RULE 67.9. AEROSPACE COATING OPERATIONS
(Effective 8/24/83; Rev. Effective 4/30/97)

(a) **APPLICABILITY**

(1) This rule is applicable to the coating, masking, bonding, and paint stripping of aerospace components in operations where aerospace coatings are used, to surface cleaning related to these aerospace coating operations, and to the cleanup of application equipment associated with these operations.

(2) Any coating, surface cleaning or equipment cleaning operation which is exempt from all or a portion of this rule pursuant to Section (b), shall comply with the provisions of Rule 66, 67.6 and/or Rule 67.12 as applicable.

(b) **EXEMPTIONS**

(1) The provisions of Subsections (d)(1) through (d)(6), (d)(9), (f)(2), (f)(3), and (f)(4) shall not apply to the following:

(i) Touch-up coatings and stencil coatings.

(ii) A stationary source where not more than 50 gallons per consecutive 12-month period of aerospace coating is used. This amount does not include coatings specified in Subsections (b)(1)(i), (b)(1)(v) and (b)(1)(vi).

(iii) Coatings that are used in volumes of less than 200 gallons per consecutive 12-month period provided a total of not more than 200 gallons per consecutive 12-month period of all such non-compliant coatings are used at any stationary source. This amount shall not include coatings specified in Subsections (b)(1)(i), (b)(1)(iv), (b)(1)(v) and (b)(1)(vi).

(iv) Coatings used exclusively for purposes of research and development, including coatings applied to mock-ups and prototypes, provided not more than 50 gallons per consecutive 12-month period of all such non-compliant coatings are used at the stationary source.

(v) Coatings applied using non-refillable aerosol spray containers.

(vi) Prepreg composite materials.

It shall be the responsibility of any person claiming any of the above exemptions to maintain calendar month records of coating usage. Such records shall show the amount of each coating used in accordance with information required by Subsection (f)(1) of this rule. These records shall be retained on site for at least three years and shall be made available to the District upon request.

(2) The provisions of Subsection (d)(2) shall not apply to the use of air brushes with a capacity of three ounces (188.6 ml) or less.

(3) The provisions of Subsections (d)(9), (f)(2), and (f)(4) shall not apply to adhesives, sealants and caulking and smoothing compounds, which have a VOC content, as applied, of less than 250 grams of VOC per liter of coating, less water and less exempt compounds.

(4) The provisions of Subsections (d)(9), (f)(2), and (f)(4) shall not apply to adhesives and sealants which are applied outside application stations required to have a District Permit to Operate.

It shall be the responsibility of any person claiming exemptions (b)(3) or (b)(4) above to maintain calendar month usage records. Such records shall show the amount of each adhesive and sealant used in accordance with information required by Subsection (f)(1) of this rule. These records shall be retained on site for at least three years and shall be made available to the District upon request.

(5) Provisions of Subsection (d)(2) shall not apply to a stationary source where not more than one gallon per day of aerospace coating is used. It shall be the responsibility of any person claiming this exemption to maintain daily records of coating usage according to Section (f) of this rule. These records shall be retained on site for at least three years and shall be made available to the District upon request.

(6) The provisions of Subsections (d)(6)(ii), (iii), and (v) shall not apply to any maskant application dip tank where 20 gallons or less of coating are used per consecutive 12-month period.

(7) The provisions of Subsections (d)(6)(i), (ii), (iii), and (v) shall not apply to any maskant application dip tank that contains an aqueous coating with a volatile organic compound (VOC) content of 10% by weight or less.

(8) The provisions of Subsection (d)(4) shall not apply to surface cleaning or stripping of aerospace components in equipment that is subject to the requirements of Rule 67.6.

(c) **DEFINITIONS**

For the purposes of this rule the following definitions shall apply:

(1) "**Adhesive**" means a material that is used to bond one surface to another surface by attachment.

(2) **"Adhesive Bonding Primer"** means a coating applied in a very thin film to aerospace adhesive bond detail components for corrosion inhibition and adhesion of the subsequently applied adhesive.

(3) **"Adhesive Bonding Primer, Structural"** means an adhesive bonding primer used in conjunction with structural adhesives to form load carrying aircraft components.

(4) **"Adhesive Bonding Primer for Elastomers and Elastomeric Adherends"** means an adhesive bonding primer applied to elastomers or nonmetallic substrates for adhesion of the subsequently applied adhesive.

(5) **"Aerospace Coatings"** means materials including but not limited to those specified in the table in Subsection (d)(1)(i) of this rule, which contain more than 20 grams of VOC per liter of coating, as applied, less water and less exempt compounds. Preservative oils and compounds, form release agents not containing solids, and greases and waxes are not aerospace coatings.

(6) **"Aerospace Component"** means any raw material, partial or completed fabricated part, assembly of parts or completed unit of any aircraft, helicopter, missile or space vehicle, including mockups, test panels and prototypes.

(7) **"Antichafe Coating"** means a coating applied to aerospace components' moving surfaces which may rub other aerospace components' surfaces during normal operation. A material shall not be classified as an antichafe coating if it can also be classified as a dry lubricative material or a solid film lubricant.

(8) **"Application Equipment"** means equipment used for applying coatings to a substrate. Application equipment includes coating distribution lines, coating hoses, equipment used in hand application methods, and equipment used in mechanically operated application methods, including but not limited to spray guns, spinning disks, and pressure pots.

(9) **"Bearing Coating"** means a coating applied to an anti-friction bearing, a bearing housing or the area adjacent to such a bearing in order to facilitate bearing function or to protect base material from excessive wear. A material shall not be classified as a bearing coating if it can also be classified as a dry lubricative material or a solid film lubricant.

(10) **"Caulking and Smoothing Compounds"** means semi-solid materials which are applied by hand application methods and are used to aerodynamically smooth exterior vehicle surfaces or fill cavities such as bolt hole accesses. A material shall not be classified as a caulking and smoothing compound if it can also be classified as a sealant.

(11) **"Chemical Surface Operation"** means formation or removal of a metallic or metallic oxide film by chemical or electrochemical means including, but not limited to, aging, anodizing, conversion coating, electroplating, electropolishing, etching, and chemical milling.

(12) **"Conformal Coating"** means a coating applied to electrical conductors and circuit boards to protect them against electrical discharge damage and/or corrosion.

(13) **"Dry Lubricative Material"** means a coating consisting of lauric acid, cetyl alcohol, waxes, or other non-cross linked or resin-bound materials which act as a dry lubricant.

(14) **"Elastomeric Adhesive"** means a rubber or silicone based adhesive used to bond elastomeric materials to metal substrates or to provide a flexibility to the bond formed.

(15) **"Electromagnetic Radiation Effect Coatings"** means coatings primarily applied to prevent radar detection~~,~~; detection by ultraviolet, visible, or infrared reflectance or emittance; and electromagnetic interference.

(16) **"Exempt Compound"** means the same as defined in Rule 2.

(17) **"Flight Test Coating"** means a coating applied to an aircraft prior to flight testing to protect the aircraft from corrosion and to provide the required markings during flight test evaluation.

(18) **"Form or Mold Release Agent"** means a coating applied to molds to prevent galling and/or to keep parts from being held by a mold or die during forming or molding.

(19) **"Freeboard Height"** means the distance from the maximum coating level to the top of a coating application dip tank.

(20) **"Freeboard Ratio"** means the freeboard height divided by the smaller of the interior length or width of a coating application dip tank.

(21) **"Fuel Tank Adhesive"** means an adhesive used in conjunction with a fuel tank coating to bond aerospace components exposed to fuel and must be compatible with fuel tank coatings.

(22) **"Fuel Tank Coating"** means a coating applied to the interior of a fuel tank, fuel fill and drainage tracks, or surfaces frequently wetted by fuel of an aircraft or space vehicle to protect them from corrosion, including corrosion due to acidic by-products of bacterial growth.

(23) **"Hand Application Method"** means the application of coatings by manually held non-mechanically operated equipment. Such equipment includes paint brushes, hand rollers, caulking guns, trowels, spatulas, syringe daubers, rags and sponges.

(24) **"High Temperature Coating"** means a coating that must withstand temperatures higher than 350° F (177°C).

(25) **"High Temperature Resistant, Thermal Flash Resistant, Rain Erosion Resistant Coating"** means a fluoroelastomeric coating that is designed specifically to protect aerospace vehicles from thermonuclear flash, erosion from airborne particles such as rain, ice, sand, etc., and temperatures above 450^{o} F (232°C).

(26) **"High-Volume Low-Pressure (HVLP) Spray"** means a coating application method using a spray applicator and pressurized air which is designed and operated with a permanent atomizing pressure between 0.1 and 10.0 psig, measured dynamically at the center of the applicator's air cap.

(27) **"Heat Treatment Scale Inhibitor"** means a coating that is applied to the surface of a part prior to thermal processing to inhibit the formation of scale.

(28) **"Hot Melt Sealant"** means a solid sealant that is liquefied in a heat gun prior to application to a joint.

(29) **"Impact Resistant Coating"** means a flexible coating that protects aerospace components, such as aircraft landing gear, landing gear compartments and other under fuselage surfaces, subject to abrasion from impact from runway debris.

(30) **"Line Sealer Maskant"** means a maskant used to cover scribe lines in maskant, or repair damage to a maskant, in order to protect against chemical milling or chemical processing solutions.

(31) **"Maskant for Bonding"** means a temporary coating applied directly to aerospace components during bonding processes to protect surface areas during chemical surface operations.

(32) **"Maskant for Chemical Milling"** means a coating or a multi-stage maskant applied directly to a metal aerospace component to protect a portion of the component's surface area~~s~~ only during chemical milling operations. Chemical milling maskants do not include line sealer maskants or maskants for bonding.

(33) **"Maskant for Chemical Processing"** means a coating or a multi-stage maskant applied directly to an aerospace component~~s~~ to protect a portion of the component's surface area~~s~~ during a single chemical surface operation, not including chemical milling, or during multiple chemical surface operations that include chemical milling. Chemical processing maskants do not include line sealer maskants or maskants for bonding.

(34) **"Multi-Stage Maskant"** means a system employing two or more component coatings that together function as a Type I chemical milling maskant or a maskant for chemical processing.-

(35) **"Optical Anti-Reflective Coating"** means a coating with a low reflectance in the infrared and visible wavelength range used for anti-reflection on or near optical laser hardware.

(36) **"Prepreg Composite Material"** means a reinforcing material impregnated with partially polymerized organic resins and ready for application.

(37) **"Preservative Oils and Compounds"** means coatings which are applied on areas that are not intended to be painted such as cables and exterior surfaces to prevent corrosion and/or to provide lubrication.

(38) **"Pretreatment Coating"** means a coating which contains at least one-half percent by weight of acid to provide surface etching, and is applied directly to metal surfaces to provide corrosion resistance, adhesion and ease of stripping.

(39) **"Primer"** means a coating usually applied for purposes of corrosion prevention, protection from the environment, functional fluid resistance and adhesion of subsequent coatings. A primer would include a coating which is formulated to be used as a primer but which, in a specific application, is used as an initial and final coating on interior areas without subsequent application of a topcoat.

(40) **"Rain Erosion Resistant Coating"** means a coating that protects leading edges of an aircraft from erosion due to rain, dust and other particles during flight, take-off or landing.

(41) **"Research and Development"** means aerospace coating operations, including operations performed for purposes of testing and quality control, which are not used for production purposes to directly produce a deliverable product or service, other than the first-article product or service.

(42) **"Sealant"** means a viscous semisolid material that fills voids in order to seal out water, fuel, other liquids, solids, or in some cases air currents, and is applied with brushes, syringes, caulking guns, spray guns or spatulas or is applied by fill and drain method.

(43) **"Solid-Film Lubricant"** means a very thin coating consisting of a binder system containing as its chief pigment material one or more of the following: molybdenum disulfide, graphite, polytetrafluoroethylene, or other solids that act as a dry lubricant between tightly fitting surfaces.

(44) **"Space Vehicle Coating"** means a coating applied to vehicles designed for use beyond the earth's atmosphere.

(45) **"Stationary Source"** means the same as defined in Rule 20.1.

(46) **"Stencil Coating"** means an ink or coating which is rolled, sprayed with an airbrush or a touch-up gun with capacity of 8 ounces (236.4 ml) or less, or brushed using a template to add identifying letters and/or numbers to aerospace components.

(47) **"Stripper"** means a volatile liquid applied to remove a maskant, paint, paint residue or temporary protective coating.

(48) **"Structural Adhesive - Autoclavable"** means an adhesive used to bond load-carrying aircraft components which is cured by heat and pressure in an autoclave or a press.

(49) **"Structural Adhesive - Non-Autoclavable"** means an adhesive not cured in an autoclave or a press which is used to bond load-carrying aircraft components or to perform other critical functions, such as bonding near engines.

(50) **"Structural Adhesive - Epoxy"** means a liquid or paste adhesive consisting of an epoxy resin and a curing agent used to bond aerospace components.

(51) **"Temporary Protective Coating"** means a pigmented coating applied to an aerospace component to protect it from mechanical and/or environmental damage during manufacturing or shipping.

(52) **"Thermocontrol Coating"** means a coating applied to space vehicle components to reflect heat and formulated to give specific heat reflectance, absorption and emissivity properties, or is a coating required for aerospace engine components to delay component failure due to fire.

(53) **"Topcoat"** means a coating applied over a primer as the final coat for purposes such as appearance, identification, or protection.

(54) **"Touch-up Coating"** means a coating that is used for that portion of the coating operation which is incidental to the main coating process but necessary to cover minor imperfections or to achieve coverage as required, or a coating operation which is necessary to repair minor mechanical damage prior to intended use. A touch-up coating may include small amounts of solvent, applied by hand, used to attach coating patches exhibiting inadequate adhesion.

(55) **"Transfer Efficiency"** means the ratio of the weight or volume of coating solids adhering to the part being coated to the weight or volume of coating solids used in the application process, expressed as a percentage.

(56) **"Type I Chemical Milling Maskant"** means a maskant used for a Type I chemical milling operation.

(57) **"Type II Chemical Milling Maskant"** means a maskant used for a Type II chemical milling operation.

(58) **"Type I Chemical Milling Operation"** means chemical milling of aluminum or aluminum alloys using milling solutions containing less than 0.1 weight % amines.

(59) **"Type II Chemical Milling Operation"** means chemical milling of aluminum or aluminum alloys using milling solutions containing 0.1 weight % amines or more.

(60) **"Unicoat"** means a coating which is applied directly to an aerospace component, to a chemically treated and unpainted aerospace component, or over an old coating system in lieu of stripping the old coating system, for purposes of corrosion protection, environmental protection and/or functional fluid resistance and which is not subsequently topcoated.

(61) **"Volatile Organic Compounds (VOC)"** means the same as defined in Rule 2.

(62) **"VOC Content Per Volume of Coating, Less Water and Exempt Compounds"** means the same as defined in Rule 2.

(63) **"VOC Content Per Volume of Material"** means the same as defined in Rule 2.

(64) **"Wet Fastener Installation Coating"** means a primer or sealant applied by dipping, brushing, or daubing to fasteners which are installed before the coating is cured.

(d) **STANDARDS**

(1) VOC Limits.

(i) Except as provided in Subsection (b)(1), a person shall not use in aerospace coating operations any coating which contains VOC in excess of the following limits:

Coating Category	VOC content, grams per liter of coating as applied, less water and less exempt compounds
Adhesive Bonding Primers:	
Structural	850
For Elastomers and Elastomeric	850
All Other Adhesive Bonding Primers	850
Adhesives:	
Structural Autoclavable	50
Structural Epoxy	50
Structural Non-Autoclavable	250
Elastomeric	850
Fuel Tank Adhesives	620
All Other Adhesives	250
Antichafe Coatings	600
Bearing Coatings	620
Caulking and Smoothing Compounds	850
Conformal Coatings	750
Dry Lubricative Materials:	
Fasteners Lubrication	250
Non-Fasteners Lubrication	880
Electromagnetic Radiation Effect Coatings	800

Coating Category	VOC content, grams per liter of coating as applied, less water and less exempt compounds
Flight Test Coatings:	
Use on Missiles, Targets	420
All Others	840
Form Release Agents	800
Fuel Tank Coatings	720
Heat Treatment Scale Inhibitors	880
High Temperature Coatings	850
High Temperature Resistant, Thermal Flash Resistant, Rain Erosion Resistant Coatings	800
Impact Resistant Coatings	420
Line Sealer Maskants	650
Maskants for Bonding	600
Maskants for Chemical Milling:	
Type I including Multi-Stage Maskants	250
Type II	160
All Other Chemical Milling	250
Maskants for Chemical Processing Chemical Processing including Multi-Stage Maskants	250
Optical Anti-Reflective Coatings	700
Pretreatment Coatings	780
Primers	350
Primers Compatible with Rain Erosion Resistant Coatings	850
Rain Erosion Resistant Coatings	690
Sealants	600
Hot Melt Sealants	100
Solid Film Lubricants:	
Fasteners Lubrication	250
Non-Fasteners Lubrication	880
Space Vehicle Coatings:	
Electrostatic Discharge Protection	800
Other Space Vehicle Coatings	1000
Adhesives	800
Temporary Protective Coatings	250
Thermocontrol Coatings	600
Topcoats	420
Unicoats	420
Wet Fastener Installation Coatings	675
All Other Coatings	420

(ii) If each coating comprising a multi-stage maskant complies with the applicable VOC limit, then the multi-stage maskant is deemed compliant. Otherwise the compliance of a multi-stage maskant with the VOC limits in Subsection (d)(1)(i) shall be determined pursuant to Subsection (d)(1)(iii) in the following manner:

(A) For a multi-stage maskant for which all component coatings are applied by methods other than dip coating, the VOC content of the multi-stage coating shall be calculated either each day of operation using that calendar day

as the averaging period or each calendar month using that calendar month as the averaging period; or

(B) For a multi-stage maskant for which some component coatings are applied by dip coating, the VOC content of the multi-stage coating shall be calculated each calendar month using that calendar month as the averaging period or that calendar month and the previous two consecutive calendar months as the averaging period.

(iii) The following formula shall be used to determine the VOC content per volume of coating less water and exempt compounds, as applied, of a multi-stage maskant over a given averaging period:

$$VOC_m = \frac{\sum_{i=1}^{n} VOC_i \times V_i}{\sum_{i=1}^{n} V_i}$$

where:

VOC_m = the VOC content per volume of coating less water and exempt compounds, as applied, of a multi-stage maskant.

VOC_i = the VOC content per volume of coating less water and exempt compounds, as applied, of the i'th component coating of the multi-stage maskant.

V_i = the total coating volume of the i'th coating component less water and exempt compounds, as applied, used at an application station or added to a dip tank , as applicable, during the averaging period.

n = the total number of component coatings that comprise the multi-stage coating.

(iv) If a multi-stage maskant is determined to exceed the VOC limits of Subsection (d)(1)(i), then the owner or operator shall be deemed in violation of this rule for each day of the averaging period used to determine compliance pursuant to Subsection (d)(1)(iii) except for each day the owner or operator can demonstrate that no such noncompliant coatings were used.

The requirements of Subsection (d)(1) may be met using an Alternative Emission Control Plan (AECP) that has been approved pursuant to Rule 67.1.

(2) Application Methods

Except as provided in Subsections (b)(1), (b)(2), and (b)(5), a person shall not apply aerospace coatings in aerospace coating operations subject to this rule except by means of the following application methods:

(i) Electrostatic spray application, or

(ii) Flow coat application, or

(iii) Dip coat application, or

(iv) Hand application methods, or

(v) Airless spray application for use with maskants and temporary protective coatings only, or

(vi) High-volume low-pressure (HVLP) spray application, or

(vii) Other coating application methods that are demonstrated to have transfer efficiency at least equal to one of the above application methods, and which are used in such a manner that parameters under which they were tested are permanent features of the method. Such coating application methods shall be approved in writing by the Air Pollution Control Officer prior to use.

(3) Stripping Operations.

Except as provided in Subsection (b)(1), a person shall not use a stripper in aerospace coating operations unless the stripper:

(i) Contains 400 grams of VOC per liter of material or less as applied, or

(ii) Has a total vapor pressure of VOC of 9.5 mm Hg or less at 68°F (20°C).

(4) Surface Cleaning Operations.

Except as provided in Subsections (b)(1) and (b)(8), a person shall not use a material for surface cleaning or surface preparation of an aerospace component unless:

(i) The material contains 200 grams of VOC per liter of material or less as applied, or

(ii) The material has a total vapor pressure of VOC of 45 mm Hg or less at 68°F (20° C), or

(iii) The material has an initial boiling point of 190^{o} C (374^{o} F) or greater at 760 mm Hg total pressure; or

(iv) The aerospace component is cleaned in an enclosed cleaning material container which is only opened when accessing parts or adding surface cleaning materials.

(5) Cleaning of Application Equipment.

Except as provided in Subsection (b)(1), a person shall not clean aerospace coating application equipment unless the cleaning material:

(i) Contains 200 grams or less of VOC per liter of material; or

(ii) Has a total vapor pressure of VOC of 20 mm Hg or less at 68°F (20°C); or

(iii) Has an initial boiling point of 190^{o}C (374^{o}F) or greater at 760 mm Hg total pressure; or

(iv) The cleaning material is flushed or rinsed through the application equipment in a contained manner that will minimize evaporation into the atmosphere; or

(v) The application equipment or equipment parts are cleaned in a container which is open only when being accessed for adding, cleaning, or removing application equipment or when cleaning material is being added, provided the cleaned equipment or equipment parts are drained to the container until dripping ceases; or

(vi) A system is used that totally encloses the component parts being cleaned during washing, rinsing and draining; or

(vii) Other application equipment cleaning methods are used that are demonstrated to be as effective as any of the equipment described above in minimizing the emissions of VOC to the atmosphere, provided that the method has been tested and approved by the Air Pollution Control Officer prior to use.

(6) Maskant Dip Coating Application Equipment.

Except as provided in Subsections (b)(1), (b)(6), and (b)(7), a person shall not use a dip tank to apply Type I chemical milling maskants or maskants for chemical processing or component coatings of a multi-stage maskants to aerospace parts unless:

(i) The dip tank is covered except when being accessed to add or remove materials; take samples; visually inspect the maskant level; clean, maintain or repair the tank; or apply maskant; and

(ii) The dip tank has a readily visible, permanent mark or line indicating the maximum allowable maskant level; and

(iii) The dip tank has a freeboard ratio greater than or equal to 0.5; and

(iv) Maskant agitation is achieved by means other than gas agitation; and

(v) Material is added to the dip tank by means of submerged filling; and

(vi) Any dip tank lip exhaust ventilation system with an inlet located below the cover of the maskant application dip tank is turned off and the ventilation duct closed when the maskant application dip tank is covered.

(7) Disposal of Waste Materials into the Air.

A person shall not use spray application equipment or any other means to dispose of waste coatings, coating components, surface preparation materials, or cleaning materials into the air, except when momentarily purging coating material from a spray applicator cap immediately before or after applying the coating material.

(8) Prohibition of Specification.

A person shall not specify the application of a coating subject to this rule for any aerospace coating operation in San Diego County if such application results in a violation of any provision of this rule. This prohibition is applicable to any written or oral contract under the terms of which any coating is applied to any aerospace component within San Diego County.

(9) Coating Lists.

Except as provided in Subsections (b)(1), (b)(3), and (b)(4), a person using aerospace coatings subject to this rule shall provide to the Air Pollution Control Officer a list of all coatings applied in each affected facility. Such list shall contain all information required by Subsection (f)(1). The list shall also identify, for each aerospace coating, all applicable coating category uses, including allowable VOC content, specified in Subsection (d)(1)(i). The list shall be revised before any aerospace coating is used for purposes other than those previously identified on the list. The revised list shall be retained on site and provided to the Air Pollution Control Officer upon request. Information necessary to demonstrate that the intended use of a coating is consistent with the applicable definition of the coating use contained in Section (c) shall be provided to the District upon request.

A person shall not use any aerospace coating unless the coating is included on such list and is used only as the coating category specified on the list for that specific coating. If the intended use of a coating has been determined in writing by the Air Pollution Control Officer to be inconsistent with the applicable definition of the coating use contained in Section (c) or if the VOC content of a coating does not comply with the applicable limits specified in Subsection (d)(1), the coating shall be deleted from the list and shall not be used. Such determinations by the Air Pollution Control Officer shall not relieve the person using any aerospace coating from complying with the applicable definitions and VOC content limits of this rule.

(e) **CONTROL EQUIPMENT**

(1) Any person subject to this rule may comply with the provisions of Subsections (d)(1) through (d)(6) by using air pollution control equipment which has been approved in writing by the Air Pollution Control Officer provided that the air pollution control equipment:

(i) Has been installed in accordance with an Authority to Construct; and

(ii) Includes an emission collection system which captures organic gaseous emissions, including emissions associated with applicable coating, equipment cleaning, and surface preparation operations, and transports the captured emissions to an air pollution control device; and

(iii) Has a combined emissions capture and control device efficiency of at least 85 percent by weight.

(2) A person electing to use an air pollution control system pursuant to Subsection (e)(1) of this rule shall submit an Operation and Maintenance Plan for the air pollution control device and emission collection system to the Air Pollution Control Officer for approval and receive such approval prior to operation of the air pollution control equipment. Thereafter, the plan can be modified, with Air Pollution Control Officer approval, as necessary to ensure compliance. The Operation and Maintenance Plan shall:

(i) Identify all key system operating parameters. Key system operating parameters are those necessary to ensure compliance with Subsection (e)(1)(iii), such as temperature, pressure, and/or flow rate; and

(ii) Include proposed inspection schedules, anticipated ongoing maintenance, and proposed recordkeeping practices regarding the key system operating parameters.

(3) Upon approval of the Air Pollution Control Officer, a person electing to use an air pollution control system pursuant to this Section (e) shall implement the Operation and Maintenance plan and shall comply with the provisions of the approved plan thereafter.

(f) **RECORDKEEPING**

Except as provided in Subsections (b)(1), (b)(3), and (b)(4), any person using coatings, strippers, thinners, surface cleaning materials or equipment cleaning materials in aerospace coating operations shall maintain records in accordance with the following requirements:

(1) Maintain a current list of coatings, strippers, thinners, surface cleaning and equipment cleaning materials in use. This list shall provide the data necessary to evaluate compliance, including, but not limited to:

(i) Type and/or applicable category specified in Subsections (d)(1), (d)(3), (d)(4), and (d)(5) of each coating, stripper, thinner, surface cleaning and equipment cleaning material used, including manufacturer identification; and

(ii) Mix ratio of components; and

(iii) VOC content per volume of coating less water and exempt compounds, as applied; and

(iv) VOC content per volume of material, total vapor pressure of VOC, or initial boiling point of each stripper, surface cleaning material, and equipment cleaning material, as applied; and

(v) For each multi-stage maskant, the applicable maskant category specified in Subsection (d)(1), and the manufacturer identification of the component coatings that comprise the multi-stage maskant.

(2) At a minimum, for each material that is in compliance with Subsections (d)(1), (d)(3), (d)(4) or (d)(5), as applicable, maintain records for each calendar month that show:

(i) For any materials not applied by dip coating, the amount of each coating, stripper, and thinner used; and

(ii) Inventory (dispensing) records for solvents used for equipment cleaning and surface cleaning operations; and

(iii) Material additions to coating application dip tanks.

(3) For each material that is not in compliance with Subsections (d)(1) maintain daily usage records for all coatings, thinners, and VOC containing materials.

(4) A person using control equipment specified in Section (e) of this rule shall:

(i) Maintain records in accordance with Subsections (f)(1) and (f)(2);

(ii) Maintain daily usage records for all coatings, strippers, cleaning and/or surface preparation materials not in compliance with Subsections (d)(1), (d)(3), (d)(4) or (d)(5) of this rule; and

(iii) Maintain daily records of key system operating parameters as approved in the Operation and Maintenance plan. Such records must be sufficient to document continuous compliance with Subsection (e)(1)(iii) during periods of emission producing activities.

All records shall be retained on site for at least three years and shall be made available to the District upon request.

(g) **TEST METHODS**

(1) Measurements of the VOC content of coatings, strippers and cleaning materials subject to Section (d) of this rule shall be conducted and reported in accordance with EPA Test Method 24 (40 CFR 60, Appendix A).

(2) Perfluorocarbon (PFC) compounds and cyclic, branched, or linear completely methylated siloxanes (VMS) shall be assumed to be absent from aerospace coatings, strippers and cleaning materials subject to this rule unless a manufacturer of the material or a facility operator identifies the specific individual compound(s) and the amount(s) present in the material and provides an approved test method which can be used to quantify the specific compounds.

(3) The overall control efficiency of air pollution control equipment operated pursuant to Subsection (e)(1)(iii) shall be determined by multiplying the capture efficiency of the emission collection system by the control efficiency of the air pollution control device. The control efficiency of the air pollution control device shall be determined using EPA Methods 18 and 25 or 25A (40 CFR 60, Appendix A) and in accordance with a protocol approved by the Air Pollution Control Officer. Capture efficiency shall be determined according to EPA's technical document, "Guidelines for Determining Capture Efficiency," January 9, 1995. Subsequent to the initial compliance demonstration period, appropriate key system operating parameters as determined by the Air Pollution Control Officer may be used as indicators of the performance of the emission collection system.

(4) Measurements of transfer efficiency pursuant to Subsection (d)(2)(vii) of this rule shall be conducted in accordance with the South Coast Air Quality Management District's "Spray Equipment Transfer Efficiency Test Procedure for Equipment User".

(5) Total vapor pressure of VOC containing materials subject to Subsections (d)(3)(ii), (d)(4)(ii) and (d)(5)(ii) of this rule shall be calculated by using the District's "Procedure for Estimating the Vapor Pressure of VOC Mixtures". If the vapor pressure of the liquid mixture exceeds the limits specified in Subsections (d)(3)(ii), (d)(4)(ii) and (d)(5)(ii), as applicable, the vapor pressure shall be determined in accordance with ASTM Standard Test Method D2879-86, Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope. The fraction of water and exempt compounds in the liquid phase shall be determined by using ASTM Standard Test Methods D 3792-91 and D 4457-85 and shall be used to calculate the partial pressure of water and exempt compounds. The results of vapor pressure measurements obtained using ASTM Standard Test Method D2879-96 shall be corrected for the partial pressure of water and exempt compounds.

(6) Measurements of acid content of pretreatment coating as defined in Subsection (c)(38) of this rule shall be conducted in accordance with ASTM Standard Test Method D 1613-91 for Determination of Acidity in Volatile Solvents and Intermediates used in Paint, Varnish, Lacquer and Related Products or in accordance with the test procedure specified in MIL-C-8514C(ASG).

(7) Measurement of the initial boiling point of cleaning and surface preparation materials subject to Subsection (d)(4)(iii) and/or (d)(5)(iii) of this rule shall be conducted in accordance with ASTM Standard Test Method D1078-86 for distillation range of volatile organic liquids.

(8) Measurement of solvent losses from alternative application cleaning equipment subject to Subsection (d)(5)(vii) shall be conducted and reported in accordance with the South Coast Air Quality Management District's "General Test Method for Determining Solvent Losses from Spray Gun Cleaning Systems" dated October 3, 1989.