AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN DIEGO

DATE: September 21, 1993

TO: Air Pollution Control Board

SUBJECT: Adoption of Amendment to Rule 67.9 (Aerospace Coating Operations)

SUMMARY:

Rule 67.9 (Aerospace Coating Operations) controls volatile organic compound (VOC) emissions from coating, stripping and cleaning operations used in manufacturing and repair of aerospace components. The changes will extend compliance dates for specified coating categories, provide additional options for cleaning coating application equipment, exempt specified materials from the rule and reduce recordkeeping requirements. In addition, the amendments clarify the rule and update definitions and test methods. Approximately 18 facilities currently subject to the rule will be affected. No significant changes in VOC emissions are expected. The proposed amendments, with the exception of some necessary rule clarifications, are requested by affected industry and therefore are consistent with Board direction of February 2, 1993 regarding adoption of new or revised regulations.

Issue

Should the Board adopt amendments to Rule 67.9 (Aerospace Coating Operations) to extend certain compliance dates, provide additional options for cleaning operations and recordkeeping, exempt specified materials, and provide updates and clarifications?

Recommendation

AIR POLLUTION CONTROL OFFICER

1. Set November 2, 1993 at 2:00 p.m., as the date and time for public hearing to consider the resolution amending Rule 67.9 of the Rules and Regulations of the San Diego County Air Pollution Control District.

2. Direct the Clerk of the Board to notice the Hearing pursuant to Section 40725 of the State Health and Safety Code.

3. Following the hearing: (a) adopt the resolution amending Rule 67.9, and (b) make appropriate findings:

   (i) of necessity, authority, clarity, consistency, non-duplication and reference, as required by Section 40727 of the State Health and Safety Code;

(ii) that the amendments will not significantly affect air quality or emissions limitations, and an assessment of socioeconomic impacts is not required (Section 40728.5 of the State Health and Safety Code); and

(iii) that the adoption of amendments is categorically exempt from the provisions of the California Environmental Quality Act pursuant to California Code of Regulations, Title 14, Sections 15300 and 15308, as an action taken to assure the maintenance or protection of the environment, where the regulatory process involves procedures for protection of the environment, and where the impact on air quality or emission limitations is insignificant.

Advisory Statement

The Air Pollution Control District Advisory Committee recommended adopting the amendments to Rule 67.9 at its May 26, 1993 meeting.

Fiscal Impact

Adopting the proposed changes will have no fiscal impact on the District.

Alternatives

Not amend Rule 67.9. This would result in a hardship to affected industry by requiring it to obtain a variance from Rule 67.9 because certain complying coatings are not available. It will also result in continuing problems with excessive paperwork required for daily recordkeeping.

BACKGROUND:

Rule 67.9 was adopted to control VOC emissions (ozone precursors) from coating, masking, stripping and surface and equipment cleaning operations used in manufacturing and repair of aerospace components. The rule was subsequently amended to provide current and future VOC content limits for specified coating categories and to provide consistency with similar rules of other Southern California districts. However, recently it became evident that the aerospace industry needs additional time to evaluate the performance of certain low VOC water-based maskants, fuel tank coatings and adhesive bonding primers. The amended rule will extend the effective compliance date for these coatings from July 1993 to July 1994 to allow additional time to complete the testing of maskants and other coatings. This extension will become effective on the date of rule adoption. In the interim, the District has obtained a variance for affected companies, so they will not be found in violation of the current rule.

Rule 67.9 has also been modified to provide an option to keep monthly records. Daily recordkeeping requirements in the current rule were added in 1990 as mandated by the EPA and they have been costly and a major burden for many businesses. EPA subsequently allowed monthly recordkeeping for sources using only complying coatings. Daily recordkeeping will be required only for sources using non-compliant coatings with emission control equipment. In addition, the required information has been reduced to exclude non-essential information, as requested by industry.

The proposed changes will explicitly exclude greases, preservative oils and compounds, and form release agents from the definition of aerospace coatings because they were never intended to be

included. They also provide additional options for the cleaning of coating application equipment. Other minor clarifications were also made to update definitions and test methods for determining compliance.

Section 40728.5 of the State Health and Safety Code requires the District to perform a socioeconomic impact assessment for rules and regulations that will significantly affect air quality or emission limitations. The proposed amendments to Rule 67.9 will not result in any significant changes in air quality or emission limitations. Accordingly, it is not necessary to perform a socioeconomic impact assessment for amendments to Rule 67.9.

On February 2, 1993, the Air Pollution Control Board directed that, with the exception of a Regulation requested by business or a Regulation for which a socioeconomic impact assessment is not required, no new or revised regulation shall be implemented during the 1993 calendar year, unless specifically ordered by Federal or State law. The changes to Rule 67.9 were requested by industry and are therefore consistent with Board direction.

Finally, the California Environmental Quality Act requires an environmental review for certain actions. The adoption of the proposed amendments will not have a significant effect on the environment and is categorically exempt from the provision of the California Environmental Quality Act pursuant to California Code of Regulations, Title 14, Sections 15300 and 15308, as an action taken to assure the maintenance or protection of the environment where the regulatory process involves procedures for protection of the environment.

A public workshop on the proposed changes was held on June 3, 1993. The workshop report is attached.

Concurrence:

DAVID E. JANSSEN
Chief Administrative Officer

Respectfully submitted,

R. J. SOMMERVILLE
Air Pollution Control Officer

AIR POLLUTION CONTROL BOARD
AGENDA ITEM
INFORMATION SHEET

SUBJECT: Adoption of Amendment to Rule 67.9 (Aerospace Coating Operations)

SUPV DIST.: All

TD 9/2/93

COUNTY COUNSEL APPROVAL: Form and Legality [X] Yes [ ] N/A
[ ] Standard Form [ ] Ordinance [X] Resolution

AUDITOR APPROVAL: [X] N/A [ ] Yes **4 VOTES:** [ ] Yes [X] No

FINANCIAL MANAGEMENT REVIEW: [ ] Yes [X] No

CONTRACT REVIEW PANEL: [ ] Approved _____ [X] N/A

CONTRACT NUMBER(S): N/A

PREVIOUS RELEVANT BOARD ACTION: May 21, 1991 Item #9

BOARD POLICIES APPLICABLE: N/A

CITIZEN COMMITTEE STATEMENT: The Air Pollution Control District Advisory Committee recommended adoption of the proposed amendments to Rule 67.9 on May 26, 1993.

CONCURRENCES: N/A

ORIGINATING DEPARTMENT: Air Pollution Control District

CONTACT PERSON: Richard J. Smith, Deputy Director 750-3303 MS: 0-176

R. J. SOMMERVILLE
DEPARTMENT AUTHORIZED REPRESENTATIVE

SEPTEMBER 21, 1993
MEETING DATE

Re Rules and Regulations of the)
Air Pollution Control District)
of San Diego County . . . . .)

TUESDAY, NOVEMBER 2, 1993

No. 93-458

RESOLUTION AMENDING RULE 67.9 OF REGULATION IV OF THE RULES AND REGULATIONS OF THE SAN DIEGO COUNTY AIR POLLUTION CONTROL DISTRICT

On motion of Member Jacob, seconded by Member Bilbray the following resolution is adopted:

WHEREAS, the San Diego County Air Pollution Control Board, pursuant to Section 40702 of the Health and Safety Code, adopted Rules and Regulations of the Air Pollution Control District of San Diego County; and

WHEREAS, said Board now desires to amend said Rules and Regulations; and

WHEREAS, notice has been given and a public hearing has been had relating to the amendment of said Rules and Regulations pursuant to Section 40725 of the Health and Safety Code.

NOW THEREFORE IT IS RESOLVED AND ORDERED by the San Diego County Air Pollution Control Board that the Rules and Regulations of the Air Pollution Control District of San Diego County be and hereby are amended as follows:

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 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)(5), (d)(7), (f)(2), and (f)(3) 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 aerosol spray containers.

(vi) Prepreg composite materials.

It shall be the responsibility of any person claiming any of the above exemptions to maintain calendar year 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)(7), (f)(2) and (f)(3) 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)(7), (f)(2) and (f)(3) 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 year 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.

(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, 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"** 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.

(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"** as defined in Rule 20.1.

(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.

(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

(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:

Coating Category	VOC content, grams per liter of coating as applied, less water and less exempt compounds Effective Dates 5/21/91	7/1/94
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	850	250
Elastomeric	850	
All Other Adhesives	250 (7/1/92)	
Antichafe Coatings	600	
Bearing Coatings	620	
Caulking and Smoothing Compounds	850	
Conformal Coatings	750	
Dry Lubricative Materials:		
Fasteners Lubrication	250 (7/1/92)	
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	620 (7/1/92)	
Fuel Tank Coatings	650	420
Heat Treatment Scale Inhibitors	880	
High Temperature Coatings	850	
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
Chemical Processing	600	250

Coating Category	VOC content, grams per liter of coating as applied, less water and less exempt compounds Effective Dates 5/21/91	7/1/94
Optical Anti-Reflective Coatings	700	
Pretreatment Coatings	780	
Primers	350	
Primers Compatible with Rain Erosion Resistant Coatings	850	
Rain Erosion Resistant Coatings	690	420
Sealants	600 (7/1/92)	
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	420 (7/1/92)	
Unicoats	420 (7/1/92)	
Wet Fastener Installation Coatings	675	
All Other Coatings	420	

(ii) Before July 1, 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 of coating, 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, 1994, a person shall not use maskants for chemical processing which have a VOC content of greater than 250 grams per liter of coating, 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, 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 (AECP) that has been approved pursuant to Rule 67.1. The AECP 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), a person shall not apply coatings containing more than 20 grams of VOC per liter of coating 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.

(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.

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 of material 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 a 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 which uses non-atomized solvent flow to flush the spray equipment and collects and returns the discharged solvent to the enclosed container; 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) 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 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.

(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), dichlorodi-fluoromethane (CFC-12), trichlorotrifluoroethane (CFC-113), dichlorotetra-fluoroethane (CFC-114), or chloropentafluoroethane (CFC-115).

(9) 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), dichlorodi-fluoromethane (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) 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 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, 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) 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

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

(2) At a minimum, maintain records, each calendar month, showing the amount of each coating, stripper, and thinner used. At a minimum, maintain inventory (dispensing) records each calendar month 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.

(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) or (d)(5) 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*).

(2) Perfluorocarbon (PFC) compounds 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) 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 (*date of adoption*) and in accordance with a protocol approved by the Air Pollution Control Officer.

(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*).

(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*). 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 Isoteniscope. 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 1613-91 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) as it exists on (*date of adoption*).

(7) Measurements of perchloroethylene content in maskants pursuant to Subsections (d)(1)(ii) and (d)(1)(iii) shall be conducted in accordance with the South Coast Air Quality Management District's Test Method 310-91 for Determination of Perchloroethylene as it exists on (*date of adoption*).

IT IS FURTHER RESOLVED AND ORDERED that the subject amendment to Rule 67.9 of Regulation IV shall take effect upon adoption.

PASSED AND ADOPTED by the Air Pollution Control Board of the San Diego County Air Pollution Control District, State of California, this 2nd day of November, 1993 by the following votes:

AYES: Members Bilbray, Jacob, Williams, MacDonald

NOES: Members None

ABSENT: Member Slater

\- - -

STATE OF CALIFORNIA) ss
County of San Diego)

I hereby certify that the foregoing is a full, true, and correct copy of the Original Resolution which is now on file in my office.

THOMAS J. PASTUSZKA
Clerk of the Air Pollution Control Board

By _____
Maritza C. Codrington, Deputy

APPROVED AS TO FORM AND LEGALITY
COUNTY COUNSEL

BY _____
DEPUTY

This is a true certified copy of the original document on file or of record in my office. It bears the seal of the County of San Diego and signature of the Clerk of the Board of Supervisors, imprinted in purple ink:

Thomas J. Pastuszka
Clerk of the Board, San Diego County, California
Date 12/2/93 By Deputy: _____

CHANGE COPY

Re Rules and Regulations of the)
Air Pollution Control District)
of San Diego County . . . . .)

RESOLUTION AMENDING RULE 67.9 OF REGULATION IV OF THE RULES AND REGULATIONS OF THE SAN DIEGO COUNTY AIR POLLUTION CONTROL DISTRICT

On motion of Member _____, seconded by Member _____ the following resolution is adopted:

WHEREAS, the San Diego County Air Pollution Control Board, pursuant to Section 40702 of the Health and Safety Code, adopted Rules and Regulations of the Air Pollution Control District of San Diego County; and

WHEREAS, said Board now desires to amend said Rules and Regulations; and

WHEREAS, notice has been given and a public hearing has been had relating to the amendment of said Rules and Regulations pursuant to Section 40725 of the Health and Safety Code.

NOW THEREFORE IT IS RESOLVED AND ORDERED by the San Diego County Air Pollution Control Board that the Rules and Regulations of the Air Pollution Control District of San Diego County be and hereby are amended as follows:

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 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)(5), (d)(7), (f)(2), and (f)(3) 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 aerosol spray containers.

(vi) Prepreg composite materials.

It shall be the responsibility of any person claiming any of the above exemptions to maintain calendar ~~year~~ly 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)(7), (f)(2) and (f)(3)~~(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 of VOC per liter of coating ~~VOC~~, less water and less exempt compounds.

(4) The provisions of Subsections (d)(7), (f)(2) and (f)(3)~~(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 calendar ~~year~~ly 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.

(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, 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"** 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"** as defined in Rule 20.1. ~~means a unit or an aggregation of 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~~.

(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:

	VOC content, grams per liter of coating as applied, less water and less exempt compounds			
		Effective Dates		
Coating Category	5/21/91	~~7/1/92~~		7/1/94
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	850			250
Elastomeric	850			
All Other Adhesives	~~850~~	250 (7/1/92)	~~250~~	
Antichafe Coatings	600			
Bearing Coatings	620			
Caulking and Smoothing Compounds	850			
Conformal Coatings	750			
Dry Lubricative Materials:				
Fasteners Lubrication	~~880~~	250 (7/1/92)	~~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~~	620(7/1/92)	~~620~~	
Fuel Tank Coatings	650		~~420 (7/1/93)~~	420
Heat Treatment Scale Inhibitors	880			
High Temperature Coatings	850			
High Temperature Resistant, Thermal Flash Resistant, Rain Erosion Resistant Coatings	800			

Coating Category	VOC content, grams per liter of coating as applied, less water and less exempt compounds Effective Dates 5/21/91	~~7/1/92~~	7/1/94
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(7/1/92)	~~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(7/1/92)	~~420~~	
Unicoats	~~600~~ 420(7/1/92)	~~420~~	
Wet Fastener Installation Coatings	675		
All Other Coatings	420		

(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 of coating, 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 of coating, 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 (AECP) that has been approved pursuant to Rule 67.1. The AECP 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 of VOC per liter of coating 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~~ 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 of material 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 a 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 which uses non-atomized solvent flow to flush the spray equipment and collects and returns the discharged solvent to the enclosed container; 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, a~~ 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 cate-

gory 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. The revised list shall be 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.

(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~~ 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) 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. ~~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, 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) 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, a~~ 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~~ records, each calendar month, showing the amount of each coating, stripper, and thinner used. At a minimum, maintain ~~Maintain daily~~ inventory (dispensing) records each calendar month 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) or (d)(5) 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 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 Isoteniscope. 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 1613-91 ~~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.~~ South Coast Air Quality Management District's Test Method 310-91 for Determination of Perchloroethylene as it exists on *(date of adoption)*.

~~(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.~~

IT IS FURTHER RESOLVED AND ORDERED that the subject amendment to Rule 67.9 of Regulation IV shall take effect upon adoption.

PASSED AND ADOPTED by the Air Pollution Control Board of the San Diego County Air Pollution Control District, State of California, this _____ day of _____, 1993 by the following votes:

AYES:
NOES:
ABSENT:

RULE 67.9 - AEROSPACE COATING OPERATIONS

WORKSHOP REPORT

A workshop notice was mailed to all companies conducting aerospace coating operations in San Diego County. Notices were also mailed to all Chambers of Commerce in San Diego County, all Economic Development Corporations, the U.S. Environmental Protection Agency (EPA), the California Air Resources Board (ARB), and other interested parties.

The workshop was held on June 3, 1993, and was attended by 39 persons. Written comments were also received. The workshop comments and District responses are as follows:

WORKSHOP COMMENT:

Preservative oils and compounds were removed from the exemption in Subsection (b)(3), but the definition of this term remains in Section (c). This definition should be deleted.

DISTRICT RESPONSE:

The District disagrees. Preservative oils and compounds are still referred to in Subsection (c)(5), therefore the definition for these materials should remain in the rule.

WORKSHOP COMMENT:

Would the proposed exclusion of preservative oils and compounds from the definition of aerospace coatings apply also to coatings used on metal parts and products ?

DISTRICT RESPONSE:

No. However, Rule 67.3, Metal Parts and Products Coating Operations, will be revised in the near future to correct deficiencies identified by EPA. During this revision, the District also intends to address this issue. In the interim, the District will exclude these materials from regulation under Rule 67.3 by policy.

WORKSHOP COMMENT:

Rule 67.9 should exempt coating materials with less than 20 grams of VOC per liter from all usage recordkeeping requirements.

DISTRICT RESPONSE:

The District agrees. The definition of aerospace coatings has been modified to reflect this.

WORKSHOP COMMENT:

Are temporary protective materials that form waxy films and used in applications similar to those for greases considered aerospace coatings?

DISTRICT RESPONSE:

No. The definition of aerospace coatings was revised to clarify that wax-like materials are not considered coatings.

WORKSHOP COMMENT:

Would a mold release agent containing solids be considered an aerospace coating?

DISTRICT RESPONSE:

Information obtained from Material Safety Data Sheets (MSDS) showed that some of these materials contain solids, including resins, which form a protective coating on the mold's surface. Such material is considered an aerospace coating. Subsection (c)(5) was revised to clarify that only those form (mold) release agents that contain no solids are considered not to be aerospace coatings.

WORKSHOP COMMENT:

Why is the definition of "stationary source" revised in the proposed rule?

DISTRICT RESPONSE:

The definition of "stationary source" was revised to make it consistent with the corresponding definition in the New Source Review rules which are currently being amended.

WORKSHOP COMMENT:

Sometimes a coating containing volatile organic compounds and exempt compounds, or water, has a higher VOC content if calculated according to the formula provided in (c)(53) than is allowed by Rule 67.9. However, such coatings often have lower overall VOC emissions. The reason for this phenomenon is that if a material contains a small amount of solids, and water and exempt compounds are excluded from the calculations, the VOC content becomes artificially high, and does not reflect the "true" VOC content.

DISTRICT RESPONSE:

The District is aware of this problem. The present calculation method of the VOC content of water-based materials seems to be mathematically invalid when applied to materials which contain less than 10% solids by weight. The VOC content of such materials should be calculated per total volume of material, including water. However, the District has not yet received EPA concurrence with this approach. The District previously provided the appropriate technical documentation to EPA Region IX and the EPA Office of Air Planning and Standards (OAQPS) regarding a similar problem with water-based stains in District Rule 67.11. The District suggested allowing the calculation of materials with lower than 10% content of solids, be based on the total volume of material. However, no final EPA decision has yet been made.

The aerospace industry should also contact the EPA's Office of Air Planning and Standards and to raise this concern with them. In the interim, the District will proceed with the current methods of VOC content calculation.

WORKSHOP COMMENT:

The VOC content of a water-based adhesive bonding primer calculated according to the rule requirements, exceeds the rule limit. However, it can be demonstrated that the amount of emissions from this material is equal to or lower than from solvent-based compliant materials. Rule 67.9 should provide for the demonstration and use of such materials.

DISTRICT RESPONSE:

District Rule 67.1 already provides for such a demonstration. It would effectively be an alternative emission control strategy, which must comply with Rule 67.1 - Alternative Emission Control Plan (AECP). In order to have an approvable AECP, Rule 67.1 requires that emission reductions be at least 20% below the level allowed by Rule 67.9.

A better approach to solving this problem would be to calculate the VOC content of water-based materials containing low amounts of solids using "the total volume of material" basis, as discussed in the District's response to the previous comment. However, as noted above, this approach has not been yet approved by EPA.

WORKSHOP COMMENT:

Do VOC calculations according to proposed formulas in (c)(53) and (c)(54) represent new procedures, or simply reflect existing procedures?

DISTRICT RESPONSE:

The formulas in Subsections (c)(53) and (c)(54) reflect existing procedures and are included for clarification purposes.

WORKSHOP COMMENT:

Sometimes material safety data sheets (MSDS) or material specifications received from coating manufacturers provide the VOC content of a coating. However, often it cannot be determined whether water or exempt compounds were included in the specified VOC content.

DISTRICT RESPONSE:

Typically, the information on the composition of a coating material and the way the VOC content was calculated can be obtained from the manufacturer of this material. Very often, this information is also specified on the label of the coating container. Also, if the material contains an exempt compound, its content is specified in the MSDS since most exempt compounds used in coatings are also considered hazardous materials and must be listed on the MSDS.

WORKSHOP COMMENT:

The VOC content calculated according to the proposed formula in (c) (53) may not be of any use for calculating daily or monthly emissions.

DISTRICT RESPONSE:

This is correct. In order to calculate VOC emissions, one must use the VOC content per liter (or gallon) of material (including water, and exempt compounds), since the amount of emissions from a coating is proportional to the amount of material used. The VOC content limits calculated on "less water, less exempt compounds" basis were mandated by EPA policy in the 1970's. The purpose of this policy was to prevent people from diluting paints with water and/or exempt compounds, and then using double the amount of paint in order to achieve a required coverage, effectively circumventing the rules. The VOC content limits calculated according to the formula in Subsection(c)(53) and presented in the table of Section (d) are used for compliance purposes only. This limit cannot be used for calculating the amount of VOC emitted from coatings without additional information on the content of water or exempt compounds in the coating.

WORKSHOP COMMENT:

Rule 67.9 should require that the manufacturer label the VOC content on the material container.

DISTRICT RESPONSE:

This issue has been discussed during previous workshops on amendments to Rule 67.9. The District believes that such requirements would improve enforceability of the rule. However, since other air pollution control agencies in Southern California do not require coating containers to be labeled in their aerospace coating rules, it will likely be difficult to implement such provision at this time.

WORKSHOP COMMENT:

A maskant for chemical milling with a VOC content below 250 grams per liter is being successfully used . However, some high-VOC content maskant is still needed to use around threaded connections.

DISTRICT RESPONSE:

Subsection (b) (1) (iii) provides an exemption for non-compliant coatings that are used in volumes of less than 20 gallons per year. This exemption can be used for applying small amounts of non-compliant maskants.

WORKSHOP COMMENT:

If a facility is already using a low VOC content maskant, can it claim emission credits since the compliance date with this limit is extended by one year?

DISTRICT RESPONSE:

Yes, it can. Rule 26.2 provides that emission reductions which are achieved before they are required by any existing District's rule, can be banked. However, the banked emissions would be valid only until the date the new, more stringent limit in the existing rule goes into effect.

WORKSHOP COMMENT:

If a facility fabricates 'prepreg' parts from materials such as epoxy resins, are these operations and materials subject to Rule 67.9?

DISTRICT RESPONSE:

No, they are not. Rule 67.9 applies to aerospace coating operations. Fabrication of "prepreg" parts from epoxy resins is not a coating operation.

WORKSHOP COMMENT:

A material for leak detection is used which has a VOC content greater than 420 grams per liter. Is the use of this material in violation of Rule 67.9?

DISTRICT RESPONSE:

If this material does not contain solids, and is not used as an aerospace coatings, as defined, or as a clean-up solvent, then it is not subject to Rule 67.9.

WORKSHOP COMMENT:

The District should include in the rule the definition for "coating" and specify in this definition that a material which contains no solids is not a coating.

DISTRICT RESPONSE:

This is implicitly included in the latest revision of the definition of "aerospace coatings". Considering the complex nature of many materials used in aerospace coating operations, such as lubricants, adhesives, etc. which are not coatings, including the definition of coating in Rule 67.9 may be counterproductive.

WORKSHOP COMMENT:

Why is the District proposing to delete the demonstration of 65 percent transfer efficiency from the provision for alternative coating application methods in Subsection (d)(2)?

DISTRICT RESPONSE:

This clause is being deleted because of the continuing inability of regulatory agencies and affected industry to develop a test method, approvable by EPA, for the quantitative determination of transfer efficiency. The measurement of transfer efficiency of paint application equipment is affected by many variables. The development of a standard test method presents almost insurmountable difficulties. However, a comparison of new types of spray equipment with already approved higher transfer efficiency equipment, such as high-volume, low-pressure (HVLP), is possible. The test method which was recently approved by EPA for this purpose is the SCAQMD "Spray Equipment Transfer Efficiency Test Procedure for Equipment User".

Subsection (d)(2)(vii) requires that any coating application methods, other than those specified in Subsection (d)(2)(i) through (d)(2)(vi), be tested for equivalence using this method.

WORKSHOP COMMENT:

Will all such demonstrations of equivalent transfer efficiency under this subsection need to be approved by ARB and EPA?

DISTRICT RESPONSE:

Since the test used for the determination of equivalent transfer efficiency (SCAQMD "Spray Equipment Transfer Efficiency Test Procedure for Equipment User") has been recently approved by EPA, no additional ARB and EPA approvals will be required if that method is used. The rule has been revised to reflect this.

WORKSHOP COMMENT:

The specification of a liquid coating pressure of not more than 50 psig should be deleted from the definition of HVLP coating application equipment.

DISTRICT RESPONSE:

The District agrees. Recent information presented to the District by some equipment manufacturers has shown that the broad variations in liquid pressure do not have a significant effect on the transfer efficiency of coating application equipment. Therefore, the rule has been revised to delete the liquid pressure requirement from the definition of HVLP equipment.

WORKSHOP COMMENT:

Proposed Subsection (d)(5) will allow for more flexibility to meet application equipment cleaning requirements. However, the options in this subsection seem to have some overlap and redundancy. Can this section be simplified?

DISTRICT RESPONSE:

The District agrees that there is some overlap in different provisions of Subsection (d)(5). However, this overlap was included intentionally to provide the necessary clarification of the rule's intent which was to minimize emissions from coating equipment cleaning operations, and not to require every facility to use enclosed gun washers.

WORKSHOP COMMENT:

The District should consider requiring the use of low vapor pressure materials for application equipment cleaning, even for use in enclosed systems, as does the South Coast AQMD. When conventional solvents like acetone are used, there is virtually no opportunity for solvent reclamation because acetone evaporates very quickly.

DISTRICT RESPONSE:

The District will consider this proposal in the next round of the rule's amendments, when more information will become available on the performance of such materials in enclosed cleaning devices. In addition, EPA is presently working on a Control Technique Guideline (CTG) for aerospace coating operations. The current revision to Rule 67.9 must be adopted by the end of

1993 to avoid federal sanctions. In the future, the District will have one year after EPA promulgation of the CTG to make Rule 67.9 consistent with the CTG. At that time this issue will be considered for inclusion in the rule. This proposal should also be made to EPA for inclusion in the CTG.

WORKSHOP COMMENT:

The requirements for 90 percent capture efficiency and 95 percent control device efficiency in Section (e) should be combined to be 85 percent overall efficiency, to provide for greater flexibility to meet the same requirements.

DISTRICT RESPONSE:

The District agrees. Rule 67.9 has been revised to reflect this.

WORKSHOP COMMENT:

Is there currently a capture efficiency test method approved by the EPA?

DISTRICT RESPONSE:

No, there is not. EPA has withdrawn its approved test procedure for measuring capture efficiency because of numerous negative comments from industry on the test's complexity and cost. A revised procedure will be published by EPA in the near future.

WORKSHOP COMMENT:

In what ways can a facility reduce its recordkeeping burden with monthly recordkeeping? To track its monthly usage adequately, a facility may still have to keep daily records.

DISTRICT RESPONSE:

Daily records are not always necessary for determining monthly usage of volatile organic compounds. For example, the usage of cleaning materials can be recorded at the dispensing stations which could keep records only on days when the materials were dispensed or dispensers are refilled. The removal of daily recordkeeping requirements decreases the amount of paperwork which must be done to demonstrate compliance. In some cases, however, a facility may decide it needs to track daily usage of coatings in order to be able to compile monthly records.

WORKSHOP COMMENT:

Does the amended rule require monthly recordkeeping on calendar month basis or on "rolling" month basis?

DISTRICT RESPONSE:

The intent of the rule is to require recordkeeping of material usage based on a calendar month. The rule has been revised to reflect this.

WORKSHOP COMMENT:

Some permits have conditions requiring daily records to enforce daily emission limits. How will the proposed monthly recordkeeping requirements for Rule 67.9 affect such permits?

DISTRICT RESPONSE:

If permit conditions reflect current Rule 67.9 daily recordkeeping requirements, they will be modified accordingly. However, if a permit unit is subject to New Source Review, the condition to keep daily records will remain.

WORKSHOP COMMENT:

It is estimated that monthly recordkeeping will reduce our facility data entry time by a factor of 80 percent or more.

DISTRICT RESPONSE:

The District is optimistic that other facilities will realize time or money savings from the change to monthly records.

WORKSHOP COMMENT:

The current compliance date for the lower VOC limits for maskants is July 1, 1993. When is the proposed rule expected to be adopted by the District Board?

DISTRICT RESPONSE:

The rule is expected to be ready for public hearing on September 21, 1993. In the meantime, the District will apply to the Hearing Board for a class variance on behalf of all facilities affected by Subsections (d)(1)(i) through (d)(1)(iv).

PRE-WORKSHOP COMMENT:

The VOC limits for maskants should not be extended for another year in the proposed amended rule. There are water-based maskants which do not contain any perchloroethylene and which are being successfully used by aerospace industry. In addition to reducing VOC emissions, such maskants eliminate emissions of perchloroethylene which is identified as a hazardous air contaminant by the 1990 Amendments to the Federal Clean Air Act.

DISTRICT RESPONSE:

During the past year the District has held a number of meetings with affected companies to discuss this issue. The information presented in these meeting showed that water-based maskants in some cases do not provide necessary adhesive properties. This issue is complicated by the fact that EPA has proposed to define perchloroethylene as a non-photochemically reactive compound but has not yet taken final action to do so. Therefore, the District has decided to extend the maskant compliance date by one year. An understanding was also reached with the affected parties that during this year companies using maskants for chemical milling and/or chemical processing will aggressively work with maskant manufacturers to investigate all possibilities for

process modifications to allow use of water-based maskants. If a promising water-based maskant has not been found by July 1, 1994, the District will consider whether additional amendments to Rule 67.9 to provide are necessary to provide some additional time for affected facilities to install add-on control devices for reducing emissions to required levels.

WRITTEN COMMENT:

It is requested that the revised definition of "stationary source", as it appears in Rule 67.9, be incorporated in all relevant rules.

DISTRICT RESPONSE:

The District is planning to revise Rule 2, Definitions, to update all general definitions that apply to all current District rules. At that time, definitions such as that for stationary sources will be considered.

WRITTEN COMMENT:

References to Subsections (f)(1) and (f)(2) in Section (b) are confusing. It is not clear what information related to Section (b) exemption needs to be recorded.

DISTRICT RESPONSE:

The District agrees. Section (b) has been clarified.

WRITTEN COMMENT:

should be changed to list the complete scientific names for each perfluorocarbons concerned.

DISTRICT RESPONSE:

Exempt compounds including perfluorocarbons are listed in Rule 67.9 in compliance with the current EPA policy. Many compounds on this list are still undergoing toxicological tests, and therefore have not yet been approved by EPA.

WRITTEN COMMENT:

Change the definition of HVLP to make it consistent with definitions in the SCAQMD rules and in RACT/BARCT Guidance for other coating processes.

DISTRICT RESPONSE:

The definition of HVLP has been changed to be consistent with RACT/BARCT documents and with the SCAQMD Rule 1124.

ARB COMMENT:

It is recommended that the District change Section (f)(1)(iii) from requiring monthly records to requiring daily records, since most inspections are done on a per day basis.

DISTRICT RESPONSE:

The District disagrees. Rule 67.9 does not impose any limits on the usage of complying aerospace coating materials, therefore daily usage of these materials are not relevant to the rule enforcement, regardless if inspections are conducted on "a per day basis" or not. Daily usage records are still required for those permit units which are subject to New Source Review, and therefore have daily emission limitations. In addition, sources using add-on control equipment are required to keep daily records of coatings which have VOC content higher than the rule allows. These daily records can be used to calculate daily emissions for units which are connected to an emission control device.

EPA COMMENT:

Rule 67.9 must require daily recordkeeping for non-compliant coatings when emission control equipment is used by a source to comply with the rule.

DISTRICT RESPONSE:

Subsection (f)(3) of the amended rule requires that a source keep daily records of non-compliant coatings if the source chooses to comply with the rule by installing emission control equipment.

EPA COMMENT:

Subsection (g) (3) must reference EPA Test Method 25 for measurement of VOC emissions while determining the efficiency of a control device.

DISTRICT RESPONSE:

The District agrees. Subsection (g)(3) was revised to reference EPA Test Method 25.

EPA COMMENT:

ASTM Standard Test Method D 4457-85 is not a satisfactory method for measuring perchloroethylene content in maskants. EPA recommends use of the SCAQMD Test Method 310-91.

DISTRICT RESPONSE:

The District agrees. The rule has been revised to incorporate the SCAQMD Test Method 310-91 "Determination of Perchloroethylene".

EPA COMMENT:

EPA is scheduled to publish a draft Control Technique Guideline (CTG) for aerospace coating operations in November of this year. When the CTG is published, EPA will be evaluating aerospace rules against the CTG requirements and districts will have one year to revise their applicable rules in accordance with those requirements.

DISTRICT RESPONSE:

The District will propose revisions to Rule 67.9, as necessary, to ensure that the rule is not inconsistent with the CTG requirements.