



Air Pollution Control Board
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Air Pollution Control Officer
R. J. Sommerville

NOTICE OF WORKSHOP

TO DISCUSS PROPOSED AMENDMENTS TO RULE 67.9- AEROSPACE COATING OPERATIONS

The San Diego County Air Pollution Control District will hold a public meeting to consider proposed amendments to rule 67.9- Aerospace Coating Operations. Comments concerning this proposal may be submitted in writing before, or made at, the workshop which is scheduled as follows:

DATE: June 3, 1993 (Thursday)
TIME: 9 am - 11 am
PLACE: Farm Advisor's Conference Room
County Operations Center, Bldg.4
5555 Overland Avenue
San Diego, CA 92123

Rule 67.9 controls emissions of volatile organic compounds (VOC's) from aerospace coating operations. The proposed changes will extend compliance dates for specified coating categories, provide additional options for the cleaning of coating application equipment, exempt certain materials from the rule and reduce recordkeeping requirements for the affected industry. In addition, the proposed amendments will delete outdated provisions and provide updates for some definitions, and test methods. Specifically, the amended Rule 67.9 will:

- Extend the effective compliance dates for fuel tank coatings and maskants to July 1994.
- Exclude greases, preservative oils and compounds, and form release agents from the definition of aerospace coatings.
- Provide facilities with the option of keeping monthly instead of daily records.
- Reduce the amount of information required by the District to be included in the list of aerospace coatings, strippers and cleaning materials.
- Specify recordkeeping requirements for facilities using emission control equipment with non-compliant coatings.
- Provide additional options for the cleaning of coating application equipment.
- Revise the VOC definition consistent with the latest EPA guidelines.
- Clarify methods for calculating the VOC content of coatings, strippers and cleaning materials.
- Update test methods used to determine compliance with the rule.

Workshop Notice
Rule 67.2

- Delete outdated provisions.

If you would like a copy of proposed amended Rule 67.9, please call Juanita Ogata at (619) 694-8851. If you have any questions concerning these proposals, please call Natalie Zlotin at (619) 694-3312 or me at (619) 694-3303.

Richard J. Smith

RICHARD J. SMITH
Deputy Director

RJSm:NZ:jo
05/03/93

AIR POLLUTION CONTROL DISTRICT

Proposed amendments to Rule 67.9 are to read as follows:

RULE 67.9. AEROSPACE COATING OPERATIONS

(a) APPLICABILITY

(1) This rule is applicable to the coating, masking, bonding, and paint stripping of aerospace components, 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)(5) and (d)(7) shall not apply to the following:

(i) Touch-up coatings and stencil coatings.

(ii) A stationary source where not more than 50 gallons per year of aerospace coating is used.

(iii) Coatings with separate formulations that are used in volumes of less than 20 gallons per year provided not more than 50 gallons per year of all such non-compliant coatings are used at the stationary source. This amount does 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 year of all such non-compliant coatings are used at the stationary source.

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

(vi) Prepreg composite materials.

It shall be the responsibility of any person claiming any of the above exemptions to maintain yearly records of coating usage. Such records shall show the amount of each coating used in accordance with 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)(7) and (f)(2) shall not apply to adhesives, sealants, and caulking and smoothing compounds, and ~~preservative oils and compounds~~ which have a VOC content, as applied, of less than 250 grams per liter of VOC, less water and less exempt compounds.

(4) The provisions of Subsections (d)(7) and (f)(2) 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 yearly usage records. Such records shall show the amount of each adhesive and sealant used in accordance with 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.

(c) DEFINITIONS

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

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

(2) "Adhesive Bonding Primer" is 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" is 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" is an adhesive bonding primer applied to elastomers or nonmetallic substrates for adhesion of the subsequently applied adhesive.

(5) "Aerospace Coatings" are materials including but not limited to those specified in the table in Subsection (d)(1)(i) of this rule. Preservative oils and compounds, form release agents and greases are not aerospace coatings.

(6) "Aerospace Component" is 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" is 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" is 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"** is 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"** are 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) **"Conformal Coating"** is a coating applied to electrical conductors and circuit boards to protect them against electrical discharge damage and/or corrosion.

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

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

(14) **"Electromagnetic Radiation Effect Coatings"** are coatings primarily applied to prevent radar detection, detection by infrared reflectance and electromagnetic interference.

(15) **"Exempt Compound"** is any of the following compounds or classes of compounds: methylene chloride, 1,1,1-trichloroethane, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), chlorodifluoromethane (HCFC-22), trifluoromethane (HFC-23), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), chloropentafluoroethane (CFC-115), dichlorotrifluoroethane (HCFC-123), tetrafluoroethane (HFC-134a), dichlorofluoroethane (HCFC-141b), chlorodifluoroethane (HCFC-142b), 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 the following four classes of perfluorocarbon (PFC) compounds:

(i) cyclic, branched, or linear, completely fluorinated alkanes;

(ii) cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;

(iii) cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and

(iv) sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

(16) **"Flight Test Coating"** is 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.

(17) **"Form or Mold Release Agent"** is a coating applied to metal sheets or metal/composite molds to prevent galling and/or to keep the metal or composite part from being held by a mold or die during forming or molding.

(18) **"Fuel Tank Adhesive"** is 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.

(19) **"Fuel Tank Coating"** is 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.

(20) **"Hand Application Method"** is 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.

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

(22) **"High Temperature Resistant, Thermal Flash Resistant, Rain Erosion Resistant Coating"** is 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° F (233° C).

(23) **"High-Volume Low-Pressure (HVLP) Spray"** is a coating application method using a pressurized air at a permanent pressure between 0.1 and 10.0 psig, not to exceed 10.0 psig measured at the air cap of the coating application system, and a permanent liquid coating pressure of not more than 50 psig.

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

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

(26) **"Impact Resistant Coating"** is 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.

(27) **"Line Sealer Maskant"** is a maskant used to cover scribe lines in maskant in order to protect against etchant in multi-step etching processes.

(28) **"Maskant for Chemical Milling"** is a coating applied directly to metal aerospace components to protect surface areas during chemical milling.

(29) **"Maskant for Chemical Processing"** is a coating applied directly to aerospace components to protect surface areas during anodizing, aging, bonding, plating, etching, or other chemical surface operations.

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

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

(32) **"Preservative Oils and Compounds"** are 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.

(33) **"Pretreatment Coating"** is 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.

(34) **"Primer"** is 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.

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

(36) **"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.

(37) **"Sealant"** is 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.

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

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

(40) **"Stationary Source"** means an emission unit or an aggregation of emission units of non-vehicular air contaminant emitting articles, machines, equipment or other contrivances, all of which are located on one property or adjoining properties under the same ownership or entitlement to use and operate. This includes any unit or aggregation of units in the California Coastal Waters off San Diego County, located on the same or contiguous property. Emission units which are on the same or contiguous property and which are under the same ownership or entitlement to use, shall be considered a single stationary source. If emission units are on the same or contiguous property and they are

related emission units, they shall be considered a single stationary source regardless of emission unit or property ownership or entitlement to use. Contiguous property means two or more parcels of land with a common boundary or separated solely by a public or private roadway or other public or private right-of-way.

(41) **"Stencil Coating"** is 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.

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

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

(44) **"Structural Adhesive - Non-Autoclavable"** is 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.

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

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

(47) **"Thermocontrol Coating"** is 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.

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

(49) **"Touch-up Coating"** is 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. A touch-up coating may include small amounts of solvent, applied by hand, used to attach coating patches exhibiting inadequate adhesion.

(50) **"Transfer Efficiency"** is 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.

(51) **"Unicoat"** is 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.

(52) "**Volatile Organic Compounds (VOC)**" for the purpose of this rule means any volatile compound of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, ammonium carbonate, metallic carbides, metallic carbonates, and exempt compounds which may be emitted to the atmosphere during operations or activities subject to this rule. ~~VOC content of coatings is expressed in grams of VOC per liter of coating as applied, less water and less exempt compounds. VOC content of strippers, surface cleaning and equipment cleaning materials is expressed in grams of VOC per liter of material.~~

(53) "**VOC Content Per Liter of Coating, Less Water and Exempt Compounds**" means the weight of VOC per combined volume of VOC and coating solids and is calculated by the following equation:

$$C_{cVOC} = \frac{W_s - W_w - W_{es}}{V_m - V_w - V_{es}}$$

where,

C_{cVOC} = VOC content less water and exempt compounds

W_s = weight of volatile compounds including water

W_w = weight of water

W_{es} = weight of exempt compounds

V_m = volume of material

V_w = volume of water

V_{es} = volume of exempt compounds

(54) "**VOC Content Per Liter of Material**" means the weight of VOC per volume of material and is calculated by the following equation:

$$C_{mVOC} = \frac{W_s - W_w - W_{es}}{V_m}$$

where

C_{mVOC} = VOC content

W_s = weight of volatile compounds including water

W_w = weight of water

W_{es} = weight of exempt compounds

V_m = volume of material

(53)(55) "**Wet Fastener Installation Coating**" is 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) A person shall not use in aerospace coating operations any coating which contains VOC in excess of the following limits on and after the effective date specified:

| <u>Coating Category</u> | <u>VOC content, grams per liter of coating as applied, less water and less exempt compounds</u> | | |
|---|---|------------------------|---------------|
| | <u>5/21/91</u> | <u>Effective Dates</u> | |
| | | <u>7/1/92</u> | <u>7/1/94</u> |
| Adhesive Bonding Primers: | | | |
| Structural | 850 | | 250 |
| For Elastomers and Elastomeric Adherends | 850 | | |
| All Other Adhesive Bonding Primers | 850 | | 350 |
| Adhesives: | | | |
| Structural Autoclavable | 50 | | |
| Structural Epoxy | 50 | | |
| Structural Non-Autoclavable Elastomeric | 850 | | 250 |
| All Other Adhesives | 850 | <u>250 (7/1/92)</u> | 250 |
| Antichafe Coatings | 600 | | |
| Bearing Coatings | 620 | | |
| Caulking and Smoothing Compounds | 850 | | |
| Conformal Coatings | 750 | | |
| Dry Lubricative Materials: | | | |
| Fasteners Lubrication | 880 | <u>250 (7/1/92)</u> | 250 |
| Non-Fasteners Lubrication | 880 | | |
| Electromagnetic Radiation Effect Coatings | 800 | | |
| Flight Test Coatings: | | | |
| Use on Missiles, Targets | 420 | | |
| All Others | 840 | | |
| Form Release Agents | 800 | | |
| Fuel Tank Adhesives | 850 | <u>620(7/1/92)</u> | 620 |
| Fuel Tank Coatings | 650 | <u>420 (7/1/93)</u> | <u>420</u> |
| Heat Treatment Scale Inhibitors | 880 | | |
| High Temperature Coatings | 850 | | |

VOC content, grams per liter of coating as applied,
less water and less exempt compounds

| <u>Coating Category</u> | <u>5/21/91</u> | <u>Effective Dates</u> | |
|--|----------------|-----------------------------------|---------------|
| | | <u>7/1/92</u> | <u>7/1/94</u> |
| High Temperature Resistant, Thermal Flash Resistant, Rain Erosion Resistant Coatings | 800 | | |
| Impact Resistant Coatings | 600 | | 420 |
| Line Sealer Maskants | 650 | | |
| Maskants (See also (d)(1)(ii), (iii) and (iv)) for: | | | |
| Chemical Milling | 600 | 250 (7/1/93) | 250 |
| Chemical Processing | 600 | 250 (7/1/93) | 250 |
| Optical Anti-Reflective Coatings | 700 | | |
| Preservative Oils and Compounds | 850 | | |
| Pretreatment Coatings | 780 | | |
| Primers | 350 | | |
| Primers Compatible with Rain Erosion Resistant Coatings | 850 | | |
| Rain Erosion Resistant Coatings | 690 | | 420 |
| Sealants | 850 | 600 <u>600(7/1/92)</u> | 600 |
| Hot Melt Sealants | 100 | | |
| Solid Film Lubricants: | | | |
| Fasteners Lubrication | 880 | | 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 | 600 | 420 <u>420(7/1/92)</u> | 420 |
| Unicoats | 600 | 420 <u>420(7/1/92)</u> | 420 |
| Wet Fastener Installation Coatings | 675 | | |
| <u>All Other Coatings</u> | <u>420</u> | | |

(ii) Before July 1, 1993 1994, a person shall not use maskants for chemical milling or chemical processing which have a VOC content of greater than 600 grams per liter, less perchloroethylene, less water and less exempt compounds as applied, nor which have a perchloroethylene content greater than 1200 grams per liter of coating as applied, less water and less exempt compounds.

(iii) After July 1, ~~1993~~ 1994, a person shall not use maskants for chemical processing which have a VOC content of greater than 250 grams per liter, less water, less perchloroethylene and less exempt compounds as applied, nor which have a perchloroethylene content greater than 1200 grams per liter of coating as applied, less water and less exempt compounds.

(iv) After July 1, ~~1993~~ 1994, a person shall not use maskants for chemical milling which have a VOC content greater than 250 grams per liter of coating as applied, less water and less exempt compounds.

The requirements of Subsection (d)(1) may be met using an Alternative Emission Control Plan (AECPP) that has been approved pursuant to Rule 67.1. The AECPP shall not include credit for reductions in the emissions of perchloroethylene nor credit for use of perchloroethylene.

(2) Application Equipment.

Except as provided in Subsection (b)(5), ~~effective November 21, 1991~~, a person shall not apply coatings containing more than 20 grams per liter of VOC's 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 achieve as ~~a minimum 65 percent transfer efficiency or~~ 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, California Air Resources Board and Environmental Protection Agency.

(3) Coating Strippers.

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) Materials for Surface Cleaning.

A person shall not use a material for surface cleaning 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 aerospace component is cleaned in an enclosed cleaning material container which is only opened when accessing parts or adding surface cleaning materials.

(5) Cleanup Solvents for Application Equipment.

~~After November 21, 1991,~~ a person shall not clean aerospace coating application equipment unless:

- (i) The equipment is cleaned in a solvent container which is covered when not being accessed, which has a facility for draining cleaned parts and the drained solvent is returned to a closed container; or
- (ii) The equipment is cleaned in a device which totally encloses the application component parts during washing, rinsing and draining; or
- (iii) The cleaning solvent is transferred through the application equipment, without exposure to air, into a container that has in place an apparatus or cover which completely covers the container and has no visible holes, breaks, openings or separations between adjoining components of the container or container cover (the container may be equipped with vents provided that such vents are necessary to comply with applicable fire and safety codes); or
- (iv) The cleaning solvent contains 200 grams or less of VOC per liter or has a total vapor pressure of VOC of 20 mm Hg or less at 68°F (20° C); or
- (v) The equipment or equipment parts are cleaned in an enclosed container which is open only when being accessed or when cleaning material is being added, and clean equipment and/or equipment parts are drained to the container until dripping ceases; or
- (vi) The equipment is cleaned in a device where liquid solvent is pumped from a solvent container to a sink-like work area and the solvent from the sink-like area drains into an enclosed solvent container while equipment is being cleaned, and the device is covered when not being used, cleaned, or repaired; or
- (vii) The equipment is cleaned in any other manner which minimizes evaporation of VOC's to the atmosphere, clean equipment and/or equipment parts

are drained to the container until dripping ceases, and the cleaning material is returned to a closed container.

(6) 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.

(7) ~~Effective November 21, 1991, any~~ Any 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 and provided to the Air Pollution Control Officer before any aerospace coating is used for purposes other than those previously identified on the list. 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.

(8) A person shall not sell, offer for sale, or supply any coating, stripping or cleaning solvent for use in aerospace coating operations in San Diego County that, after May 21, 1991, was newly formulated to contain or reformulated to increase the content of methylene chloride, 1,1,1-trichloroethane, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), trichlorotrifluoroethane (CFC-113), dichlorotetra-fluoroethane (CFC-114), or chloropentafluoroethane (CFC-115).

(9) ~~After May 21, 1992,~~ a person shall not manufacture, sell, offer for sale, or supply any coating, stripping or cleaning material for use in aerospace coating operations in San Diego County unless the coating, stripping or cleaning material container displays the content of methylene chloride, 1,1,1-trichloroethane, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), or chloropentafluoroethane (CFC-115).

(e) CONTROL EQUIPMENT

(1) Any person subject to this rule may comply with the provisions of Subsections (d)(1) through (d)(5) by using air pollution control equipment which has been approved in writing by the Air Pollution Control Officer provided that:

(i) The air pollution control equipment has been installed in accordance with an Authority to Construct; and

(ii) The emission collection system which captures and transports VOC emissions to the air pollution control device collects at least 90 percent by weight of the emissions generated by the coating, stripping or cleaning operations, including all VOC emissions from applied coatings; and

(iii) The control device reduces VOC emissions by at least 95 percent by weight.

(2) A person electing to comply with the provisions of Subsections (d)(1) through (d)(5) by using air pollution control equipment shall submit to the Air Pollution Control Officer for approval an Operation and Maintenance Plan for the air pollution control device and emission collection system. Such plan shall:

(i) Identify all key system operating parameters. Key system operating parameters are those necessary to ensure compliance with Subsections (e)(1)(ii) and (e)(1)(iii) of this section.

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

(3) The Operation and Maintenance Plan must be submitted to the Air Pollution Control Officer and receive approval prior to operation of the air pollution control equipment. A person subject to the requirements of this section shall implement the plan on the approval of the Air Pollution Control Officer.

(f) RECORDKEEPING

~~Effective November 21, 1991, any~~ 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 category of coating, stripper, thinner, surface cleaning and equipment cleaning material used, including manufacturer identification;

(ii) Mix ratio of components;

(iii) ~~Density,~~ VOC content and/or total vapor pressure of VOC of each coating, thinner, stripper, surface cleaning and equipment cleaning material, as applied.

(iv) ~~Water, exempt compound and solids content of each coating, thinner, stripper, surface cleaning and equipment cleaning material as applied.~~

(2) ~~At a minimum, maintain~~ Maintain daily monthly records showing the amount of each coating, stripper, and thinner used. ~~At a minimum, maintain monthly~~ Maintain daily inventory (dispensing) records of solvents used for equipment cleaning and surface cleaning operations. Maintain records of material additions to dip tanks used for dip coating applications.

All records shall be retained on site for at least three years and shall be made available to the District upon request. ~~Records required to be maintained by permit conditions in effect prior to May 21, 1991, shall continue to be maintained until compliance with the requirements of this section is achieved.~~

(3) 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)(i), (d)(4)(ii) or (d)(5)(iv) of this rule; and

(iii) maintain daily records of key system operating parameters specified in Subsection (e)(2)(i).

(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) as it exists on (date of adoption) May 21, 1991, and ASTM Standard Test Method D 4457-85 for determination of dichloromethane and 1,1,1-trichloroethane in paints and coatings by direct injection in a gas chromatograph.

(2) ~~Calculations of the VOC content of coatings less water and less exempt compounds shall be performed in accordance with ASTM Standard Practice D 3960-87 for determining VOC content of paints and related coatings.~~

Perfluorocarbon (PFC) compounds shall be assumed to be absent from a 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) Measurements of VOC emissions subject to Section (e) of this rule shall be conducted in accordance with EPA Methods 18, ~~25~~ and/or 25A (40 CFR 60, Appendix A) as they exist on ~~May 21, 1991.~~ (date of adoption) and in accordance with a protocol

~~approved by the Air Pollution Control Officer. and with EPA Capture Efficiency Test Method published in 55 FR 26865, June 29, 1990.~~

(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" as it exists on (date of adoption) May 21, 1991.

(5) Total vapor pressure of VOC containing materials pursuant to Subsections (d)(3)(ii), (d)(5)(iv) and (d)(4)(ii) of this rule shall be calculated by using the District's "Procedure for Estimating the Vapor Pressure of a Solvent Mixture" as it exists on (date of adoption). May 21, 1991. If the vapor pressure of the liquid mixture exceeds the limits specified in Subsections (d)(3)(ii), (d)(5)(iv) and (d)(4)(ii), as applicable, the vapor pressure shall be determined in accordance with ASTM Standard Test Method D2879-83, Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isotenoscope. The fraction of water and exempt compounds in the liquid phase shall be determined by using ASTM Standard Test Methods D 3792-86 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 D2879-83 shall be corrected for the partial pressure of water and exempt compounds.

(6) Measurements of acid content of pretreatment coating pursuant to Subsection (c)(33) of this rule shall be conducted in accordance with ASTM Standard Test Method D 1613-85 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) as it exists on (date of adoption) May 21, 1991.

(7) Measurements of perchloroethylene content in maskants pursuant to Subsections (d)(1)(ii) and (d)(1)(iii) shall be conducted in accordance with the ASTM Standard Test Method D 4457-85.

~~(8) The VOC content of strippers and cleaning materials subject to Subsections (d)(3)(i), (d)(4)(i) and (d)(5)(iv) of this rule shall be determined in accordance with ASTM Standard Recommended Practices for General Gas Chromatography Procedures, E-260-73, General Techniques of Infrared Quantitative Analysis E 168-67, or General Techniques of Ultraviolet Quantitative Analysis, E 169-63.~~