RULE 4604 CAN AND COIL COATING OPERATIONS (Adopted April 11, 1991; Amended September 19, 1991; Amended May 21, 1992; Amended December 17, 1992; Amended December 20, 2001; Amended January 15, 2004; Amended September 20, 2007; Amended [*rule adoption date*])

1.0 Purpose

The purpose of this rule is to limit the emissions of volatile organic compounds (VOCs) from can and coil coating operations, and from organic solvent cleaning, storage and disposal associated with can coating and coil coating operations.

2.0 Applicability

This rule applies to can and coil coating operations, and to organic solvent cleaning, storage and disposal associated with can and coil coating operations.

3.0 Definitions

3.1 Aerosol Product: a hand-held, non-refillable container that expels a pressurized solvent-containing product by means of a propellant-induced force.

3.2 APCO: as defined in Rule 1020 (Definitions).

3.3 Application Equipment: a device, including, but not limited to, a spray gun, brush, or roller, used to apply adhesives, coatings, or inks.

3.4 ARB: California Air Resources Board.

3.5 Bench Scale Project: a project (other than at a research and development facility) that is operated on a small scale, such as one capable of being located on a laboratory bench top.

3.6 Can and Coil Coating: a coating containing organic materials and applied by spray, roller or other means to the inside and/or outside surfaces of metal cans, drums, pails, or lids, or to the surface of flat metal sheets, strips, rolls, or coils for further industrial or commercial use.

3.7 CFR: Code of Federal Regulations

3.8 Closure: a component which is used to close or seal a container.

3.9 Coating: 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, sealers, and stains.

3.10 Coating Applicator: an apparatus used to apply a surface coating.

3.11 Coating Line: an operation or process for applying, drying, or baking and/or curing surface coatings, together with associated equipment including, but not limited to, a coating applicator, flash-off area, and oven.

3.12 Coil: a flat metal sheet or strip that is rolled or wound in concentric rings.

3.13 Container: a two-piece can, three-piece can, drum, pail, or tube.

3.14 Cured Adhesive, Cured Coating, or Cured Ink: an adhesive, coating, or ink that is dry to the touch.

3.15 Degreaser: as defined in Rule 4662 (Organic Solvent Degreasing Operations). An enclosed spray application equipment cleaning system is not a degreaser.

3.16 Dissolver: an organic solvent that is added to an adhesive, coating, or ink in order to melt or to liquefy solid particles.

3.17 Drum: a cylindrical metal shipping container larger than 12 gallons capacity but no larger than 110 gallons capacity.

3.18 End Coating: a coating applied to a container end or closure to provide protection to the metal, to provide a protective lining between the product and the container, or to provide a background for a lithographic or printing operation

3.19 End Seal Compound: a compound that is applied to can ends and functions as a gasket when the end is assembled onto the can.

3.20 EPA: United States Environmental Protection Agency.

3.21 Exempt Compound: ~~as defined in Rule 1020 (Definitions)~~a compound identified as exempt under the definition of VOC, as defined in Rule 1020 (Definitions).

3.22 Exterior Body Spray Coating: a coating sprayed on the exterior of the can body to provide a decorative or protective finish.

3.23 Grams of VOC per liter of Material: the weight of VOC per volume of material and can be calculated by the following equation:

$$\text{Grams of VOC per Liter of Material} = \frac{W_s - W_w - W_{ec}}{V_m}$$

Where:

W_s = Weight of volatile compounds, in grams
W_w = Weight of water, in grams
W_{ec} = Weight of exempt compounds, in grams
V_m = Volume of material, in liters

3.24 Grams of VOC per liter of Material Less Water and Exempt Compounds: the weight of VOC per combined volume of VOC and coating solids and can be calculated by the following equation:

$$\text{Grams of VOC per liter of material Excluding water and exempt compounds} = \frac{W_s - W_w - W_{ec}}{V_m - V_w - V_{ec}}$$

Where:

W_s = Weight of volatile compounds, in grams
W_w = Weight of water, in grams
W_{ec} = Weight of exempt compounds, in grams
V_m = Volume of material, in liters
V_w = Volume of water, in liters
V_{ec} = Volume of exempt compounds, in liters

3.25 Hand Application Method: an application of coatings using manually held, non-automatic equipment. Examples of this method include, but are not limited to, application by paintbrush, hand roller, trowel, spatula, dauber, rag, and sponge.

3.26 High-Volume, Low-Pressure (HVLP) Spray: a coating application system which is designed to be operated at air pressures between 0.1 and 10.0 pounds per square inch gauge (psig) at the air cap of the spray gun, measured dynamically at the center of the air cap and the air horns.

3.27 Interior Body Spray: a coating sprayed on the interior of the can body to provide a protective film between the product and the can.

3.28 Key System Operating Parameter: a parameter necessary to ensure compliance of the VOC emission control system with VOC emission limits. Examples of key system operating parameters include, but are not limited to, temperatures, pressures, and flow rates.

3.29 Lid: a container's cap, or closure.

3.30 Liquid Leak: a visible solvent leak from a container at a rate of more than three drops per minute, or a visible liquid mist.

3.31 Maintenance Cleaning: the cleaning of tools, forms, molds, jigs, machinery, and equipment (except coating application equipment, ink application equipment, or adhesive application equipment), and the cleaning of work areas where maintenance or manufacturing occurs.

3.32 Manufacturing Process: the process of making goods or articles by hand or by machine.

3.33 Non-Absorbent Container: a container made of non-porous material that does not allow the migration of solvents through it.

3.34 Non-Atomized Solvent Flow: a solvent in the form of a liquid stream without the introduction of any propellant.

3.35 Non-Leaking Container: a container without liquid leak.

3.36 Normal Business Hours: Monday through Friday, 8:00 am to 5:00 pm.

3.37 Organic Solvent: the same as "Solvent."

3.38 Organic Solvent Cleaning: as defined in Rule 4663 (Organic Solvent Cleaning, Storage, and Disposal).

3.39 Over-varnish: a coating applied directly over a design coating to fulfill one or more of the following functions: reduce the coefficient of friction, provide gloss or protect the finish against abrasion and corrosion.

3.40 Pail: a metal container from one (1) gallon capacity to twelve (12) gallon capacity and constructed of 29 gauge or heavier material.

3.41 Permanent Total Enclosure (PTE): a permanently installed enclosure that completely surrounds a source of emissions such that all VOC emissions are captured and contained for discharge to a control device.

3.42 Propellant: a gas, including air, in a pressure container for expelling the contents when the pressure is released.

3.43 Repair Cleaning: a solvent cleaning operation or activity carried out during a repair process.

3.44 Repair Coating: a coating for post-formed convenience ends (easy-open) to provide additional protection in the scored areas by covering breaks at the score location or

to provide an additional layer of protective coating on the interior or exterior of the end for corrosion resistance.

3.45 Repair Process: the process of returning a damaged object or an object not operating properly to good condition.

3.46 Research and Development: a facility or portion thereof used to further the development of useful materials, devices, systems, or methods, including, but not limited to, design, development, and improvement of prototypes and processes. Research and development does not include the manufacturing process itself.

3.47 SCAQMD: South Coast Air Quality Management District.

3.48 Sheet Base Coating: a coating applied to a flat sheet to provide protection to the metal, to provide a protective lining between the product and the container, or to provide a background for a lithographic or printing operation.

3.49 Side Seam Coating: a coating applied on the interior and/or exterior of a welded, cemented, or soldered seam to protect the exposed metal.

3.50 Solvent: as defined in Rule 4663 (Organic Solvent Cleaning, Storage, and Disposal).

3.51 Solvent Flushing: the use of a solvent to remove uncured adhesives, uncured inks, uncured coatings, or contaminants from the internal surfaces and passages of equipment by flushing solvent, by a non-atomized solvent flow, through the equipment.

3.52 Stationary Source: as defined in Rule 2201 (New and Modified Stationary Source Review Rule).

3.53 Stripping: the use of solvent to remove material such as cured adhesives, cured inks, cured or dried paint, cured or dried paint residue or temporary protective coating.

3.54 Surface Preparation: the removal of contaminants from a surface prior to the application of coatings, inks, or adhesives or before proceeding to the next step of a manufacturing process.

3.55 Thinner: a solvent that is used to dilute coatings to reduce viscosity, color strength, or to modify drying conditions.

3.56 Viscosity Reducer: an organic solvent that is added to an adhesive, coating or ink to make it more fluid.

3.57 Volatile Organic Compound (VOC): defined in Rule 1020 (Definitions).

3.58 Waste Solvent Material: a solvent which may contain dirt, oil, metal particles, sludge, and/or waste products, or wiping material containing VOCs including, but not limited to, paper, cloth, sponge, rag, or cotton swab used in organic solvent cleaning.

3.59 Wipe Cleaning: a solvent cleaning activity performed by hand rubbing with an absorbent material such as a rag, paper, sponge, brush, or cotton swab containing solvent.

4.0 Exemptions

4.1 The provisions of Section 5.1 through Section 5.2 of this rule shall not apply to stationary sources that use 55 gallons or less of the aggregate of coatings (as applied) and cleaning solvent (as applied) per rolling 12-month period. The provisions of Section 5.3 through Section 5.5 and the applicable provisions of Section 6.0 shall still apply.

4.2 The lubricants applied by the spray mister to the can end seal compound application nozzle and the lubricants applied to the can body during the can body forming process shall be exempt from all the provisions of this rule.

4.3 The provisions of this rule shall not apply to stripping of cured coatings, cured adhesives, and cured inks, except the stripping of such materials from spray application equipment.

4.4 The cleaning solvent VOC limit provisions of Table 5 shall not apply to the cleaning in laboratory tests and analyses, or bench scale or research and development projects.

5.0 Requirements

5.1 On any coating line, an operator shall not use or apply any coating with a VOC content in excess of the following limits, expressed as grams of VOC per liter of coating, as applied, excluding water and exempt compounds:

Table 1 – Two-Piece Can Coating Operations

Coating Type	Application Method	~~Effective until January 31, 2006~~ ~~g/l~~	~~Effective on and after February 1, 2006~~ g/L~~l~~
Interior Sheet Base Coating	Any	~~225~~	225
Interior Body Spray	Spray	~~510~~	420
Exterior Sheet Base Coating	Any	~~250~~	250
Exterior Body Spray	Spray	~~510~~	420
Interior Overvarnish	Any	~~225~~	225
Exterior Overvarnish	Any	~~250~~	250
End Coating (Interior or Exterior)	Spray or roll coat	~~510~~	420
End Seal Compound	Any	~~440~~	20
Repair Coating	Spray	~~750~~	750

Table 2 – Three Piece Can Coating Operations

Coating Type	Application Method	~~Effective until January 31, 2006~~ ~~g/l~~	~~Effective on and after February 1, 2006~~ g/L~~l~~
Sheet Base Coating (Interior or Exterior)	Any	~~225~~	225
Interior Body Spray	Spray	~~510~~	360
Exterior Body Spray	Spray	~~510~~	420
Overvarnish (Interior or Exterior)	Any	~~225~~	225
End Coating (Interior or Exterior)	Spray or roll coat	~~510~~	225
Side Seam Coating	Spray	~~660~~	660
End Seal Compound	Any	~~440~~	20
Repair Coating	Spray	~~750~~	750

Table 3 – Drums, Pails and Lids Coating Operations

Coating Type	Application Method	~~Effective until January 31, 2006~~ ~~g/l~~	~~Effective on and after February 1, 2006~~ g/L~~l~~
Sheet Base Coating (Interior or Exterior)	Any	~~225~~	225
Interior Body Spray	Spray		
New		~~510~~	420
Reconditioned		~~510~~	510
Exterior Body Spray	Spray		
New		~~510~~	340
Reconditioned		~~510~~	420
Overvarnish (Interior or Exterior)	Any	~~225~~	225
Interior End Coating	Spray or roll coat		
New		~~510~~	420
Reconditioned		~~510~~	510
Exterior End Coating	Spray or roll coat		
New		~~510~~	340
Reconditioned		~~510~~	420
Side Seam Coating	Spray	~~660~~	660
End Seal Compound	Any	~~440~~	60

Table 4 – Coil Coating Operations

Coating Type	g/L~~l~~
Prime and topcoat or single coat operation	200

5.2 Approved VOC Emission Control System

5.2.1 The use of coatings with VOC contents in excess of the applicable limits specified in Table 1, Table 2, Table 3, or Table 4, or alternatives to applicable provisions of Sections 5.4 or 5.6, shall be allowed, provided emissions of VOC to the atmosphere are controlled by an APCO-approved VOC emission control system that complies with the requirements of Sections 5.2.2 through 5.2.9.

5.2.2 The VOC emission control system shall have an overall capture and control efficiency of at least 90 percent by weight; and

5.2.3 The VOC emission control system shall reduce VOC emissions, at all times, to a level that is not greater than the emission level which would have been achieved through the use of materials compliant with the applicable requirements of Section 5.1 and Section 5.4.

5.2.4 The VOC emission control system shall comply with the requirements of Sections 5.2.2 and 5.2.3 during periods of emission-producing activities.

5.2.5 The VOC emission control system used to comply with the provisions of this rule shall be under District permit.

5.2.6 An operator using a VOC emission control system to comply with provisions of this rule shall monitor key system operating parameters.

5.2.7 An operator using a VOC emission control system to comply with the provisions of this rule shall implement an Operation and Maintenance Plan pursuant to Section 6.5 within 10 days of APCO approval of the plan.

5.2.8 Source Testing Requirements for VOC Emission Collection Devices and VOC Emission Control Devices

An operator using collection devices and control devices of a VOC emission control system used as a means of complying with this rule shall comply with the following source testing requirements:

5.2.8.1 Source Testing of VOC Emission Collection Devices that are Permanent Total Enclosures (PTEs)

5.2.8.1.1 An operator shall source test/certify initially a PTE to demonstrate that the PTE complies with the requirements of a PTE pursuant to Section 6.7.2.

5.2.8.1.2 A VOC emission collection device used to comply with this rule that has already been tested or certified

as compliant with the requirements of a PTE as of February 1, 2004 does not need to be retested or re-certified to comply with the requirements of Section 5.2.8.1.1, except if the collection device has undergone a change that would affect the collection device's ability to comply with the requirements of a PTE since the initial source test/certification or if a re-test/re-certification is requested by the APCO.

5.2.8.2 Source Testing of VOC Emission Collection Devices that are not PTEs (non-PTEs)

5.2.8.2.1 An operator shall source test each non-PTE at least once every twelve (12) months to determine the capture efficiency of the collection device. Source testing shall use the appropriate test method listed in Section 6.7.2.

5.2.8.2.2 A non-PTE shall be source tested under conditions representative of normal operating conditions using non-compliant coating and under conditions specified in the Permit-To-Operate, and

5.2.8.2.3 The source test for a non-PTE shall occur within 24 hours of the source test for the VOC control device to which the non-PTE is connected.

5.2.8.3 Source Testing of VOC Emission Control Devices

5.2.8.3.1 An operator shall source test each VOC emission control device at least once every twelve (12) months to determine the control efficiency of the VOC emission control device. Source testing shall use the appropriate test method listed in Section 6.7.2.

5.2.8.3.2 The source test for a VOC emission control device connected exclusively to one or more PTEs shall be conducted under conditions representative of normal operating conditions using non-compliant coating and under conditions specified in the Permit-To-Operate.

5.2.8.3.3 The source test for a VOC emission control device connected to one or more non-PTE collection devices shall be conducted under conditions representative of normal operating conditions using non-compliant

coating and under conditions specified in the Permit-To-Operate, and

5.2.8.3.4 The source test for a VOC emission control device connected to one or more non-PTE collection devices shall occur within 24 hours of the source test for the connected non-PTE collection devices.

5.2.8.4 A source test of the VOC emission control system is not required for an inactive VOC emission control system until 180 days before start-up. A period of shorter than 180 days may be allowed if it can be shown that the equipment will be started up sooner than expected.

5.2.8.5 An operator shall demonstrate that the overall capture and control efficiency of the VOC emission control system as calculated using the capture efficiency and control efficiency determined pursuant to Section 5.2.8.1 through Section 5.2.8.3 complies with the requirements of Section 5.2.2 and Section 5.2.3.

5.2.9 For a VOC emission control system that consists of a single VOC control device and a single VOC collection point and the operation includes a single coating only, one way to calculate the minimum overall capture and control efficiency of a VOC emission control system at which an equivalent or greater level of VOC emissions reduction will be achieved is by using the following equation:

$$CE = \left\langle 1 - \left[\frac{VOC_{LWc}}{VOC_{LWn,Max}} \times \frac{\left[1 - \left(\frac{VOC_{LWn,Max}}{D_{n,Max}} \right) \right]}{\left[1 - \left(\frac{VOC_{LWc}}{D_c} \right) \right]} \right] \right\rangle \times 100$$

Where:

CE	=	Overall Capture and Control Efficiency, percent
VOC_{LWc}	=	VOC Limit less water and less exempt compounds in g/L~~l~~
$VOC_{LWn,Max}$	=	Maximum VOC content of noncompliant coating used in conjunction with a control device, less water and less exempt compounds in g/L~~l~~
$D_{n,Max}$	=	Density of solvent, reducer, or thinner contained in the noncompliant coating, containing the maximum VOC content of the multi-component coating in g/L~~l~~
D_c	=	Density of corresponding solvent, reducer, or thinner used in the compliant coating system in g/L~~l~~.

5.3 Prohibition of Specification and Sale

5.3.1 A person shall not solicit or require an operator in the District to use any can and coil coating or combination of can and coil coatings subject to the provisions of this rule that does not meet the limits and requirements of Section 5.1 through Section 5.2 or that causes the operation utilizing the coating or combination of coatings to be out of compliance with this rule.

5.3.2 A person shall not sell or offer for sale for use within the District any coating that contains VOCs in excess of the limits specified in this rule for any application governed by this rule unless the label on the product or the data sheets for the product clearly bear the warning that the coating shall not be used unless compliance with the rule can be achieved, either with compliant coatings or with an approved VOC emission control system.

5.4 Organic Solvent Cleaning Requirements

5.4.1 Except as provided under Section 5.4.1.1, ~~A~~an operator shall not use organic solvents for cleaning operations that exceed the VOC content limits specified in Table 5~~, in accordance with the corresponding effective date~~.

5.4.1.1 Operations using organic solvents subject to Table 5 Category C.2 shall not exceed a VOC content limit of 25 g/L (0.21 lb/gal) upon satisfaction of both Sections 5.4.1.1.1 and 5.4.1.1.2 for the applicable 2008 or 2015 8-hour Ozone National Ambient Air Quality Standard:

5.4.1.1.1 EPA has issued final approval of this section as a contingency measure in the California State Implementation Plan for the San Joaquin Valley, and such approval has become effective; and

5.4.1.1.2 Following the effective date of EPA's approval described in Section 5.4.1.1.1, EPA has issued a final determination that any one of the contingency-triggering conditions specified in Sections 172(c)(9) or 182(c)(9) of the Clean Air Act have occurred with respect to the applicable ozone standard.

5.4.1.1.3 Upon satisfaction of Sections 5.4.1.1.1 and 5.4.1.1.2, the VOC content limit of 25 g/L for operations using organic solvents subject to Table 5 Category C.2 shall automatically apply sixty (60) days following the effective date of EPA's first, final determination described in 5.4.1.1.2, without further action by the District or EPA.

Table 5 – VOC Limits for Organic Solvents Used in Cleaning Operations

Type of Solvent Cleaning Operation	~~Effective November 15, 2003 through September 20, 2008~~	~~Effective on and after September 21, 2008~~
	~~VOC Content Limit Grams of VOC/liter of material (lb/gal)~~	VOC Content Limit Grams of VOC/liter of material (lb/gal)
A. Product Cleaning During Manufacturing Process or Surface Preparation for Coating Application	~~50 (0.42)~~	25 (0.21)
B. Repair and Maintenance Cleaning	~~50 (0.42)~~	25 (0.21)
C. Cleaning of Coating Application Equipment		
1. All except sheet coater for three-piece can	~~550 (4.6)~~	25 (0.21)
2. Sheet coater for three-piece can	~~550 (4.6)~~	~~Effective until 9/30/2011 550 (4.6) Effective on and after 10/1/2011~~ 250 (2.1~~3~~) Except as provided in Section 5.4.1.1

~~5.4.2 Section 5.4.2.1 and Section 5.4.2.2 apply to the cleaning of coating application equipment outside the control of a VOC emission control equipment and the coating application equipment is not used for sheet coating of three-piece cans.~~

~~5.4.2.1 Until September 20, 2008, an operator performing Table 2 Category C.1 cleaning outside of an APCO-approved VOC emission control system and using solvent with VOC content greater than 50 g/L shall meet the requirements of Sections 5.4.4 through 5.4.7 in addition to meeting the VOC content limit in Table 2 for this cleaning operation.~~

~~5.4.2.2 On and after September 21, 2008, an operator shall perform all solvent cleaning operations with cleaning material having VOC content of 25 g/L or less, unless such cleaning operations are carried out within the control of an APCO-approved emission control system that meets the requirements of Section 5.2. Sections 5.4.4 through 5.4.7 shall not apply on and after September 21, 2008.~~

5.4.2~~3~~ ~~Section 5.4.3.1 and Section 5.4.3.2 apply to the cleaning of coating application equipment used for sheet coating of three-piece cans and the cleaning operation is performed outside the control of a VOC emission control system.~~

~~5.4.3.1 Until September 20, 2008, an operator performing Table 5 Category C.2 cleaning outside of an APCO-approved VOC emission control system and using solvent with VOC content greater than 50 g/L shall meet the requirements of Sections 5.4.4 through 5.4.7 in addition to meeting the VOC content limit in Table 2 for this cleaning operation.~~

~~5.4.3.2~~ ~~On and after September 21, 2008, an o~~Operators performing Table 5 Category C.2 cleaning outside of an APCO-approved VOC emission control system and using solvent with VOC content greater than 25 g/L shall meet the requirements of Sections 5.4.3~~4~~ through 5.4.6~~7~~ in addition to meeting the VOC content limit in Table 5~~2~~ for this cleaning operation.

5.4.3~~4~~ Cleaning activities that use solvents shall be performed by one or more of the following methods:

5.4.3~~4~~.1 Wipe cleaning; or

5.4.3~~4~~.2 Application of solvent from hand-held spray bottles from which solvents are dispensed without a propellant-induced force; or

5.4.3~~4~~.3 Non-atomized solvent flow method in which the cleaning solvent is collected in a container or a collection system which is closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container; or

5.4.3~~4~~.4 Solvent flushing method in which the cleaning solvent is discharged into a container that is closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container. The discharged solvent from the equipment must be collected into containers without atomizing into the open air. The solvent may be flushed through the system by air or hydraulic pressure, or by pumping.

5.4.4~~5~~ Solvent shall not be atomized into the open air unless it is vented to a VOC emission control system that complies with Section 5.2. This provision shall not apply to the cleaning of nozzle tips of automated spray equipment systems, except for robotic systems, and cleaning with spray bottles or containers described in Section 5.4.3~~4~~.2.

5.4.5~~6~~ An operator shall not use VOC-containing materials to clean spray equipment used for the application of coatings, adhesives, or ink, unless an enclosed system or equipment that is proven to be equally effective at controlling emissions is used for cleaning. If an enclosed system is used, it must totally enclose spray guns, cups, nozzles, bowls, and other parts during washing, rinsing and draining procedures, and it must be used according to the manufacturer's recommendations and must be closed when not in use. To determine solvent losses, an operator shall use the test method in Section 6.7.3.

5.4.6~~7~~ An operator cleaning coating application equipment corresponding to Table 5 - Category C (Cleaning of Coating Application Equipment) that is not spray application equipment may use an alternative cleaning method other than those specified in Section 5.4.3~~4~~, if the alternative cleaning method is approved by the APCO and EPA.

5.4.7~~8~~ In lieu of complying with the VOC content limits in Table 5 or the requirements of Sections 5.4.3~~4~~ through 5.4.6~~7~~, an operator may control emissions from cleaning operations with an APCO-approved VOC emission control system that meets the requirements of Section 5.2.

5.5 Organic Solvent Storage and Disposal

An operator shall store or dispose of fresh or spent solvents, waste solvent ~~cleaning~~ materials ~~such as cloth, paper, etc~~, coatings, adhesives, catalysts, and thinners in closed, non-absorbent and non-leaking containers. The containers shall remain closed at all times except when depositing or removing the contents of the containers or when the container is empty.

5.6 Application Equipment

5.6.1 An operator shall not apply any coating unless:

5.6.1.1 The coating is applied with properly operating coating application equipment, and

5.6.1.2 The coating application equipment is operated according to operating procedures specified by the equipment manufacturer, and

5.6.1.3 The coating application equipment complies with the requirements of Section 5.6.2.

5.6.2 An operator shall not apply any coating except by use of one or more of the following methods:

5.6.2.1 Electrostatic Application

5.6.2.2 Flow Coater

5.6.2.3 Roll Coater

5.6.2.4 Dip Coater

5.6.2.5 Hand Application Methods

5.6.2.6 HVLP Spray

5.6.2.6.1 For HVLP spray guns manufactured prior to January 1, 1996, the end user shall demonstrate that the gun meets HVLP spray equipment standards. Satisfactory proof will be either in the form of a manufacturer's published technical material or by a demonstration using a certified air pressure tip gauge, measuring the air atomizing pressure dynamically at the center of the air cap and at the air horns.

5.6.2.6.2 An operator shall not sell or offer for sale for use within the District any HVLP spray gun without a permanent marking denoting the maximum inlet air pressure in psig at which the gun will operate. Limits are between 0.1 psig and 10.0 psig of air atomizing pressure.

5.6.2.7 Any other application method that demonstrates, to the satisfaction of the APCO and EPA, a coating transfer efficiency of at least 65 percent (≥ 65%) as measured using a test method pursuant to Section 6.7.4.

5.6.3 In lieu of complying with Section 5.6.2, an operator may control emissions from application equipment with an APCO-approved VOC emission control system that controls the emissions from the source operation pursuant to the requirements of Section 5.2.

6.0 Administrative Requirements

6.1 An operator who performs a can coating or coil coating operation subject to any part of Section 5.0 or is exempt by Section 4.1 of this rule or performs solvent cleaning operations associated with Section 5.4 shall comply with the recordkeeping requirements of Section 6.2 through Section 6.5:

6.2 Coatings Records

6.2.1 Coatings Materials List – An operator shall maintain and have available on site, a current list of coatings in use which provides all of the coating data necessary to evaluate compliance including the following information as applicable:

6.2.1.1 Specific manufacturer's name of coatings, catalysts and thinners used.

6.2.1.2 Mix ratio of components used.

6.2.1.3 VOC content of each coating, as applied in g/L~~l~~ or lb/gal.

6.2.1.4 VOC content of each catalyst and thinner used g/L~~l~~ or lb/gal.

6.2.2 Coatings Usage Records – An operator shall maintain records that include the following information:

6.2.2.1 Specific coating used and mix ratio of components added to the coating material prior to application.

6.2.2.2 Volume of coatings applied (gallons).

6.2.2.3 Specific solvents, catalysts and thinners used.

6.2.2.4 Volume of each solvent, catalyst and thinner (gallons).

6.2.3 An operator shall maintain coatings usage records on a daily basis, except operators that keep records pursuant to Section 6.2.4.

6.2.4 An operator claiming exemption pursuant to Section 4.1 may maintain coatings usage records on an extended basis not to exceed monthly provided the records substantiate claim of exemption for the entire extended period.

6.2.5 An operator shall retain coatings materials lists and coatings usage records for a minimum of five (5) years, make the records available on site during normal business hours to the APCO, ARB, or EPA, and submit the records to the APCO, ARB, or EPA upon request.

6.3 Cleaning Solvents Records

6.3.1 Cleaning Solvents Materials List – An operator shall maintain and have available on site, a current list of cleaning solvents in use that provides all of the data necessary to evaluate compliance including the following information, as applicable:

6.3.1.1 The name of the cleaning solvent and its manufacturer's name.

6.3.1.2 The VOC content of the solvent expressed in g/L~~l~~ or lb/gallon, as applied.

6.3.2 Cleaning Solvent Usage List - An operator shall maintain records that include the following information:

6.3.2.1 Name of cleaning solvent used.

6.3.2.2 When the solvent is a mixture of different materials that are blended by the operator, the mix ratio of the batch shall be recorded and the VOC content of the batch shall be calculated and recorded in order to determine compliance with the specified limits of VOC content. ~~Records from before November 15, 2003 must still be retained on-site for five (5) years from date of record.~~

6.3.2.3 Volume of each cleaning solvent used (gallons).

6.3.2.4 The type of cleaning activity for each solvent that is being used in accordance with the applicable cleaning category specified in Section 5.4, Table 5 of this rule.

6.3.3 An operator shall maintain cleaning solvent usage records on a daily basis, except an operator who keeps records pursuant to Section 6.3.4.

6.3.4 An operator claiming exemption pursuant to Section 4.1 may maintain cleaning solvent usage records on an extended basis not to exceed monthly, provided the records substantiate claim of exemption for the entire extended period.

6.3.5 An operator shall retain cleaning solvent materials list and cleaning solvent usage records on site for a minimum of five (5) years, make the records available on site during normal business hours to the APCO, ARB, or EPA, and submit the records to the APCO, ARB, or EPA upon request.

6.4 VOC Emission Control Systems Records

6.4.1 An operator using a VOC emission control system pursuant to Section 5.2 as a means of complying with this rule shall maintain daily records of key system operating parameters which will demonstrate continuous operation and compliance of the VOC emission control system during periods of emission-producing activities.

6.4.2 Excess Reporting: Any record showing violation of Section 5.2 shall be reported by sending a copy of such record to the APCO within 96 hours following the occurrence. Such report will include an explanation of the cause of the violation and the corrective action taken.

6.4.3 An operator shall retain VOC emission control system records on site for a minimum of five (5) years, make the records available on site during normal business hours to the APCO, ARB, or EPA and submit the records to the APCO, ARB, or EPA upon request.

6.5 VOC Emission Control System Operation and Maintenance Plan

6.5.1 A VOC emission control system subject to the provisions of Section 5.2 shall submit to the APCO for approval an Operation and Maintenance (O/M) Plan.

6.5.2 No provision in the O/M Plan shall conflict with or take precedence over any provision of this rule.

6.5.3 The O/M Plan shall specify actions to be taken to satisfy the following requirements and the requirements of Section 5.2. The actions to be identified in the O/M Plan include, but are not limited to:

6.5.3.1 Identification of key system operating parameter(s).

6.5.3.2 Minimum values or range of acceptable values for key system operating parameter(s) that source testing has shown result in VOC emissions within rule limits.

6.5.3.3 Procedures for preventive and corrective maintenance performed for the purpose of maintaining the VOC emission control system in proper operating condition.

6.5.3.4 Procedures for collecting and recording required data and other information in a form approved by the APCO including, but not limited to, data collected through the O/M Plan and the monitoring of key system operating parameters.

6.5.3.5 Burner maintenance schedule.

6.5.3.6 Catalyst maintenance and maintenance schedule, where applicable.

6.5.3.7 Duct inspection schedule.

6.5.3.8 Procedures for revising the O/M Plan.

6.5.3.9 All other information necessary to verify compliance with applicable provisions of this rule.

6.5.3.10 The O/M Plan shall specify which records will be used to document the operation and maintenance procedures.

6.5.4 The O/M Plan shall not be implemented prior to approval in writing by the APCO.

6.5.5 The O/M Plan shall be updated prior to any planned change in operation of the VOC emission control system.

6.5.5.1 An operator may request a change to the O/M Plan at any time.

6.5.5.2 If the O/M Plan undergoes significant changes to one or more O/M Plan elements, an operator must notify the District no later than seven (7) days after the change.

6.5.5.3 If the O/M Plan undergoes significant changes to one or more O/M Plan elements, an operator must submit an updated O/M Plan to the APCO for approval no later than fourteen (14) days after the change.

6.5.6 An O/M Plan is not required for an inactive VOC emission control system until 180 days before start-up. A period of shorter than 180 days may be allowed if it can be shown that the equipment will be started up sooner than expected.

6.5.7 An operator receiving an Authority to Construct for a new or modified VOC emission control system shall submit a new or modified O/M Plan to the APCO prior to implementation of an Authority to Construct for the VOC emission control system.

6.5.8 The APCO shall provide written notice to the facility of the approval or incompleteness of a new or revised O/M Plan within 30 days of receiving such plan.

6.6 Compliance Statement Requirements

6.6.1 The manufacturer of any coating subject to this rule shall indicate on the coating container, or on a separate product data sheet or material safety data sheet, the name of the coating, manufacturer's name, the VOC content, specific mixing instructions, and density, as supplied. The VOC content shall be expressed in units of g/L~~l~~ or lb/gallon.

6.6.2 The manufacturer of any solvent subject to this rule shall indicate on the solvent container, or on a separate product data sheet or material safety data sheet, the name of the solvent, manufacturer's name, the VOC content, and density. The VOC content shall be expressed in units of g/L~~l~~ or lb/gallon.

6.7 Test Methods

6.7.1 Determination of VOC Content

6.7.1.1 The VOC content of solvents and organic materials shall be determined by using EPA Method 24 or 24A, SCAQMD Method 304 (Determination of Volatile Organic Compounds in Various Materials), or by using the manufacturer's product formulation data and the formula for "Grams of VOC per liter of Material" in Section 3.0.

6.7.1.2 The content of exempt halogenated VOCs shall be determined by using the ARB Method 432 or SCAQMD Method 303 (Determination of Exempt Compounds).

6.7.2 Determination of Overall Capture and Control Efficiency of VOC Emission Control Devices

6.7.2.1 The capture efficiency of a VOC emission control system's collection device(s) shall be determined according to EPA's "Guidelines for Determining Capture Efficiency," January 9, 1995 and 40 CFR 51, Appendix M, Methods 204-204F, as applicable, or any other method approved by EPA, ARB, and the APCO.

6.7.2.2 The control efficiency of a VOC emission control system's control device(s) shall be determined using EPA Methods 2, 2A, or 2D for measuring flow rates and EPA Methods 25, 25A, or 25B for measuring total gaseous organic concentrations at the inlet and outlet of the control device. EPA Method 18 or ARB Method 422 shall be used to determine the emissions of exempt compounds.

6.7.2.3 For VOC emission control systems that consist of a single VOC emission collection device connected to a single VOC emission control device, the overall capture and control efficiency shall be calculated by using the following equation:

$$CE_{Capture\ and\ Control} = [\ CE_{Capture} \times CE_{Control}\ ] / 100$$

Where:

$CE_{Capture\ and\ Control}$ = Overall Capture and Control Efficiency, in percent

$CE_{Capture}$ = Capture Efficiency of the collection device, in percent, as determined in Section 6.7.2.1

$CE_{Control}$ = Control Efficiency of the control device, in percent, as determined in Section 6.7.2.2.

6.7.3 Determination of Solvent Losses from Spray Gun Cleaning Systems

The passive and active solvent losses from spray gun cleaning systems shall be determined by using SCAQMD "General Test Method for Determining Solvent Losses from Spray Gun Cleaning Systems" dated October 3, 1989. The test solvent for this determination shall be lacquer thinner with a minimum vapor pressure of 105 mm Hg at 20°C. The minimum temperature shall be 15°C.

6.7.4 Transfer Efficiency

Transfer efficiency shall be determined by one of the following:

6.7.4.1 SCAQMD Method "Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989, or

6.7.4.2 Can Manufacturers' Institute (CMI) "Test Plan for Measuring Transfer Efficiency of Coating Application on 3-Piece Metal Cans" 1991, or

6.7.4.3 Any other test method for transfer efficiency for which written approval of the EPA, ARB, and the APCO has been obtained.

6.8 Multiple Test Methods

When more than one test method or set of test methods is specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of this rule.

6.9 Version of Test Methods

All ASTM test methods referenced in Section 6.0 are the most recently EPA-approved version that appears in the CFR as Materials Approved for Incorporation by Reference.