c = C_{VOC} \frac{17.9}{20.9 - \%O_{2d}}$$

where:

C_c = Concentration of VOC corrected to 3 percent O₂, dry basis, ppmv.

C_{VOC} = Concentration of VOC, dry basis, ppmv.

%O_{2d} = Concentration of O₂, dry basis, percent by volume.

(6) Method 18 to determine the VOC concentration in the control device outlet and the VOC concentration in the inlet when the reduction efficiency of the control device is to be determined.

(i) The sampling time for each run shall be 1 hour, in which either an integrated sample or four grab samples shall be taken. If grab sampling is used, then the samples shall be taken at 15-minute intervals.

(ii) The emission reduction (R) of VOC shall be determined using the following equation:

$$R = \frac{E_i - E_0}{E_i} \times 100$$

where:

R = Emission reduction, percent by weight.

E_i = Mass rate of VOC entering the control device, kg
VOC/hr.

E_o = Mass rate of VOC discharged to the atmosphere, kg
VOC/hr.

(iii) The mass rates of VOC (E_1 , E_o) shall be computed using the following equations:

$$E_i = K_2 \left(\sum_{j=1}^n C_{ij} M_{ij} \right) Q_i$$

$$E_o = K_2 \left(\sum_{j=1}^n C_{oj} M_{oj} \right) Q_o$$

where:

C_{ij} , C_{oj} = Concentration of sample component "j" of the gas stream at the inlet and outlet of the control device, respectively.

M_{ij} , M_{oj} = Molecular weight of sample component "j" of the gas stream at the inlet and outlet of the control device, respectively, g/g-mole (lb/lb-mole).

Q_i , Q_o = Flow rate of gas stream at the inlet and outlet of the control device, respectively, dscm/min (dscf/hr).

K_2 = Constant, 2.494×10^{-6} (1/ppm) (g-mole/scm)
(kg/g) (min/hr), where standard temperature
for (g-mole/scm) is 20°C.

(iv) The VOC concentration (C_{VOC}) is the sum of the individual components and shall be computed for each run using the following equation:

$$C_{VOC} = \sum_{j=1}^n C_j$$

where:

C_{VOC} = Concentration of VOC, dry basis, ppmv.

C_j = Concentration of sample components in the sample.

n = Number of components in the sample.

(7) When a flare is used to seek to comply with paragraph (c)(2) of this section, the flare shall comply with the requirements of 40 CFR 60.18.

(8) The test methods in Appendix A to 40 CFR Part 60, except as provided under 40 CFR 60.8, shall be used for determining the net heating value of the gas combusted to determine compliance under paragraph (c)(2) of this section and for determining the process vent stream TRE index value to determine compliance under paragraph (c)(3) of this section.

(9)(i) Method 1 or 1A, as appropriate, for selecting the sampling site. The sampling site for the vent stream flow rate and molar composition determination prescribed in

paragraph (e)(10) and (11) of this section shall be, except for the situations outlined in paragraph (e)(9)(ii) of this section, prior to the inlet of any control device, prior to any post-reactor dilution of the stream with air, and prior to any post-reactor introduction of halogenated compounds into the vent stream. No transverse site selection method is needed for vents smaller than 4 inches in diameter.

(ii) If any gas stream other than the air oxidation vent stream is normally conducted through the final recovery device:

(A) The sampling site for vent stream flow rate and molar composition shall be prior to the final recovery device and prior to the point at which the nonair oxidation stream is introduced.

(B) The efficiency of the final recovery device is determined by measuring the VOC concentration using Method 18 at the inlet to the final recovery device after the introduction of any nonair oxidation vent stream and at the outlet of the final recovery device.

(C) This efficiency is applied to the VOC concentration measured prior to the final recovery device and prior to the introduction of the nonair oxidation stream to determine the concentration of VOC in the air oxidation stream from the final recovery device. This concentration of VOC is then used to perform the calculations outlined in paragraphs (e)(12) and (13) of this section.

(10) The molar composition of the process vent stream shall be determined as follows:

(i) Method 18 to measure the concentration of VOC including those containing halogens.

(ii) ASTM D1946-77 to measure the concentration of carbon monoxide and hydrogen.

(iii) Method 4 to measure the content of water vapor.

(11) The volumetric flow rate shall be determined using Method 2, 2A, 2C, or 2D, as appropriate.

(12) The net heating value of the vent stream shall be calculated using the following equation:

$$H_T = K_1 \left(\sum_{j=1}^n C_j H_j \right)$$

where:

H_T = Net heating value of the sample, MJ/scm, where the net enthalpy per mole of offgas is based on combustion at 25°C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20°C, as in the definition of Q_S (offgas flow rate).

K_1 = Constant, 1.740×10^{-7}

$$\frac{(1)}{\text{ppm}} \frac{(\text{g-mole})}{\text{scm}} \frac{(\text{MJ})}{\text{kcal}}$$

where standard temperature for $\frac{(g\text{-mole})}{scm}$

is 20°C.

C_j = Concentration of compound j in ppm, as measured for organics by Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-77 as indicated in paragraph (e)(10) of this section.

H_j = Net heat of combustion of compound j , kilocalories per gram-mole (kcal/g-mole), based on combustion at 25°C and 760 mm Hg. The heats of combustion of vent stream components would be required to be determined using ASTM D2382-76 if published values are not available or cannot be calculated.

(13) The emission rate of VOC's in the process vent stream shall be calculated using the following equation:

$$E_{VOC} = K_2 \left[\sum_{j=1}^n C_j M_j \right] Q_s$$

where:

E_{VOC} = Emission rate of VOC in the sample, kg/hr.

K_2 = Constant, 2.494×10^{-6} (1/ppm) (g-mole/scm) (kg/g) (min/hr), where standard temperature for (g-mole/scm) is 20°C.

C_j = Concentration on a dry basis of compound j in ppm as measured by Method 18 as indicated in paragraph (e)(10) of this section.

M_j = Molecular weight of sample j , g/g-mole.

Q_s = Vent stream flow rate (scm/min) at a standard temperature of 20°C.

(f) Recordkeeping. The owner or operator of a facility subject to this section shall keep the records specified in this paragraph in a readily accessible location for at least 5 years. These records shall be made available to the Administrator immediately upon verbal or written request.

(1) Where an owner or operator subject to this section seeks to demonstrate compliance with paragraph (c)(1) of this section through using either a thermal or catalytic incinerator:

(i) The average firebox temperature of the incinerator (or the average temperature upstream and downstream of the catalyst bed for a catalytic incinerator), measured at least every 15 minutes and averaged over the same time period as the compliance test.

(ii) The percent reduction of VOC determined as specified in paragraph (c)(1) of this section that is achieved by the incinerator, or the concentration of VOC determined as specified in paragraph (c)(1) of this section

at the outlet of the control device on a dry basis corrected to 3 percent oxygen.

(2) Where an owner or operator subject to the provisions of this section seeks to demonstrate compliance with paragraph (c)(1) of this section through using a boiler or process heater:

(i) A description of the location at which the vent stream is introduced into the boiler or process heater.

(ii) The average combustion temperature of the boiler or process heater with a design heat input capacity of less than 44 MW (150 million Btu/hr) measured at least every 15 minutes and averaged over the same time period as the compliance testing.

(3) Where an owner or operator subject to the provisions of this section seeks to comply with paragraph (c)(2) of this section through the use of a smokeless flare:

(i) The flare design (i.e., steam-assisted, air-assisted, or nonassisted), all visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance test.

(ii) Continuous records of the flare pilot flame monitoring.

(iii) Records of all periods of operation during which the pilot flame is absent.

(4) Where an owner or operator seeks to demonstrate compliance with paragraph (c)(3) of this section:

(i) Where an absorber is the final recovery device in a recovery system, the exit specific gravity and average exit temperature of the absorbing liquid, measured at least every 15 minutes and averaged over the same time period of the compliance testing (both measured while the vent stream is normally routed and constituted).

(ii) Where a condenser is the final recovery device in a recovery system, the average exit (product side) temperature, measured at least every 15 minutes and averaged over the same time period of the compliance testing while the vent stream is normally routed and constituted.

(iii) Where a carbon adsorber is the final recovery device in a recovery system, the total steam mass flow measured at least every 15 minutes and averaged over the same time period of the compliance test (full carbon bed cycle), temperature of the carbon bed after regeneration (and within 15 minutes of completion of any cooling cycle(s)), and duration of the carbon bed steaming cycle (all measured while the vent stream is normally routed and constituted).

(iv) As an alternative to paragraphs (f)(4)(i), (ii), or (iii) of this section, the concentration level or reading indicated by the organic monitoring device at the outlet of the absorber, condenser, or carbon adsorber measured at

least every 15 minutes and averaged over the same time period of the compliance testing while the vent stream is normally routed and constituted.

(v) As an alternative to paragraphs (f)(4)(i), (ii), (iii), or (iv) of this section, all measurements and calculations performed to determine the TRE index value of the vent stream.

(5) Each owner or operator subject to the provisions of this section shall keep up-to-date, readily accessible, continuous records of the equipment operating parameters specified to be monitored under paragraphs (d)(1) and (d)(3) of this section, as well as up-to-date, readily accessible records of periods of operation during which the parameter boundaries established during the most recent compliance test are exceeded. The Administrator may at any time require a report of these data. Where a combustion device is used by an owner or operator seeking to demonstrate compliance with paragraph (c)(1) or (c)(3) of this section, periods of operation during which the parameter boundaries established during the most recent performance tests are exceeded are defined as follows:

(i) For thermal incinerators, all 3-hour periods of operation during which the average combustion temperature was more than 28°C (50°F) below the average combustion temperature during the most recent test at which compliance with paragraph (c)(1) of this section was determined.

(ii) For catalytic incinerators, all 3-hour periods of operation during which the average temperature of the vent stream immediately before the catalyst bed is more than 28°C (50°F) below the average temperature of the vent stream during the most recent test at which compliance with paragraph (c)(1) of this section was determined. The owner or operator also shall record all 3-hour periods of operation during which the average temperature difference across the catalyst bed is less than 80 percent of the average temperature difference of the device during the most recent test at which compliance with paragraph (c)(1) of this section was determined.

(iii) All 3-hour periods of operation during which the average combustion temperature was more than 28°C (50°F) below the average combustion temperature during the most recent test at which compliance with paragraph (c)(1) of this section was determined for boilers or process heaters with a design heat input capacity of less than 44 MW (150 million Btu/hr).

(iv) For boilers or process heaters, whenever there is a change in the location at which the vent stream is introduced into the flame zone as required under paragraph (c)(1) of this section.

(6) Each owner or operator subject to the provisions of this section shall keep up-to-date, readily accessible continuous records of the flow indication specified under

paragraphs (d)(1)(ii), (d)(2)(ii), and (d)(3)(i) of this section, as well as up-to-date, readily accessible records of all periods when the vent stream is diverted from the control device or has no flow rate.

(7) Each owner or operator subject to the provisions of this section who uses a boiler or process heater with a design heat input capacity of 44 MW or greater to comply with paragraph (c)(1) of this section shall keep an up-to-date, readily accessible record of all periods of operation of the boiler or process heater. (Examples of such records could include records of steam use, fuel use, or monitoring data collected pursuant to other State or Federal regulatory requirements.)

(8) Each owner or operator subject to the provisions of this section shall keep up-to-date, readily accessible, continuous records of the flare pilot flame monitoring specified in paragraph (d)(2) of this section as well as up-to-date, readily accessible records of all periods of operations in which the pilot flame is absent.

(9) Each owner or operator subject to the provisions of this section shall keep up-to-date, readily accessible, continuous records of the equipment operating parameters specified to be monitored under paragraph (d)(3) of this section as well as up-to-date, readily accessible records of periods of operation during which the parameter boundaries established during the most recent compliance test are

exceeded. The Administrator may at any time require a report of these data. Where the owner or operator seeks to demonstrate compliance with paragraph (c)(3) of this section, periods of operation during which the parameter boundaries established during the most recent compliance tests are exceeded are defined as follows:

(i) Where an absorber is the final recovery device in a recovery system, and where an organic monitoring device is not used, either paragraph (f)(9)(i)(A) or (B) of this section:

(A) All 3-hour periods of operation during which the average absorbing liquid temperature was more than 11°C (20°F) above the average absorbing liquid temperature during the most recent compliance test that demonstrated that the facility was in compliance.

(B) All 3-hour periods of operation during which the average absorbing liquid specific gravity was more than 0.1 unit above or below the average absorbing liquid specific gravity during the most recent compliance test that demonstrated that the facility was in compliance.

(ii) Where a condenser is the final recovery device in a recovery system, and where an organic monitoring device is not used, all 3-hour periods of operation during which the average exit (product side) condenser operating temperature was more than 6°C (11°F) above the average exit (product side) operating temperature during the most recent

compliance test that demonstrated that the facility was in compliance.

(iii) Where a carbon adsorber is the final recovery device in a recovery system and where an organic monitoring device is not used, either paragraph (f)(9)(iii)(A) or (B) of this section:

(A) All carbon bed regeneration cycles during which the total mass steam flow was more than 10 percent below the total mass steam flow during the most recent compliance test that demonstrated that the facility was in compliance.

(B) All carbon bed regeneration cycles during which the temperature of the carbon bed after regeneration (and after completion of any cooling cycle(s)) was more than 10 percent greater than the carbon bed temperature (in degrees Celsius) during the most recent compliance test that demonstrated that the facility was in compliance.

(iv) Where an absorber, condenser, or carbon adsorber is the final recovery device in the recovery system and an organic monitoring device approved by the Administrator is used, all 3-hour periods of operation during which the average concentration level or reading of organic compounds in the exhaust gases is more than 20 percent greater than the exhaust gas organic compound concentration level or reading measured by the monitoring device during the most recent compliance test that demonstrated that the facility was in compliance.

(10) Each owner or operator subject to the provisions of this section and seeking to demonstrate compliance with paragraph (c)(3) of this section shall keep up-to-date, readily accessible records of:

(i) Any changes in production capacity, feedstock type, or catalyst type, or of any replacement, removal, or addition of recovery equipment or air oxidation reactors.

(ii) Any recalculation of the TRE index value performed pursuant to paragraph (e)(2) of this section.

(iii) The results of any test performed pursuant to the methods and procedures required by paragraph (d)(4) of this section.

(g) Reporting requirements. The owner or operator of any facility containing sources subject to this section shall:

(1) Comply with the initial compliance certification requirements of § XX.3003(a) of this subpart.

(2) Comply with the requirements of § XX.3003(b) of this subpart for excess emissions related to the control devices required to comply with this section.

§ XX.3041 Other Facilities that Emit Volatile Organic Compounds (VOC's).

(a) Applicability.

(1) This section applies to any facility that emits VOC's and that is not subject to §§ XX.3011 through XX.3040 of this subpart or to any Federally-approved State rule. A facility is subject to this section if it has sources not regulated by the sections or rules listed above or not regulated as specified in paragraph (a)(4) of this section that as a group have maximum theoretical emissions of 90.7 megagrams (Mg) (100 tons) or more per calendar year of VOC in the absence of control devices.

(2) The owner or operator of a facility whose emissions are below the applicability threshold in paragraph (a)(1) of this section shall comply with the appropriate certification, recordkeeping, and reporting requirements of paragraph (d) of this section.

(3)(i) Any facility that becomes or is currently subject to the provisions of this section by exceeding the applicability threshold in paragraph (a)(1) of this section will remain subject to these provisions even if its throughput or emissions later fall below the applicability threshold.

(ii) Any facility that is currently subject to a State or Federal rule promulgated pursuant to the Clean Air Act Amendments of 1977 by exceeding the applicability

threshold is and will remain subject to those provisions, even if its throughput or emissions have fallen or later fall below the applicability threshold.

(4) The control requirements in this section do not apply to coke ovens (including by-product recovery plants), fuel combustion sources, barge loading facilities, jet engine test cells, vegetable oil processing facilities, wastewater treatment facilities, and iron and steel production.

(b) Standards. The owner or operator of any source at a facility subject to this section shall do one of the following:

(1) Install and operate emission capture and control techniques or use complying coatings that achieve an overall reduction in uncontrolled VOC emissions of at least 81 weight percent.

(2) For any coating unit, limit the daily-weighted average VOC content to 0.40 kilograms VOC per liter (kg VOC/L) (3.5 pounds VOC per gallon [lb VOC/gal]) or less of coating, as applied (excluding water and exempt compounds), as calculated in § XX.3030 of this subpart.

(3) Comply with an alternative control plan that has been approved by the Administrator as part of a State implementation plan (SIP) or Federal implementation plan (FIP) revision. The alternative control plan shall:

(i) Be submitted within 6 months of the effective date of the rule.

(ii) Be accompanied by a demonstration of the technical or economic infeasibility of complying with the requirements in paragraph (b)(1) or (b)(2) of this section.

(c) Test methods and procedures. The owner or operator of any source subject to this section shall demonstrate compliance with paragraph (b) by using the applicable test methods specified in §§ XX.3080 through XX.3085 of this subpart.

(d) Reporting and Recordkeeping Requirements for Exempt Non-Control Technique Guideline (Non-CTG) Sources.

(1) Coating Sources. An owner or operator of a coating unit that is exempt from the emission limitations in paragraph (b) of this section shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(b) of this subpart.

(2) Non-Coating Sources. An owner or operator of a non-coating source that is exempt from the emission limitations in paragraph (b) of this section shall submit, upon request by the Administrator, records that document that the source is exempt from these requirements.

(i) These records shall be submitted to the Administrator within 30 calendar days from the date of request.

(ii) If such records are not available, the source is considered to be subject to the limits in paragraph (b) of this section.

(e) Reporting and Recordkeeping Requirements for Subject Non-CTG Coating Sources.

(1) An owner or operator of a coating unit subject to this section and complying with paragraph (b)(1) of this section by the use of complying coatings shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(c) of this subpart.

(2) An owner or operator of a coating unit subject to this section and complying with paragraph (b)(2) of this section by daily-weighted averaging shall comply with the certification, recordkeeping, and reporting requirements in § XX.3002(d) of this subpart.

(3) An owner or operator of a coating unit subject to this section and complying with paragraphs (b)(1) or (b)(3) of this section by using control devices shall comply with the testing, reporting, and recordkeeping requirements in § XX.3002(e) of this subpart.

(f) Reporting and Recordkeeping Requirements for Subject Non-CTG, Non-Coating Sources.

(1) The owner or operator of the subject VOC sources shall perform all testing and maintain the results of all tests and calculations required under paragraphs (b) and (c)

of this section to demonstrate that the subject source is in compliance.

(2) This owner or operator of the subject VOC source shall maintain these records in a readily accessible location for a minimum of 5 years and shall make these records available to the Administrator immediately upon verbal or written request.

(3) The owner or operator of any facility containing sources subject to this section shall comply with the requirements in § XX.3003 of this subpart.

§§ XX.3042-3079 [Reserved]

§ XX.3080 Test Methods and Compliance Procedures: General Provisions.

(a) Test methods. The owner or operator of any volatile organic compound (VOC) source required to comply with § XX.3011(c)(1) or §§ XX.3012 through XX.3041 of this subpart shall, at the owner's or operator's expense, demonstrate compliance by using the methods of §§ XX.3080 through XX.3086 of this subpart or alternative methods that are approved by the Administrator as part of a State implementation plan (SIP) or Federal implementation plan (FIP) revision and shall meet all the requirements of this section.

(b) Preparation of test plan and quality assurance (QA) program. At least 30 days before the initiation of a required test under § XX.3083 of this subpart, the owner or operator shall submit a test plan that shall be approved by the Administrator before the results of the test are considered acceptable. This test plan shall include the following minimum information:

(1) The purpose of the proposed test and the applicable subsection of §§ XX.3011 through XX.3041 of this subpart.

(2) A detailed description of the facility to be tested, including a line diagram of the facility, locations

of test sites, and facility operation conditions for the test.

(3) A detailed description of the test methods and procedures, equipment, and sampling sites, i.e., a test plan.

(4) A time table for the following:

(i) Date for the compliance test.

(ii) Date of submittal of preliminary results to the Administrator (not later than 30 days after sample collection).

(iii) Date of submittal of final test report (not later than 45 days after completion of on-site sampling).

(5) Proposed corrective actions should the test results show noncompliance.

(6) Internal QA program. The internal QA program shall include, at a minimum, the activities planned by routine operators and analysts to provide an assessment of test data precision. An example of internal QA is the sampling and analysis of replicable samples.

(7) External QA program.

(i) The external QA program shall include, at a minimum, application of plans for a test method performance audit (PA) during the compliance test.

(ii) The external QA program may also include systems audits, which include the opportunity for on-site evaluation by the Administrator of instrument calibration, data

validation, sample logging, and documentation of quality control data and field maintenance activities.

(iii) The PA's shall consist of blind audit samples provided by the Administrator and analyzed during the compliance test to provide a measure of test data bias.

(A) The Administrator shall require the owner or operator to analyze QA samples during each compliance test when audit samples are available.

(B) Information concerning the availability of audit materials for a specific compliance test may be obtained by contacting the Emission Measurement Technical Information Center at (919) 541-2237.

(C) If the Administrator has prior knowledge that an audit material is available, he or she may contact the Atmospheric Research and Exposure Assessment Laboratory directly at (919) 541-4531 (for cylinder gas audit materials) or (919) 541-7834 (for all other types of audit materials).

(D) The evaluation criteria applied to the interpretation of the PA results and the subsequent remedial actions required of the owner or operator are the sole responsibility of the Administrator.

(c) Process operation. The owner or operator shall be responsible for providing:

(1) Sampling ports, pipes, lines, or appurtenances for collecting samples and data required by the test methods and procedures.

(2) Safe access to the sample and data collection locations.

(3) Light, electricity, and the utilities required for sample and data collection.

(d) Summary of results. No later than 30 days after the sample collection, the owner or operator shall submit preliminary results to the Administrator.

(e) Final report. No later than 45 days after completion of the on-site sampling, the owner or operator shall submit a test report to the Administrator. The test report shall include the following minimum information:

(1) Process description.

(2) Air pollution capture system and control device description.

(3) Process conditions during testing.

(4) Test results and example calculations.

(5) Description of sampling locations and test methods.

(6) QA measures.

(7) Field and analytical data.

§ XX.3081 Test Methods and Compliance Procedures:
Determining the Volatile Organic Compound (VOC) Content of
Coatings and Inks.

(a) Sampling procedures shall follow the guidelines presented in "Standard Procedure for Collection of Coating and Ink Samples for VOC Content Analysis by Reference Method 24 and Reference Method 24A," EPA-340/1-91-010.

(b) The analytical methods and procedures specified below shall be used to determine the VOC content of each coating, as applied:

(1)(i) Method 24 of 40 CFR Part 60, Appendix A, shall be used to determine total volatile content, water content, and density of coatings. For determining total volatile content, all samples shall be oven-dried at 110°C for 1 hour.

(ii) To determine the total volatile content, water content, and density of multicomponent coatings, the following procedures shall be used in addition to Method 24 of 40 CFR Part 60, Appendix A:

(A) The components shall be mixed in a storage container in the same proportions as those in the coating, as applied. The mixing shall be accomplished by weighing the components in the proper proportion into a container that is closed between additions and during mixing. About 100 milliliters (ml) of coating shall be prepared in a

container just large enough to hold the mixture prior to withdrawing a sample.

(B) For determining volatile content, a sample shall be withdrawn from the mixed coating and then transferred to a dish where the sample shall stand for at least 1 hour, but no more than 24 hours, prior to being oven-dried at 110°C for 1 hour.

(C) For determining the water content and density of multicomponent coatings, samples shall be taken from the same 100-ml mixture of coating and shall be analyzed by the appropriate ASTM methods referenced in Method 24 of 40 CFR Part 60, Appendix A.

(2) Method 24 of 40 CFR Part 60, Appendix A, shall be used in determining total volatile content, water content, and density of any flexographic or packaging rotogravure printing ink and related coatings. Alternatively, Method 24A of 40 CFR Part 60, Appendix A, may be used.

(3) Method 24A of 40 CFR Part 60, Appendix A, shall be used in determining total volatile content, water content, and density of any publication rotogravure printing ink and related coatings.

(4) The following additional procedure shall be used in analyzing a coating sample: "Standard Procedure for Analysis of Coating and Ink Samples," EPA-340/1-91-011.

(c) Use of adaptations to test methods. Use of an adaptation to any of the analytical methods specified in

paragraph (b) of this section shall be approved by the Administrator on a case-by-case basis. An owner or operator shall submit sufficient documentation for the Administrator to find that the analytical methods specified in paragraphs (b)(1), (b)(2), and (b)(3) will yield inaccurate results and that the proposed adaptation is appropriate.

(d) Each sample collected for analysis shall meet the following criteria:

(1) Each sample shall be at least 250 ml (8 ounces [oz]) taken into a 250-ml (8-oz) container at a location and time such that the sample will be representative of the coating or ink, as applied (i.e., the sample shall include any dilution solvent or VOC added during the manufacturing process).

(2) If a sample larger than 250 ml (8 oz) is obtained, the sample container shall be of a size such that the sample completely fills the container.

(3) The container shall be tightly sealed immediately after the sample is taken.

(4) Any solvent or other VOC added after the sample is taken shall be measured and accounted for in the calculations in paragraph (c) of this section.

(5) For multicomponent coatings, separate samples of each component shall be obtained.

(e) Calculations for determining the VOC content of coatings and inks from data as determined by Method 24 or

24A of 40 CFR Part 60, Appendix A, shall follow the guidance provided in the following documents:

(1) "A Guideline for Surface Coating Calculations,"
EPA-340/1-86-016.

(2) "Procedures for Certifying Quantity of Volatile
Organic Compounds Emitted by Paint, Ink and Other Coatings,"
(Revised June 1986) EPA-450/3-84-019.

§ XX.3082 Test Methods and Compliance Procedures:
Alternative Compliance Methods for Surface Coating.

(a) Daily-weighted average. The daily-weighted average VOC content, in units of mass of VOC per unit volume of coating, excluding water and exempt compounds, as applied, of the coatings used on a day on a coating unit, line, or operation shall be calculated using the following equation:

$$VOC_w = \frac{\sum_{i=1}^n V_i C_i}{V_T}$$

where:

VOC_w = The daily-weighted average VOC content of the coatings, as applied, used on a coating unit, line, or operation in units of kilograms of VOC per liter of coating (kg VOC/L) (pounds of VOC per gallon of coating [lb VOC/gal]), excluding water and exempt compounds.

n = The number of different coatings, as applied, each day on a coating unit, line, or operation.

V_i = The volume of each coating, as applied, each day on a coating unit, line, or operation in units of L (gal), excluding water and exempt compounds.

C_i = The VOC content of each coating, as applied, each day on a coating unit, line, or operation in units

of kg VOC/L of coating (lb VOC/gal), excluding water and exempt compounds.

V_T = The total volume of all coating, as applied, each day on a coating unit, line, or operation in units of L (gal), excluding water and exempt compounds.

(b) [Reserved]

(c) Overall emission reduction efficiency for control systems. The overall emission reduction efficiency needed to demonstrate compliance is determined each day as follows:

(1) Obtain the emission limitation from the applicable section of this subpart.

(2) Calculate the emission limitation on a solids basis according to the following equation:

$$S = \frac{C}{1 - \left(\frac{C}{d} \right)}$$

where:

S = The VOC emission limitation in terms of kg VOC/L of coating solids (lb VOC/gal).

C = The VOC emission limitation in terms of kg VOC/L of coating (lb/gal), excluding water and exempt compounds.

d = The density of VOC for converting emission limitation to a solids basis. The density equals 0.882 kg/L (7.36 lb/gal).

(3) Calculate the required overall emission reduction efficiency of the control system for the day according to the following equation:

$$E = \left[\frac{(VOC_a - S)}{VOC_a} \right] \times 100$$

where:

E = The required overall emission reduction efficiency of the control system for the day.

VOC_a = (1) The maximum VOC content of the coatings, as applied, used each day on the subject coating unit, line, or operation, in units of kg VOC/L of coating solids (lb VOC/gal), as determined by the applicable test methods and procedures specified in § XX.3081 of this subpart. (2) Alternatively, the daily-weighted average VOC content, as applied, of the coatings used each day on the subject coating unit, line, or operation, in units of kg VOC/L of coating solids (lb VOC/gal), as determined by the applicable test methods and procedures specified in § XX.3081 of this subpart and the procedure in paragraph (c)(4) of this section.

S = VOC emission limitation in terms of kg VOC/L of coating solids (lb VOC/gal).

(4) The daily-weighted average VOC content, as applied, of the coatings used on a coating unit, line, or operation in units of mass of VOC per unit volume of coating solids shall be calculated by the following equation:

$$VOC_{ws} = \frac{\sum_{i=1}^n V_i W_{voc_i} D_i}{\sum_{i=1}^n V_i VS_i}$$

where:

- VOC_{ws} = The daily-weighted average VOC content, as applied, of the coatings used on a coating unit, line, or operation in units of mass of VOC per unit volume of coating solids.
- n = The number of different coatings, as applied, used in a day on a coating unit, line, or operation.
- V_i = The volume of each coating (i), as applied, used in a day on a coating unit, line, or operation in units of liters (L) (gallons [gal]).
- W_{voc_i} = The weight fraction of VOC in each coating (i), as applied, used in a day on a coating unit, line, or operation in units of kg VOC/kg coating (lb/lb).

- D_i = The density of each coating (i) as applied, used in a day on a coating unit, line, or operation in units of kg coating/L of coating (lb/gal).
- VS_i = The volume fraction solids content of each coating (i), as applied, used in a day on a coating unit, line, or operation in units of L solids/L coating (gal/gal).

§ XX.3083 Test Methods and Compliance Procedures: Emission Capture and Destruction or Removal Efficiency and Monitoring Requirements.

(a) Determining the efficiency of volatile organic compound (VOC) capture systems.

(1) For purposes of this paragraph, the following definitions and abbreviations apply:

"Gas/gas method" means either of two methods for determining capture that rely only on gas phase measurements. One method requires construction of a temporary total enclosure (TTE) to ensure all potential fugitive emissions are measured while the other method uses the room or building that houses the source as an enclosure.

"Hood" means a partial enclosure or canopy for capturing and exhausting, by means of a draft, the organic vapors or other fumes rising from a coating process or other source.

"Liquid/gas method" means either of two methods for determining capture that require both gas phase and liquid phase measurements and analysis. One liquid/gas method requires construction of a temporary enclosure, and the other uses the building or room that houses the facility as an enclosure.

"Process line" means any coating unit, coating line, coating operation, or printing press.

"PTE" is a permanent total enclosure, which contains a process that emits VOC and meets the specifications given in Method 30 of 40 CFR Part 60, Appendix A [to be published].

"TTE" is a temporary total enclosure that is built around a process that emits VOC and meets the specifications given in Method 30 of 40 CFR Part 60, Appendix A [to be published].

"BE" is a building or room enclosure that contains a process that emits VOC's. If a BE is to substitute for a PTE or TTE, the appropriate requirements given in Method 30 of 40 CFR Part 60, Appendix A [to be published] shall be met.

(2) Applicability.

(i) The requirements of paragraph (a)(3) shall apply to all regulated VOC emitting processes using a control system except as provided below.

(ii) If a source owner or operator installs a PTE that meets EPA specifications, and that directs all VOC to a control device, the capture efficiency is assumed to be 100 percent, and the source is exempted from the requirements described in paragraph (a)(3). Method 30 of 40 CFR Part 60, Appendix A [to be published] shall be used to determine whether a structure is a PTE. This does not exempt a source from performing any control device efficiency testing required under this subpart. In addition, a source shall

demonstrate that all criteria for a PTE are met during the testing for capture efficiency.

(iii) If a source owner or operator uses a control device designed to collect and recover VOC (e.g., carbon adsorber), an explicit measurement of capture efficiency is not necessary if the conditions given below are met. The overall emission reduction efficiency of the control system shall be determined each day by directly comparing the input liquid VOC (L) to the recovered liquid VOC. The procedure for use in this situation is specified in 40 CFR 60.433 with the following modifications:

(A) The source owner or operator shall obtain data each day for the solvent usage and solvent recovery and determine the solvent recovery efficiency of the system each day using a 7-day rolling period. The recovery efficiency for each day is computed as the ratio of the total recovered solvent for that day and the prior 6 consecutive operating days to the total solvent usage for the same 7-day period used for the recovered solvent, rather than a 30-day weighted average as given in 40 CFR 60.433. This ratio shall be expressed as a percentage. This shall be done within 72 hours following each 24-hour period. A source that believes that the 7-day rolling period is not appropriate may use the method provided in Appendix A of this subpart to determine an alternative multiday rolling

period. In no event shall the rolling period determined under this method exceed a 30-day rolling period.

(B) If the solvent recovery system controls multiple process lines, the source owner or operator shall demonstrate that the overall control (i.e., the total recovered solvent VOC divided by the sum of liquid VOC input to all process lines venting to the control system) meets or exceeds the most stringent standard applicable for any process line venting to the control system.

(3) Specific Requirements.

(i) The capture efficiency shall be measured using one of the four protocols given in paragraphs (a)(3)(iii)(A) through (a)(3)(iii)(D) of this section.

(ii) Any error margin associated with a test protocol may not be incorporated into the results of a capture efficiency test.

(iii) Any source required to comply with this section shall use one of the following protocols to measure capture efficiency, unless a suitable alternative protocol is approved by EPA as part of a SIP or FIP revision:

(A) Gas/gas method using TTE. Method 30 of 40 CFR Part 60, Appendix A [to be published] shall be used to determine whether a temporary enclosure is a TTE. The capture efficiency equation to be used for this protocol is:

$$CE = \frac{G}{G + F}$$

where:

CE = Capture efficiency, decimal fraction.

G = Mass of VOC captured and delivered to control device using a TTE.

F = Mass of fugitive VOC that escapes from a TTE.

Either Method 30B or Method 30C of 40 CFR Part 60, Appendix A [to be published] is used to obtain G. Method 30D of 40 CFR Part 60, Appendix A [to be published] is used to obtain F.

(B) Liquid/gas method using TTE. Method 30 of 40 CFR Part 60, Appendix A [to be published] shall be used to determine whether a temporary enclosure is a TTE. The capture efficiency equation to be used for this protocol is:

$$CE = \frac{L - F}{L}$$

where:

CE = Capture efficiency, decimal fraction.

L = Mass of liquid VOC input to process.

F = Mass of fugitive VOC that escapes from a TTE.

Either Method 30A or Method 30F of 40 CFR Part 60, Appendix A [to be published] is used to obtain L. Method 30D of 40 CFR Part 60, Appendix A [to be published] is used to obtain F.

(C) Gas/gas method using the building or room (BE) in which the source is located as the enclosure and in which G and F are measured while operating only the source to be tested. All fans and blowers in the building or room shall be operated as they would be under normal production. The capture efficiency equation to be used for this protocol is:

$$CE = \frac{G}{G + F_B}$$

where:

CE = Capture efficiency, decimal fraction.

G = Mass of VOC captured and delivered to a control device.

F_B = Mass of fugitive VOC that escapes from building enclosure.

Either Method 30B or Method 30C of 40 CFR Part 60, Appendix A [to be published] is used to obtain G. Method 30E of 40 CFR Part 60, Appendix A [to be published] is used to obtain F_B.

(D) Liquid/gas method using the building or room (BE) in which the source is located as the enclosure and in which L and F are measured while operating only the source to be tested. All fans and blowers in the building or room shall be operated as they would under normal production. The capture efficiency equation to be used for this protocol is:

$$CE = \frac{L - F_B}{L}$$

where:

CE = Capture efficiency, decimal fraction.

L = Mass of liquid VOC input to process.

F_B = Mass of fugitive VOC that escapes from building enclosure.

Either Method 30A or Method 30F of 40 CFR Part 60, Appendix A [to be published] is used to obtain L. Method 30E of 40 CFR Part 60, Appendix A [to be published] is used to obtain F_B.

(4) Recordkeeping and Reporting.

(i) All sources complying with this section shall maintain on file a copy of the capture efficiency protocol submitted to EPA. All results of appropriate test methods and CE protocols shall be reported to EPA within 60 days of the test date. A copy of the results shall be kept on file with the source.

(ii) If any changes are made to capture or control equipment, the source is required to notify EPA within 30 days of these changes and a new capture efficiency and/or control device destruction or removal efficiency test may be required.

(b) Determining the destruction or removal efficiency of incinerators and carbon adsorbers.

(1) Testing.

(i) The control device destruction or removal efficiency shall be determined from data obtained by simultaneously measuring the inlet and outlet gas-phase VOC concentrations and gas volumetric flow rates in accordance with the gas-phase test methods specified in § XX.3084 of this subpart. The control device destruction or removal efficiency shall be calculated using the following equation:

$$E = \frac{\sum_{i=1}^n Q_i C_i - \sum_{j=1}^m Q_j C_j}{\sum_{i=1}^n Q_i C_i}$$

where:

- E = VOC destruction efficiency of the control device.
- Q_i = Volumetric flow rate of the effluent gas flowing through stack i entering the control device, dry standard cubic meters per hour (dscm/hr).
- C_i = Concentration of VOC (as carbon) in the effluent gas flowing through stack i entering the control device, parts per million by volume (ppmv).
- Q_j = Volumetric flow rate of the effluent gas flowing through stack j leaving the control device, dscmh.

C_j = Concentration of VOC (as carbon) in the effluent gas flowing through stack j leaving the control device, ppmv.

n = The number of vents to the control device.

m = The number of vents after the control device.

(ii) A source using a PTE (or a BE as a PTE) shall demonstrate that this enclosure meets the requirements given in Method 30 of 40 CFR Part 60, Appendix A [to be published] for a PTE during any testing of a control device.

(iii) A source using a TTE (or a BE as a TTE) shall demonstrate that this enclosure meets the requirements given in Method 30 of 40 CFR Part 60, Appendix A [to be published] for a TTE during testing of a control device. The source shall also provide documentation that the quality assurance criteria for a TTE have been achieved.

(2) Monitoring.

(i) Any owner or operator who uses an incinerator or regenerative carbon adsorber to comply with any part of this subpart shall install, calibrate, certify to the Administrator, operate, and maintain continuous monitoring equipment. The continuous monitoring equipment shall monitor the following parameters:

(A) Combustion chamber temperature of each thermal incinerator or afterburner.

(B) Temperature rise immediately before the catalyst bed and across each catalytic incinerator bed.

(C) The VOC concentration of the outlet from each carbon adsorption bed.

(ii) The continuous temperature monitoring equipment must be equipped with a continuous recorder and have an accuracy of ± 1 percent of the combustion temperature being measured expressed in degrees Celsius ($^{\circ}\text{C}$) or $\pm 0.5^{\circ}\text{C}$, whichever is greater.

(iii) The owner or operator shall ensure that the quality assurance measures in § XX.3086(j) and the quality control procedures in § XX.3087 of this subpart are met.

(c) Determining the overall emission reduction efficiency. The overall emission reduction efficiency of the emission control system shall be determined each day as the product of the capture efficiency, as determined using the capture efficiency test method in 40 CFR Part 60, Appendix A [to be published], and the control device destruction or removal efficiency; or for each solvent recovery system, by the test protocol described in paragraph (a)(2)(iii)(A) of this section for comparing liquid input to liquid VOC recovery. The results of the capture efficiency test and control device destruction or removal efficiency test remain valid for each day until a subsequent test is performed. The results of any valid test may be used for each day until superseded by the results of a valid test subsequently performed.

§ XX.3084 Test Methods and Compliance Procedures:
Determining the Destruction or Removal Efficiency of a
Control Device.

(a) Depending upon the conditions at a test site, one of the following test methods from 40 CFR Part 60, Appendix A, must be used to determine volatile organic compound (VOC) concentrations of a gas stream at the inlet and outlet of a control device:

- (1) Method 18.
- (2) Method 25.
- (3) Method 25A.

(b) The method selected shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. Because of the different response factors for the many organic compounds formed during the combustion process, only Method 25, which measures VOC as carbon, shall be used for determining destruction efficiency of incinerators or catalytic incinerators, except in cases where the allowable outlet VOC concentration of the control device is less than 50 ppm as carbon, in which case Method 25A shall be used.

(c) Except as indicated in paragraphs (c)(1) and (2) of this section, a test shall consist of three separate runs, each lasting a minimum of 60 minutes (min), unless the

Administrator determines that process variables dictate shorter sampling times.

(1) When the method is to be used to determine the efficiency of a fixed-bed carbon adsorption system with a common exhaust stack for all of the individual adsorber vessels, the test shall consist of three separate runs, each coinciding with one or more complete sequences through the adsorption cycles of all the individual adsorber vessels.

(2) When the method is to be used to determine the efficiency of a fixed-bed carbon adsorption system with individual exhaust stacks for each adsorber vessel, each adsorber vessel shall be tested individually. The test for each adsorber vessel shall consist of three separate runs. Each run shall coincide with one or more complete adsorption cycles.

(d) Method 1 or 1A of 40 CFR Part 60, Appendix A, shall be used for velocity traverses.

(e) Method 2, 2A, 2C, or 2D of 40 CFR Part 60, Appendix A, shall be used for velocity and volumetric flow rates.

(f) Method 3 or 3A of 40 CFR Part 60, Appendix A, shall be used for O₂ and CO₂ analysis.

(g) Method 4 of 40 CFR Part 60, Appendix A, shall be used for stack gas moisture.

(h) Methods 2, 2A, 2C, 2D, 3, 3A and 4 of 40 CFR Part 60, Appendix A, shall be performed, as applicable, at least twice during each test run.

(i) Use of adaptations to test methods. Use of an adaptation to any of the analytical methods specified in paragraphs (a) and (d) through (h) of this section shall be approved by the Administrator on a case-by-case basis. An owner or operator shall submit sufficient documentation for the Administrator to find that the analytical methods specified in paragraphs (a) and (d) through (h) will yield inaccurate results and that the proposed adaptation is appropriate.

§ XX.3085 Test Methods and Compliance Procedures: Leak Detection Methods for Volatile Organic Compounds (VOC's).

(a) Owners or operators required to carry out a leak detection monitoring program shall comply with the following requirements:

(1) Monitoring shall be performed in accordance with Method 21 of 40 CFR Part 60, Appendix A.

(2) The detection instrument shall meet the performance criteria of Method 21.

(3) The detection instrument shall be calibrated before and after use on each day of its use by the methods specified in Method 21. Failure to achieve a post-use calibration precision of less than 10 percent shall constitute grounds for rejecting all tests performed since the last pre-use calibration. In such cases, required leak tests must be reperformed.

(4) Calibration gases shall be:

(i) Zero air (less than 10 parts per million [ppm] of hydrocarbon in air).

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(5) The detection instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Method 21.

(b) When equipment is tested for compliance with the requirement that there be no detectable emissions, the test shall comply with the following:

(1) The requirements of paragraphs (a)(1) through (a)(5) of this section shall apply and shall be met, and

(2) The background level shall be determined as set forth in Method 21.

(c) Leak detection tests shall be performed consistent with:

(1) "APTI Course SI 417-Controlling Volatile Organic Compound Emissions from Leaking Process Equipment," EPA-450/2-82-015.

(2) "Portable Instrument User's Manual for Monitoring VOC Sources," EPA-340/1-86-015.

(3) "Protocols for Generating Unit--Specific Emission Estimates for Equipment Leaks of VOC and VHAP," EPA-450/3-88-010.

(4) "Petroleum Refinery Enforcement Manual," EPA-340/1-80-008.

(d) Use of adaptations to test methods. Use of an adaptation to any of the analytical methods specified in paragraphs (a), (b), and (c) of this section shall be approved by the Administrator on a case-by-case basis. An owner or operator shall submit sufficient documentation for the Administrator to find that the analytical methods specified in paragraphs (a), (b), and (c) will yield

inaccurate results and that the proposed adaptation is appropriate.

§ XX.3086 Performance Specifications for Continuous Emissions Monitoring of Total Hydrocarbons.

(a) Applicability.

(1) This method applies to the measurement of total hydrocarbons as a surrogate measure for the total gaseous organic concentration of the VOC control device outlet. The concentration is expressed in terms of propane.

(2) The Administrator may approve the use of gas conditioning, including cooling to between 4.4° and 18°C (40° and 64°F), and condensate traps to reduce the moisture content of the sample gas if the owner/operator:

(i) Successfully demonstrates to the Administrator that the use of such system is necessary for the specific application.

(ii) Includes in the demonstration a quantification of the total hydrocarbon concentration (THC) lost to the gas conditioning system.

(b) Principal. A gas sample is extracted from the source through a heated sample line and heated glass fiber filter to a flame ionization detector (FID). Results are reported as volume concentration equivalents of the propane.

(c) Definitions. As used in this section, all terms not defined herein shall have the meaning given them in the Act or in § XX.3000 of this subpart.

"Calibration drift" means the difference in the measurement system response to a mid-level calibration gas

before and after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place.

"Calibration error" means the difference between the gas concentration indicated by the measurement system and the known concentration of the calibration system.

"Calibration gas" means a known concentration of a gas in an appropriate diluent gas.

"Measurement system" means the total equipment required for the determination of the inlet and outlet gas concentrations, percent capture efficiency, and gas outlet emission rate. The system consists of the following major subsystems:

(1) Sample interface--the portion of the system that is used for one or more of the following:

(i) Sample acquisition.

(ii) Sample transportation.

(iii) Sample conditioning.

(iv) Protection of the analyzer from the effects of the stack effluent.

(2) Organic analyzer--the portion of the system that senses organic concentration and generates an output proportional to the gas concentration.

(3) Data recorder--the portion of the system that records a permanent record of the measurement values.

(4) Flow rate system--a gas volume meter meeting the requirements of Method 2A, Section 2.1 (40 CFR Part 60, Appendix A).

"Response time" means the time interval from a step change in pollutant concentration at the inlet to the emission measurement system to the time at which 95 percent of the corresponding final value is reached as displayed on the recorder.

"Span value" means for most incinerators, a 50 parts per million (ppm) propane span. Higher span values may be necessary if propane emissions are significant. For convenience, the span value should correspond to 100 percent of the recorder scale.

"Zero drift" means the difference in the measurement system response to a zero level calibration gas before and after a stated period of operation during which no unscheduled maintenance, repair, or adjustment took place.

(d) Apparatus. [Note: this method is often applied in highly explosive areas. Caution should be exercised in choice of equipment and installation.] An acceptable measurement system includes a sample interface system, a calibration valve, gas filter and a pump preceding the analyzer. THC measurement systems are designated HOT or COLD systems based on the operating temperatures of the system. In HOT systems, all components in contact with the sample gas (probe, calibration valve, filter, and sample

lines) as well as all parts of the flame ionization analyzer between the sample inlet and the FID must be maintained between 150° to 175°C. This includes the sample pump if it is located on the inlet side of the FID. A condensate trap may be installed, if necessary, to prevent any condensate entering the FID. The essential components of the measurement system are as follows:

(1) Organic concentration analyzer. An FID capable of meeting or exceeding the specifications in this method.

(2) Sample probe. Use either paragraph (d)(2)(i) or (ii) of this section.

(i) Stainless steel, or equivalent, three-hole rake type. Sample holes shall be 4 millimeters (mm) (0.2 inches [in.] in diameter or smaller and located at 16.7, 50, and 83.3 percent of the equivalent stack diameter.

(ii) A single opening probe so that a gas sample is collected from the centrally located 10 percent area of the stack cross section.

(3) Sample line. Stainless steel or Teflon¹ tubing to transport the sample gas to the analyzer. The sample line from the heated probe shall be heated to between 150 and 175°C (302 and 347°F).

(4) Calibration valve assembly. Use either paragraph (d)(4)(i) or (ii) of this section.

¹Mention of trade names or specific products does not constitute endorsement by the Environmental Protection Agency.

(i) A heated three-way valve assembly to direct the zero and calibration gases to the analyzers.

(ii) Other methods, such as quick-connect lines, to route calibration gas to the analyzers.

(5) Particulate filter. An in-stack or an out-of-stack glass fiber filter if exhaust gas particulate loading is significant. An out-of-stack filter must be heated.

(6) Recorder. A strip-chart recorder, analog computer, or digital recorder for recording measurement data. The minimum data recording shall be one measurement value per minute.

(e) Calibration gases and other gases.

(1) Gases used for calibration, fuel, and combustion air shall be contained in compressed gas cylinders.

(2) Preparation of calibration gases shall be done according to the procedure in Protocol No. 1, listed in the reference in paragraph (1)(2) of this section.

(3) The recommended shelf life for each calibration gas cylinder over which the concentration does not change more than ± 2 percent from the certified value shall be obtained from the cylinder manufacturer.

(4) The following calibration and other gases shall be used:

(i) Fuel. A 40 percent hydrogen and 60 percent helium or 40 percent hydrogen and 60 percent nitrogen gas mixture to avoid an oxygen synergism effect that reportedly occurs

when oxygen concentration varies significantly from a mean value.

(ii) Zero gas. High purity air with less than 0.1 parts per million by volume (ppmv) of organic material methane or carbon equivalent or less than 0.1 percent of the span value, whichever is greater.

(iii) Low-level calibration gas. Propane calibration gas (in air or nitrogen) with a concentration equivalent to 20 to 30 percent of the applicable span value.

(iv) Mid-level calibration gas. Propane calibration gas with a concentration equivalent to 45 to 55 percent of the applicable span value.

(v) High-level calibration gas. Propane calibration gas with a concentration equivalent to 80 to 90 percent of the applicable span value.

(f) Measurement system performance specifications.

(1) Zero drift shall be less than ± 3 percent of the span value.

(2) Calibration drift shall be less than ± 3 percent of the span value.

(3) Calibration error shall be less than ± 5 percent of the calibration gas value.

(g) Pretest preparations.

(1) Selection of sampling site.

(i) The location of the sampling site shall be determined from the applicable section of this subpart or

purpose of the test (i.e., exhaust stack, inlet line, etc).

(ii) The sample port shall be located at least 1.5 meters (4.9 feet) or 2 equivalent diameters upstream of the gas discharge to the atmosphere.

(2) Location of sample probe. The sample probe must be installed so that the probe is centrally located in the stack, pipe or duct and is sealed tightly at the stack port connection.

(3) Measurement systems preparation. Prior to the emission test, the measurement system must be assembled following the manufacturer's written instructions in preparing the sample interface and the organic analyzer. The system must be operable.

(4) Calibration error test.

(i) Immediately prior to the test series (within 2 hours of the start of the test), zero gas and high-level calibration gas shall be introduced at the calibration valve assembly.

(ii) The analyzer output shall be adjusted to the appropriate levels, if necessary.

(iii) The predicted response for the low-level and mid-level gases shall be calculated based on a linear response line between the zero and high-level responses.

(iv) Low-level and mid-level calibration gases shall be introduced successively to the measurement system.

(v) The analyzer responses for low-level and mid-level calibration gases shall be recorded, and the differences between the measurement system responses and the predicted responses shall be determined. These differences must be less than ± 5 percent of the respective calibration gas value. If not, the measurement system shall be deemed not acceptable and must be replaced or repaired prior to testing. No adjustments to the measurement system shall be conducted after the calibration and before the drift determination found in paragraph (h)(2) of this section.

(vi) If adjustments are necessary before the completion of the test series, the drift checks shall be performed prior to the required adjustments, and the calibration following the adjustments shall be repeated.

(vii) If multiple electronic ranges are to be used, each additional range must be checked with a mid-level calibration gas to verify the multiplication factor.

(5) Response time test.

(i) Zero gas shall be introduced into the measurement system at the calibration valve assembly.

(ii) When the system output has stabilized, the owner or operator shall switch quickly to the high-level calibration gas.

(iii) The time shall be recorded from the concentration change to the measurement system response equivalent to 95 percent of the step change.

(iv) The test shall be repeated three times and the results averaged.

(h) Emission measurement test procedure.

(1) Organic measurement.

(i) Sampling shall begin at the start of the test period.

(ii) Time and any required process information shall be recorded, as appropriate.

(iii) Periods of process interruption or cyclic operation shall be noted on the recording chart.

(2) Drift determination.

(i) Immediately following the completion of the test period and hourly during the test period, the zero and mid-level calibration gases shall be introduced, one at a time, to the measurement system at the calibration valve assembly. No adjustments to the measurement system shall be made until after both the zero and calibration drift checks are made.

(ii) The analyzer response shall be recorded.

(iii) If the drift values exceed the specified limits, the test results shall be invalidated preceding the check, and the test shall be repeated following corrections to the measurement system.

(iv) Alternatively, the test measurement system may be recalibrated as in paragraph (g)(4) of this section and the results reported using both sets of calibration data (i.e.,

data determined prior to the test period and data determined following the test period).

(i) Organic concentration calculations. The average organic concentration shall be determined in terms of ppmv propane by the integration of the output recording over the period specified in the applicable section of this subpart.

(j) Quality assurance.

(1) The owner or operator shall assure proper calibration, maintenance, and operation of the continuous emissions monitoring system on a continual basis.

(2) The owner or operator shall establish a quality assurance program to evaluate and monitor performance on a continual basis. The following checks shall be done routinely:

(i) A daily calibration check for each monitor. The calibration shall be adjusted if the check indicates the instrument's calibration drift exceeds the specification established in paragraph (f) of this section.

(ii) A daily system audit that includes the following:

(A) A review of the calibration check data.

(B) An inspection of the recording system.

(C) An inspection of the control panel warning lights.

(D) An inspection of the sample transport/interface system (e.g., flowmeters, filters), as appropriate.

(iii) A quarterly calibration error test at the span midpoint.

(iv) The entire performance specification test repeated every second year.

(k) Reporting of total hydrocarbon levels.

(1) The total hydrocarbon concentration (THC) levels from the initial compliance certification test shall be reported as ppm propane for inlet and outlet concentrations and as a percent reduction across the control device.

(2) THC levels shall be expressed in milligrams per second (mg/sec) (pounds per second [lb/sec]).

(3) This conversion shall be accomplished using the following equation:

$$\text{THC, mg/sec} = (\text{THC ppm propane}) \times (\text{stack gas flow}) \times 5.2 \times 10^{-2}$$

where:

THC ppm propane = The total hydrocarbon concentration as actually measured by this method in ppm propane at the inlet or outlet.

Stack gas flow = Measured in dry standard cubic feet per second as determined by the flowmeter system or Methods 2 and 4.

5.2×10^{-2} = Constant to account for the conversion of units.

(1) References.

(1) Measurement of Volatile Organic Compounds--
Guideline Series. U. S. Environmental Protection Agency,
Research Triangle Park, North Carolina. Publication No.
EPA-450/2-78-041. June 1978. p. 46-54.

(2) Traceability Protocol for Establishing True
Concentrations of Gases Used for Calibration and Audits of
Continuous Source Emission Monitors (Protocol No. 1).
U. S. Environmental Protection Agency, Environmental
Monitoring and Support Laboratory. Research Triangle Park,
North Carolina. June 1973.

(3) Gasoline Vapor Emission Laboratory Evaluation--
Part 2. U. S. Environmental Protection Agency. Office of
Air Quality Planning and Standards. Research Triangle Park,
North Carolina. EMB Report No. 75-GAS-6. August 1975.

(4) Appendix D: Performance Specifications for
Continuous Emissions Monitoring of Total Hydrocarbons in
Hazardous Waste Incinerators, Boilers and Industrial
Furnaces. Federal Register. 54:206 pp. 43743-43745.
October 26, 1989.

§ XX.3087 Quality Control Procedures for Continuous Emission Monitoring Systems (CEMS)

(a) CEMS quality control (QC) program. Each owner or operator of a CEMS shall develop and implement a CEMS QC program. At a minimum, each QC program shall include written procedures that describe in detail step-by-step procedures and operations for each of the following:

(1) Initial and routine periodic calibration of the CEMS.

(2) Calibration drift (CD) determination and adjustment of the CEMS.

(3) Preventative maintenance of the CEMS (including spare parts inventory).

(4) Data recording, calculations, and reporting.

(5) Accuracy audit procedures including sampling and analysis methods.

(6) Program of corrective action for malfunctioning CEMS.

(b) Determining out-of-control condition for the CEMS.

(1) If either the zero (or low-level) or high-level CD exceeds twice the applicable drift specification in 40 CFR Part 60, Appendix B, for five consecutive daily periods, the CEMS is out-of-control.

(2) If either the zero (or low-level) or high-level CD exceeds four times the applicable drift specification in

40 CFR Part 60, Appendix B, during any CD check, the CEMS is out-of-control.

(3) If the CEMS fails a performance audit (PA), the CEMS is out-of-control, and the owner or operator shall take necessary corrective action to eliminate the problem. Following the corrective action, the source owner or operator shall reconduct the appropriate failed portion of the audit and other applicable portions to determine whether the monitoring system is operating properly and within specifications. Monitoring data obtained during any out-of-control period may not be used for compliance determination or meet any data capture requirements; however, the data can be used for identifying periods when there has been a failure to meet quality assurance/quality control criteria.

(c) Determining the out-of-control time period for the CEMS.

(1) The beginning of the out-of-control period is either of the following:

(i) The time corresponding to the completion of the fifth consecutive daily CD check with CD in excess of two times the allowable limit.

(ii) The time corresponding to completion of the daily CD check preceding the daily CD check that results in a CD in excess of four times the allowable limit.

(2) The end of the out-of-control period is the time corresponding to the completion of the CD check following

corrective action that results in the CD's at both the zero (or low-level) and high-level measurement points being within the corresponding allowable CD limit (i.e., either two times or four times the allowable limit in 40 CFR Part 60, Appendix B).

(3) If the CEMS failed a PA, the beginning of the out-of-control period is the time corresponding to the completion of the failed audit test. The end of the out-of-control period is the time corresponding to a successful retest of the PA sample.

(d) Recordkeeping. The owner or operator shall keep the QC procedure described in paragraph (a) of this section in a readily accessible location for at least 5 years and shall make the procedure available to the Administrator upon verbal or written request.

(e) Reporting. Upon verbal or written request, the owner or operator shall submit to the Administrator a copy of all information and records documenting out-of-control periods including beginning and end dates and descriptions of corrective actions taken.

§§ XX.3088-3099 [Reserved]

APPENDIX A

Method to Determine Length of Rolling Period for
Liquid-Liquid Material Balance Method

[TO BE ADDED]