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County of San Diego

R. J Sommerville
Air Pollution Control Officer

DATE: April 2, 1991

TO: Air Pollution Control Board

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

SUMMARY:

Rule 67.9 (Aerospace Coating Operations) regulates volatile organic compounds (ozone precursors) from aerospace coating operations. The changes correct deficiencies identified by the Environmental Protection Agency. Failure to correct deficiencies may result in withholding of certain federal grant monies from the District, imposing a major source construction ban in San Diego County and/or withholding of federal highway and sewage treatment funds. In addition to deficiency corrections, the changes revise volatile organic compound (solvent) limits for certain coating categories and add new categories with associated limits. In addition, the use of high transfer efficiency coating application equipment is required. Provisions regarding exemptions, surface cleaning materials and the cleanup of coating application equipment are revised. The changes are not expected to result in any additional emission reductions. Eighteen facilities will be affected.

Issue

Should the Board adopt amendments to Rule 67.9 (Aerospace Coating Operations) to correct deficiencies identified by the Environmental Protection Agency?

Recommendation

AIR POLLUTION CONTROL OFFICER:

1. Set May 7, 1991 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.

ON MOTION of Member Bailey, seconded by Member Golding, the Air Pollution Control Board of the San Diego County Air Pollution Control District takes action as recommended on recommendations 1 and 2, setting hearing on 5/21/91, 2:00 p.m., by following vote:
AYES: Bailey, Golding, Williams, MacDonald
ABSENT: Bilbray

THOMAS J. PASTUSZKA
Clerk of the Air Pollution Control Board

By Dora Cuevas
Deputy

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SUMMARY: [CONTINUED]

3. Following the hearing: (a) adopt the resolution amending Rule 67.9 and, (b) make appropriate findings of necessity, authority, clarity and consistency, as required by Section 40727 of the State Health and Safety Code.

Advisory Statement

The Air Pollution Control Advisory Committee recommended adopting the proposed changes at its April 10, 1991 meeting.

Fiscal Impact

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

Alternatives

Not adopt the proposed changes to correct deficiencies. Failure to correct deficiencies may result in the Environmental Protection Agency withholding certain federal grant monies from the District, imposing a major source construction ban in San Diego County and/or withholding of federal highway and sewage treatment funds.

BACKGROUND:

Rule 67.9 regulates volatile organic compound (ozone precursors) emissions from coating (painting), masking, surface cleaning and stripping of aerospace components, and the cleanup of equipment associated with these processes. The changes correct deficiencies identified by the Environmental Protection Agency (EPA). These corrections revise the "volatile organic compound" definition consistent with EPA requirements and exempt additional compounds because they are not ozone precursors. They also clarify that specified volatile organic compound limits are "less water and exempt compounds". Additionally, the corrections specify test methods used to determine compliance with the rule, add recordkeeping requirements, delete provisions for alternative emission control plans (equivalency plans) and refer to new requirements contained in new District Rule 67.1 (Alternative Emission Control Plans).

In addition to the deficiency corrections, the changes revise volatile organic compound (solvent) limits for certain specialty coating categories and add new categories with associated limits. Future effective dates for lower volatile organic compound limits for certain categories are specified. These coating categories and limits were developed after many meetings and discussions with local aerospace industry representatives. The District's objective was to address the specialized coating needs of local industry where specific technical support for special consideration could be shown, and to make the local Rule 67.9 as consistent as technically justified with similar rules of other Southern California Air Pollution Control Districts.

It should be noted that both the Environmental Protection Agency and the state Air Resources Board believe some specialty coating categories are unnecessary and others should have lower solvent levels. The District has advised these agencies that the

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BACKGROUND [CONTINUED]

aerospace specialty coatings market in San Diego County alone is not large enough to encourage coating manufacturers to invest the necessary resources to develop coatings with lower solvent contents. If lower solvent coatings were required by Rule 67.9, they likely would not be developed and local aerospace coating companies would be forced to obtain variances to stay in operation. The District believes the combined aerospace coatings markets of all affected Southern California districts will be able to force lower solvent coatings to be developed. Therefore, the District has advised it intends to propose adoption of changes to specialty categories consistent with those of other districts in Southern California. The District has agreed to participate in committee of affected districts, the Environmental Protection Agency and the state Air Resources Board to address problems with aerospace coating rules and propose revisions at a future date to address the concerns of these agencies. These agencies have agreed with this approach.

The proposed changes to Rule 67.9 also add exemptions for materials preimpregnated with partially cured organic resins, touch-up coatings, stencil coatings, coatings applied using non-refillable handheld aerosol containers, and coatings used exclusively for research and development activities if not more than 50 gallons per year are used. The exemption for coating spray booths where not more than one gallon per day of coating is used has been deleted. The changes add a requirement that high transfer efficiency coating application equipment (e.g. electrostatic or high volume-low pressure equipment) be used when more than one gallon per day of coatings are applied. Coating application using small air brushes will be exempt from this requirement.

Requirements have been added for coating strippers. Revisions have been made for materials used in surface cleaning operations and for cleaning coating application equipment, consistent with other District rules. The changes also prohibit a person from requiring, through a contract, the use of a coating if its application will not comply with Rule 67.9. Reformulation of aerospace coatings to increase the CFC or methylene chloride content has been prohibited. Provisions have been added to require the labeling of aerospace coating containers. Requirements have also been added regarding use of control equipment to comply with the rule if a company elects to use this method.

The cost effectiveness of meeting new rule requirements is estimated to be from $16,000 to $30,000 per ton of volatile organic compounds removed for coating reformulations, from $2,000 to $110,000 per ton for add-on controls (if necessary), from $64 (saved) to $1,000 per ton for cleaning solvent reformulation and/or equipment, and from $6 (saved) to $22 per ton to implement transfer efficiency requirements.

A public workshop on the proposed changes was held on March 6, 1991. The workshop report is attached.

Concurrence:

NORMAN W. HICKEY
Chief Administrative Officer

Respectfully submitted,

R. J. SOMMERVILLE
Air Pollution Control Officer

AIR POLLUTION CONTROL BOARD
AGENDA ITEM
INFORMATION SHEET

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

SUPV DIST.: All

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: 11/3/87 (#1)

BOARD POLICIES APPLICABLE: N/A

CITIZEN COMMITTEE STATEMENT: The Air Pollution Control District Advisory Committee will review the proposed changes to Rule 67.9 at its April 10, 1991 meeting. At its February 13, 1991 meeting, the Committee approved forwarding Rule 67.9 for Board consideration before the Committee makes a formal recommendation. The Board will be advised of the Advisory Committee's recommendation at the May 7, 1991 public hearing to consider adoption of amendments to Rule 67.9.

CONCURRENCES: N/A

ORIGINATING DEPARTMENT: Air Pollution Control District

CONTACT PERSON: Richard J. Smith 750/694-3303

R. J. SOMMERVILLE
DEPARTMENT AUTHORIZED REPRESENTATIVE

April 2, 1991
MEETING DATE

No. 9, APCB TUESDAY, MAY 21, 1991

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 Bailey, seconded by Member Williams 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, to surface cleaning related to these aerospace coating operations, and to the cleanup of application equipment associated with these operations.

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

(b) EXEMPTIONS

(1) The provisions of Subsections (d)(1) through (d)(5) and (d)(7) shall not apply to the following:

(i) Touch-up coatings and stencil coatings.

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

(iii) Coatings with separate formulations that are used in volumes of less than 20 gallons per year provided not more than 50 gallons per year of all such non-compliant coatings are used at the stationary source. This amount does not include coatings specified in Subsections (b)(1)(i), (b)(1)(iv), (b)(1)(v) and (b)(1)(vi).

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

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

(vi) Prepreg composite materials.

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

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

(3) The provisions of Subsections (d)(7) and (f)(2) shall not apply to adhesives, sealants, caulking and smoothing compounds, and preservative oils and compounds which have a VOC content, as applied, of less than 250 grams per liter of VOC, less water and less exempt compounds.

(4) The provisions of Subsections (d)(7) and (f)(2) shall not apply to adhesives and sealants which are applied outside application stations required to have a District Permit to Operate.

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

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

(c) DEFINITIONS

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

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

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

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

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

(5) **"Aerospace Coatings"** are materials including but not limited to those specified in the table in Subsection (d)(1)(i) of this rule.

(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: methylene chloride, 1,1,1-trichloroethane, trichlorofluoromethane (CFC -11), dichlorodifluoromethane

(CFC-12), chlorodifluoromethane (CFC-22), trifluoromethane (FC-23), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), chloropentafluoroethane (CFC-115), dichlorotrifluoroethane (HCFC-123), tetrafluoroethane (HFC-134a), dichlorofluoroethane (HCFC-141b), and chlorodifluoroethane (HCFC-142b).

(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 liquified in a heat gun prior to application to a joint.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(40) **"Stationary Source"** means 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, ~~and~~ 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) **"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 (*Date of adoption*)	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	
Antichafe Coatings	600		
Bearing Coatings	620		
Caulking and Smoothing Compounds	850		
Conformal Coatings	750		
Dry Lubricative Materials:			
Fasteners Lubrication	880	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	
Fuel Tank Coatings	650	420 (7/1/93)	
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 (*Date of adoption*)	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)	
Chemical Processing	600	250 (7/1/93)	
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	
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	
Unicoats	600	420	
Wet Fastener Installation Coatings	675		

(ii) Before July 1, 1993, a person shall not use maskants for chemical milling or chemical processing which have a VOC content of greater than 600 grams per liter, less perchloroethylene, less water and less exempt compound 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, a person shall not use maskants for chemical processing which have a VOC content, of greater than 250 grams per liter, less water, less perchloroethylene and less exempt compounds as applied, nor which have a per-

chloroethylene content greater than 1200 grams per liter of coating as applied, less water and less exempt compounds.

(iv) After July 1, 1993, 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 (*six months after date of adoption*), a person shall not apply coatings in aerospace coating operations subject to this rule except by means of the following application methods:

(i) Electrostatic spray application, or

(ii) Flow coat application, or

(iii) Dip coat application, or

(iv) Hand application methods, or

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

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

(vii) Other coating application methods that are demonstrated to 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 (*six months after date of adoption*) a person shall not clean aerospace coating application equipment unless:

(i) The equipment is cleaned in a solvent container which is covered when not being accessed, which has a facility for draining cleaned parts and the drained solvent is returned to a closed container; or

(ii) The equipment is cleaned in a device which totally encloses the application component parts during washing, rinsing and draining; or

(iii) The cleaning solvent is transferred through the application equipment, without exposure to air, into a container that has in place an apparatus or cover which completely covers the container and has no visible holes, breaks, openings or separations between adjoining components of the container or container cover (the container may be equipped with vents provided that such vents are necessary to comply with applicable fire and safety codes); or

(iv) The cleaning solvent contains 200 grams or less of VOC per liter or has a total vapor pressure of VOC of 20 mm Hg or less at 68°F (20° C).

(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 (*six months after date of adoption*), 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 and provided to the Air Pollution Control Officer before any aerospace coating is used for purposes other than those previously identified on the list. Information necessary to demonstrate that the intended use of a coating is consistent with the applicable definition of the coating use contained in Section (c) shall be provided to the District upon request.

A person shall not use any aerospace coating unless the coating is included on such a 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 form 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 (date of adoption) was newly formulated to contain or reformulated to increase the content of methylene chloride, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), or chloropentafluoroethane (CFC-115).

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

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

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

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

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

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

(f) RECORDKEEPING

Effective (*6 months after date of adoption*) 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) Maintain daily records showing the amount of each coating, stripper, and thinner used. Maintain daily inventory (dispensing) records of solvents used for equipment cleaning and surface cleaning operations. Maintain records of material additions to dip tanks used for dip coating applications.

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

(g) **TEST METHODS**

(1) Measurements of the VOC content of coatings 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*) 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.

(3) Measurements of VOC emissions subject to Section (e) of this rule shall be conducted in accordance with EPA Methods 18 and 25 (40 CFR 60, Appendix A) as they exist on (*date of adoption*) 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*).

(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 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 1613-85 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*).

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

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

IT IS FURTHER RESOLVED AND ORDERED that the subject amendments 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 21st day of May, 1991 by the following votes:

AYES: Members Bailey, Williams, and MacDonald
NOES: Members None
ABSENT: Members Bilbray and Golding

STATE OF CALIFORNIA)
COUNTY OF SAN DIEGO) ss.

I, THOMAS J. PASTUSZKA, Clerk of the Air Pollution Control Board of the County of San Diego, State of California, hereby certify that I have compared the foregoing copy with the original resolution passed, and adopted by said Board at a regular meeting thereof, at the time and by the vote herein stated, which original resolution is now on file in my office; that the same contains a full, true and correct transcript therefrom and of the whole thereof.

Witness my hand and the seal of said Air Pollution Control Board, this 23rd day of May, 1991.

(SEAL)

THOMAS J. PASTUSZKA
Clerk of the Air Pollution Control Board
San Diego County Air Pollution Control District

By Maria A. Tiscareno
Maria A. Tiscareno, Deputy

APPROVED AS TO FORM AND LEGALITY
COUNTY COUNSEL
BY Anne Hansen
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, to surface cleaning related to these aerospace coating operations, and to the cleanup of application equipment associated with these operations.

~~(2) Where Rule 67.6 Solvent Cleaning Operations is applicable, the surface cleaning provisions of this rule shall not apply.~~

~~(3)~~(2) ~~Except as otherwise provided in Regulation IV, any~~ 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 ~~Section~~ Subsections (d)(1) through (d)(5) and (d)(7) shall not apply to the following:

~~(1) The use of 1,1,1-trichloroethane, trichlorotrifluoroethane, and methylene chloride.~~

~~(2) A defined area, spray paint booth, or room where not more than one gallon per day of aerospace coating is used.~~

(i) Touch-up coatings and stencil coatings.

~~(3)~~(ii) A stationary source where not more than 50 gallons per year of aerospace coating is used.

~~(4)~~(iii) Coatings with separate formulations that are used in volumes of less than 20 gallons per year provided not more than 50 gallons per year of all such non-compliant coatings are used at the stationary source. This amount does not include coatings specified in Subsections (b)(1)(i), (b)(1)(iv), (b)(1)(v) and (b)(1)(vi).

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

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

(vi) Prepreg composite materials, ~~provided that these materials comply with the provisions of Rule 67.12.~~

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

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

(3) The provisions of Subsections (d)(7) and (f)(2) shall not apply to adhesives, ~~and~~ sealants, caulking and smoothing compounds, and preservative oils and compounds which have a VOC content, as applied, of less than 250 grams per liter of VOC, less water and less exempt compounds.

(4) The provisions of Subsections (d)(7) and (f)(2) shall not apply to adhesives and sealants which are ~~not~~ applied ~~in~~ outside application stations required to have a District Permit to Operate.

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

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

(c) **DEFINITIONS**

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

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

~~(1)~~(2) **"Adhesive Bonding Primer"** is a coating applied in a very thin film to aerospace ~~metal~~ 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 and 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.

~~(2)~~(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.

~~(7)~~(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.

~~(3)~~(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: methylene chloride, 1,1,1-trichloroethane, trichlorofluoromethane (CFC -11), dichlorodifluoromethane (CFC-12), chlorodifluoromethane (CFC-22), trifluoromethane (FC-23), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), chloropentafluoroethane (CFC-115), dichloro-trifluoroethane (HCFC-123), tetrafluoroethane (HFC-134a), dichlorofluoroethane (HCFC-141b), and chlorodifluoroethane (HCFC-142b).

~~(4)~~(16) **"Flight Test Coating"** is a ~~temporary~~ coating applied to ~~test~~ 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.

~~(5)~~(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 ~~it~~ 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).

~~(6)~~(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 liquified 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.

~~(7)~~(29) **"Maskant for Chemical Processing"** is a coating applied directly to a aerospace components ~~metal part~~ to protect surface areas during ~~chemical milling,~~ anodizing, aging, bonding, plating, etching, or other chemical surface operations.

~~(24)~~(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.

~~(8)~~(33) **"Pretreatment Coating"** is a coating which contains ~~a small quantity~~ 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.

~~(9)~~(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.

~~(10)~~(39) **"Space Vehicle Coating"** is a coating applied to vehicles designed for use beyond the earth's atmosphere.

(40) **"Stationary Source"** 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.

~~(12)~~(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.

~~(13)~~(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.

~~(14)~~(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.

~~(15)~~(48) **"Topcoat"** is a coating applied over a primer ~~or directly to the aerospace component~~ 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.

~~(16)~~(52) **"Volatile Organic Compounds (VOC)"** for the purpose of this rule means any volatile compound ~~or combination of volatile compounds~~ of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, ammonium carbonate, metallic carbides, ~~and~~ metallic carbonates, and exempt compounds ~~methylene chloride, 1,1,1-trichloroethane and trichlorofluoromethane~~ which may be emitted to the atmosphere during ~~application of and/or subsequent drying or curing of coatings~~ operations or activities subject to this rule. ~~For purposes of calculating the VOC content of a coating, any water or any of the above excluded volatile compounds of carbon shall not be considered to be part of the coating.~~ 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) **"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.

~~(1)~~(i) A person shall not use ~~apply to~~ in aerospace ~~components~~ coating operations ~~subject to this rule~~ 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 (*Date of adoption*)	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	
Antichafe Coatings	600		
Bearing Coatings	620		

Coating Category	VOC content, grams per liter of coating as applied, less water and less exempt compounds		
	Effective Dates		
	(*Date of adoption*)	7/1/92	7/1/94
Caulking and Smoothing Compounds	850		
Conformal Coatings	750		
Dry Lubricative Materials:			
Fasteners Lubrication	880	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	
Fuel Tank Coatings	650	420 (7/1/93)	
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 (7/1/93)	
Chemical Processing	600	250 (7/1/93)	
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	
Hot Melt Sealants	100		
Solid Film Lubricants:			
Fasteners Lubrication	880		250
Non-Fasteners Lubrication	880		

Coating Category	VOC content, grams per liter of coating as applied, less water and less exempt compounds Effective Dates (*Date of adoption*)	7/1/92	7/1/94
Space Vehicle Coatings:			
Electrostatic Discharge Protection	800		
Other Space Vehicle Coatings	1000		
Adhesives	800		
Temporary Protective Coatings	250		
Thermocontrol Coatings	600		
Topcoats	600	420	
Unicoats	600	420	
Wet Fastener Installation Coatings	675		

(ii) Before July 1, 1993, a person shall not use maskants for chemical milling or chemical processing which have a VOC content of greater than 600 grams per liter, less perchloroethylene, less water and less exempt compound 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, a person shall not use maskants for chemical processing which have a VOC content, of greater than 250 grams per liter, less water, less perchloroethylene and less exempt compounds as applied, nor which have a perchloroethylene content greater than 1200 grams per liter of coating as applied, less water and less exempt compounds.

(iv) After July 1, 1993, 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 (*six months after date of adoption*), a person shall not apply coatings in aerospace coating operations subject to this rule except by means of the following application methods:

(i) Electrostatic spray application, or

(ii) Flow coat application, or

(iii) Dip coat application, or

(iv) Hand application methods, or

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

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

(vii) Other coating application methods that are demonstrated to 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 (*six months after date of adoption*) a person shall not clean aerospace coating application equipment unless:

(i) The equipment is cleaned in a solvent container which is covered when not being accessed, which has a facility for draining cleaned parts and the drained solvent is returned to a closed container; or

(ii) The equipment is cleaned in a device which totally encloses the application component parts during washing, rinsing and draining; or

(iii) The cleaning solvent is transferred through the application equipment, without exposure to air, into a container that has in place an apparatus or cover which completely covers the container and has no visible holes, breaks, openings or separations between adjoining components of the container or container cover (the container may be equipped with vents provided that such vents are necessary to comply with applicable fire and safety codes; or

(iv) The cleaning solvent contains 200 grams or less of VOC per liter or has a total vapor pressure of VOC of 20 mm Hg or less at 68°F (20° C).

(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) ~~After (*date of adoption plus one year*) a person shall not manufacture, sell, offer for sale, or supply any coating for use in aerospace coating operations within San Diego County unless the coating container displays the type of coating category as listed in the table in Subsection (d)(1)(i) and defined in Section (c) under which the coating would be classified.~~

~~(8) After (*date of adoption plus one year*) a person shall not manufacture, sell, offer for sale, or supply any coating for use in aerospace coating operations in San Diego County unless the coating container displays the maximum VOC content of the coating as applied and after any thinning as recommended by the manufacturer. The VOC content shall be displayed as grams of VOC per liter of coating (less water and exempt compounds). The VOC content displayed may be calculated using product formulation data or may be determined using the test method in Section (g)(2).~~

(7) Effective (*six months after date of adoption*), 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 and provided to the Air Pollution Control Officer before any aerospace coating is used for purposes other than those previously identified on the list. Information necessary to demonstrate that the intended use of a coating is consistent with the applicable definition of the coating use contained in Section (c) shall be provided to the District upon request.

A person shall not use any aerospace coating unless the coating is included on such a 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 form complying with the applicable definitions and VOC content limits of this rule.

~~(9)~~(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 (date of adoption) was newly formulated to contain or reformulated to increase the content of methylene chloride, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-

12), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), or chloropentafluoroethane (CFC-115).

~~(10)~~(9) After (*date of adoption plus one year*) 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, trichlorofluoromethane (CFC-11), dichlorodi-fluoromethane (CFC-12), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), or chloropentafluoroethane (CFC-115).

~~(i) 350 grams per liter of primer as applied. This final VOC limit shall not apply to the application of the following categories of primers until July 1, 1988, provided that primers used prior to July 1, 1988 have a VOC content, as applied, of no more than 650 grams per liter of primer and the requirement to use one or more of such primers is demonstrable and such demonstration is made to the Air Pollution Control Officer upon request and has been approved by the Air Pollution Control Officer, in writing:~~

~~(A) primer applied to aerospace components designed to be exposed to phosphate ester hydraulic fluid; or,~~

~~(B) primer applied to identical aerospace components which require the use of primer resistant to phosphate ester hydraulic fluid because the specific end-use of the components is not known at the time of primer application.~~

~~(ii) 420 grams per liter of topcoat as applied. The final VOC limit shall not apply to the application of topcoats until July 1, 1988, provided that topcoats used prior to July 1, 1988 have a VOC content, as applied, of no more than 600 grams per liter of topcoat.~~

~~(iii) 780 grams per liter of pretreatment coating as applied.~~

~~(iv) 850 grams per liter of adhesive bonding primer as applied.~~

~~(v) 840 grams per liter of flight test coating as applied.~~

~~(vi) 650 grams per liter of fuel tank coating as applied.~~

~~(vii) 800 grams per liter of electromagnetic radiation effect coating as applied.~~

~~(viii) 600 grams per liter of thermocontrol coating as applied.~~

~~(ix) 250 grams per liter of temporary protective coating as applied.~~

~~(x) 600 grams per liter of maskant as applied. This VOC limit shall not apply to:~~

~~(A) maskants that have a perchloroethylene content, as applied, of less than 1200 grams per liter of maskant and which contain no other VOC which, in total, exceed 600 grams per liter, excluding perchloroethylene; or,~~

~~(B) operations where the VOC emissions from the maskant operations are reduced by at least 90 percent by weight.~~

(xi) 400 grams per liter of stripper as applied. This VOC content shall not apply to a stripper which has a composite vapor pressure of VOC of 9.5 mm Hg or less at 20° C (68° F).

(xii) 800 grams per liter of high temperature resistant, thermal flash resistant, rain erosion resistant coating as applied, provided no more than 75 gallons per year of such coating are applied at a stationary source and records of such usage are maintained and made available to the Air Pollution Control Officer upon request.

(2) A person shall not use,VOC which have a composite vapor pressure of 20 mm Hg or greater at a temperature of 20° C (68° F) for cleanup operations excluding stripper, and shall not use, after November 15, 1987, VOC containing materials which have a composite vapor pressure of 45 mm Hg or greater at a temperature of 20° C (68° F) for surface preparation operations, excluding stripper.

(3) A person shall not use, after January 1, 1986, VOC for the cleanup of spray equipment used in aerospace component coating operations unless 85 percent of the VOC are collected and properly disposed of such that they are not emitted to the atmosphere, or the cleanup materials contain 15 percent or less, by weight, VOC. Containers of cleanup materials shall be closed when not in use.

(4) A person shall not use other than closed containers for storage of cloth or paper impregnated with solvent containing VOC which are used for surface preparation, cleanup or paint removal.

(5) Notwithstanding Section (a), any operations subject to this rule shall be subject to Rule 66 until such time that compliance with the emission standards of this rule is required.

(6) Equivalency: In lieu of complying with the VOC Standards of this rule a person may achieve compliance by means of equivalency. To achieve equivalency a person shall comply with an alternative emission control plan which has been approved in writing by the Air Pollution Control Officer and which satisfies all of the following requirements:

(i) Emissions of VOC shall be no greater than that amount which would result if the affected coating line or lines complied with all applicable requirements of Subsections (d)(1), (d)(2), (d)(4) and (d)(5). The equivalency averaging period shall be as short as possible and shall be determined by the Air Pollution Control Officer on a case-by-case basis. In no case shall the equivalency averaging period be greater than one calendar week.

(ii) The plan shall contain credit only for VOC emission reductions achieved on coating lines subject to this rule. The plan shall not include credit for emission reductions required by other rules of this District. Credits for the use of perchloroethylene shall not be allowed.

(iii) The plan shall include methods acceptable to the Air Pollution Control Officer for demonstrating compliance with the plan on a weekly basis. The person submitting the plan shall maintain such records and submit such information as is required by the Air Pollution Control Officer to determine compliance with the plan.

(iv) The records required in (iii) shall be available for inspection by the Air Pollution Control Officer on each production day.

~~(v) If any District rule is adopted or amended after the approval of the plan which requires emission reductions which are included in the plan, a new plan shall be submitted which does not include credit for those reductions.~~

~~(vi) The person submitting the plan shall reimburse the District for all District costs incurred in reviewing the plan. The District costs shall be determined using the labor rates specified in Rule 40, Schedule 94.~~

~~The Air Pollution Control Officer shall disapprove any plan for achieving compliance by means of equivalency if it is determined that the plan is not reasonably enforceable.~~

(e) **CONTROL EQUIPMENT**

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

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

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

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

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

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

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

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

(f) **RECORDKEEPING**

Effective (*6 months after date of adoption*) 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, and exempt compounds ~~content, density of solvent,~~ and solids content of each coating, thinner, stripper, surface cleaning and equipment cleaning material as applied.

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

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

(g) **TEST METHODS**

(1) Measurements of the VOC content of coatings 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*) 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.

(3) Measurements of VOC emissions subject to Section (e) of this rule shall be conducted in accordance with EPA Methods 18 and 25 (40 CFR 60, Appendix A) ~~and with EPA Guidelines for Developing Capture Efficiency Protocols~~ as they exist on (*date of adoption*) 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*).

(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 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 1613-85 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*).

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

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

IT IS FURTHER RESOLVED AND ORDERED that the subject amendments 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 _____, 1991 by the following votes:

AYES:
NOES:
ABSENT:

RULE 67.9

AEROSPACE COATING OPERATIONS

WORKSHOP REPORT

A workshop notice was mailed to all companies involved in aerospace coating operations in San Diego County, the U.S. Environmental Protection Agency (EPA), the California Air Resources Board (ARB), and other interested parties. The workshop was held on March 6, 1991. Written comments were also received. The comments and District responses are as follows:

WRITTEN COMMENT

A closed container of cleaning solvent should be allowed to have vent openings for safety purposes. The wording for Subsection (d)(5)(iii) should be changed to read as follows: "The cleaning solvent is flushed through the application equipment into a closed container via an orifice in the container which is only large enough to accommodate the application aperture with clearance to allow for escaping air displaced by the incoming solvent."

DISTRICT RESPONSE

The suggested wording for Subsection (d)(5)(iii) is not stringent enough to accomplish the intended emission control requirement. Therefore, this wording will not be incorporated into the amended Rule 67.9. However, in order to satisfy the above concern, Subsection (d)(5)(iii) has been specifically worded to allow the cleaning solvent container to be equipped with vents, provided such vents are necessary to comply with applicable fire and safety codes.

WRITTEN COMMENT

Subsection (d)(5) should be modified to allow the use of solvents which have a total vapor pressure of VOC of up to 45 mm Hg at 20 °C (or 68 °F) for clean-up operations of large application, manufacturing, assembling, bonding, masking, and stripping equipment.

DISTRICT RESPONSE

The existing Rule 67.9 prohibits the use of solvents which have a total vapor pressure of VOC of greater than 20 mm Hg at 68 °F (20 °C) to clean aerospace coating application equipment. Any of the options specified in Subsection (d)(5) may be used to clean the equipment of concern. Inclusion of the above changes to the amended Rule 67.9 would represent an unjustified relaxation of the rule. Therefore, the suggested modifications will not be incorporated into the amended Rule 67.9.

WRITTEN COMMENT

Subsection (g)(4) should be deleted since the EPA has not approved any test method for transfer efficiency. The referenced test is an expensive test and its use is not justified.

DISTRICT RESPONSE

The test method referenced in Subsection (g)(4) is the only test available at the present time to determine whether the application equipment will comply with the transfer efficiency requirements of Rule 67.9. It will be used to determine compliance with the amended Rule 67.9 until a better test method is developed.

WRITTEN COMMENT

Subsections (g)(1), (g)(2) and (g)(5) should be deleted unless section (g) is modified to explicitly indicate that tolerances for test method reproducibility must be applied to analytical values obtained using the specified test methods before determining compliance with Rule 67.9.

DISTRICT RESPONSE

Each referenced test method generally contains a determination of the accuracy and precision of the measured value. The District will evaluate the accuracy of each analysis to determine compliance with Rule 67.9. This is consistent with the procedures applied to other District standards. The accuracy of a method depends on the materials being analyzed. Explicit reference to accuracy and precision of the test methods in Rule 67.9 is not feasible or necessary.

WRITTEN COMMENT

Surface preparation is a general term that can refer to operations not regulated by Rule 67.9. Subsection (a)(1) should be modified to replace the reference to surface preparation operation with a more specific reference to bonding, masking and surface cleaning operations.

DISTRICT RESPONSE

The District agrees. Subsection (a)(1) has been modified as suggested.

WRITTEN COMMENT

The reference to Rule 66 in Subsection (a)(2) should be deleted since, as written, the materials exempted from daily recordkeeping requirements in the amended Rule 67.9 will be subject to Rule 66, which also requires daily recordkeeping.

DISTRICT RESPONSE

Rule 66 will be modified to explicitly state that operations subject to Rule 67.9, including operations which are exempt from the daily recordkeeping requirements of Rule 67.9, will also be exempt from the daily recordkeeping requirements of Rule 66.

WRITTEN COMMENT

Usage records of materials which are exempted under the provisions of Subsection (b)(1) are currently kept on a yearly basis based on purchase records for the purpose of compliance with SARA Title III requirements. Therefore, it is recommended that the monthly recordkeeping requirements specified in Subsection (b)(1) be changed to yearly.

DISTRICT RESPONSE

The District agrees. Subsection (b)(1) has been modified to change the recordkeeping requirements from monthly to yearly.

WRITTEN COMMENT

The word "coating" in the definition of adhesive in Subsection (c)(1) should be changed to "material".

DISTRICT RESPONSE

The District agrees. The definition of "adhesive" has been modified as suggested. This change will not affect the VOC content limits, nor the requirement for transfer efficient application methods, applicable to adhesives.

WRITTEN COMMENT

Subsection (c)(2) should be modified to divide adhesive bonding primers into the following three categories: 1) structural, 2) high solids, and 3) elastomers and elastomeric adherends. The definitions and corresponding VOC limits for these specialty coating categories should be added to the amended Rule 67.9.

DISTRICT RESPONSE

The District agrees. The definitions and corresponding VOC limits of the "adhesive bonding primer" category have been modified.

WRITTEN COMMENT

The definition of hand application method in Subsection (c)(16) should be modified to include spray guns.

DISTRICT RESPONSE

The District does not agree. Hand application methods are methods that are considered to have very high transfer efficiency. By comparison, spray guns are generally much less efficient. Therefore, inclusion of spray guns in this definition is inappropriate.

WRITTEN COMMENT

The words "resulting from aerodynamic heating" should be deleted from the definition of high temperature coating in Subsection (c)(18). The specified temperature can occur by means other than aerodynamic heating.

DISTRICT RESPONSE

The District agrees. The definition of "high temperature coating" has been modified as suggested.

WRITTEN COMMENT

The definition of prepreg composite material in Subsection (c)(25) should be modified to include all organic resins.

DISTRICT RESPONSE

The District agrees. The definition of "prepreg composite material" has been modified as suggested.

WRITTEN COMMENT

The words "or directly to the aerospace components" should be deleted from the definition of topcoat in Subsection (c)(41). In addition, a new definition and corresponding VOC limits for unicoats should be added.

DISTRICT RESPONSE

The definition of "topcoat" has been modified as suggested. In addition, the definition of "unicoat" and corresponding VOC limits have been added. The definition of primer has also been modified to clarify the difference between a "primer" and an "unicoat".

WRITTEN COMMENT

The definition of autoclavable structural adhesive in Subsection (c)(37) should be amended to include the use of a press to cure the adhesive.

DISTRICT RESPONSE

The District agrees. The definition of "autoclavable structural adhesive" has been amended as suggested.

WRITTEN COMMENT

Since non-autoclavable structural adhesives, in some cases, must be cured under high temperature, the reference to ambient conditions should be deleted from the definition of non-autoclavable structural adhesive in Subsection (c)(38).

DISTRICT RESPONSE

The District agrees. The definition of "non-autoclavable structural adhesives" has been amended to delete reference to curing under ambient conditions.

WRITTEN COMMENT

The definitions of structural epoxy adhesives, elastomeric adhesives, and hot melt sealants and corresponding VOC limits should be added to the amended Rule 67.9.

DISTRICT RESPONSE

The District believes the requested specialty coating categories are appropriate. These categories and corresponding VOC limits have been added to the rule.

WRITTEN COMMENT

It is recommended that a VOC limit of 250 g/l for non-autoclavable structural adhesive be added to the amended Rule 67.9, effective 7/1/94.

DISTRICT RESPONSE

Subsection (d)(1)(i) has been amended to include the suggested VOC limit for "non-autoclavable structural adhesives".

WRITTEN COMMENT

The compliance effective date specified for the other adhesive category in Subsection (d)(1)(i) should be changed to 7/1/94.

DISTRICT RESPONSE

The District does not agree. The compliance effective date for the "other adhesives" category specified in Subsection (d)(1)(i) is consistent with the date specified by other districts in Southern California. Therefore, extension of this compliance date is not feasible without adequate technical justification.

WRITTEN COMMENT

The VOC limit for primers resistant to phosphate esters should be 350 g/l, effective on the date of adoption.

DISTRICT RESPONSE

The District agrees. Subsection (d)(1)(i) has been amended to incorporate the suggested VOC limit.

WRITTEN COMMENT

The VOC limit of space vehicle adhesives should be changed to 850 g/l to be consistent with the VOC limits for general adhesives.

DISTRICT RESPONSE

The District does not agree. The VOC limit for space vehicle adhesives specified in Rule 67.9 is consistent with the limit specified by other districts for this specialty coating category. Therefore, this limit will not be changed.

WRITTEN COMMENT

The definition of "stencil coating" should be modified to include application with spray equipment. This should not increase air emissions, but rather eliminate the need to continually refill the smaller air brushes.

DISTRICT RESPONSE

The definition of "stencil coating" has been changed to include the use of air brushes with capacity up to eight ounces. Touch-up guns will not be included. It was indicated during the workshop that the maximum size for the spray equipment currently used to apply stencil coating is 8 ounces. Therefore, inclusion of spray equipment larger than 8 ounces in the definition of this coating is not appropriate.

WRITTEN COMMENT

Subsection (d)(2)(v) should be changed to include air assisted airless and conventional spray applications for adhesives.

DISTRICT RESPONSE

The suggested modifications can not be incorporated unless adequate technical justification is provided to the District.

WRITTEN COMMENT

Delete the words "partially polymerized" in the definition of "prepreg composite material". This would avoid excluding non-polymerized material.

DISTRICT RESPONSE

The District believes that "partially polymerized" is a characteristic of a prepreg composite material and should be retained in the definition of this material.

WRITTEN COMMENT

Will sealants and potting compounds utilized for space vehicle coatings be included in the "other space vehicle coating" category?

DISTRICT RESPONSE

Yes, they will be classified as "other space vehicle coating".

WRITTEN COMMENT

WD-40 is a coating utilized to protect the space vehicle from corrosion during storage and transportation. WD-40 is applied and removed various times during the manufacturing process. Will it be considered as a "temporary protective coating", a "preservative oil and compound" or a "space vehicle coating"?

DISTRICT RESPONSE

Since WD-40 is applied to a space vehicle in this case, it will be considered an "other space vehicle coating". If the WD-40 is applied to other aerospace components, it will be classified under the "preservative oil and compound" category. The "temporary protective coating" category applies only to coatings which are utilized on non-space vehicles for protection from mechanical and/or environmental damages and are subsequently removed.

WRITTEN COMMENT

The definition of bearing coating and corresponding VOC limit should be added to the amended Rule 67.9. This category is required to permit the use of two critical high performance coatings used on "safety of flight" components of some aircraft, the failure of which could result in loss of the aircraft.

DISTRICT RESPONSE

The District agrees that a "bearing coating" is a highly specialized coating. The requested specialty "bearing coating" category and corresponding VOC limit have been added to the amended rule. The suggested definition of "bearing coating" has been amended to facilitate enforcement of the rule.

WRITTEN COMMENT

The definition of electromagnetic radiation effect coatings should be modified to include prevention of detection by infrared reflectance.

DISTRICT RESPONSE

The District agrees. The definition of "electromagnetic radiation effect coatings" has been revised as requested.

WRITTEN COMMENT

The definition of self priming topcoats and corresponding VOC limit should be added to the amended Rule 67.9. It is anticipated that such coatings can replace some existing exterior paint systems and will reduce VOC emissions through reduced use of solvent for clean up and surface preparation.

DISTRICT RESPONSE

The definition of unicoats and corresponding VOC limits have been added to Rule 67.9. Since the proposed "self priming topcoats" can be classified as unicoats, addition of a new coating category for self priming topcoats is not necessary.

WRITTEN COMMENT

Since Rule 67.9 only pertains to coating operations, where would other operations or new coating categories that are part of the manufacturing process associated with making an aerospace part but are not specifically identified in Rule 67.9 be regulated? Additionally, the applicability of Rule 67.9 should be expanded to include coating and surface preparation or cleaning of tooling, forms, molds and other manufacturing aids used in the manufacturing of aerospace components. Subsection (a)(1) should be revised to indicate explicitly that Rule 67.3 would not apply to operations associated with the manufacturing of aerospace components.

DISTRICT RESPONSE

Based on discussions between the District and aerospace industry representatives, Rule 67.9 will not be revised to apply to operations associated with the manufacturing of aerospace components which do not involve any of the operations explicitly specified in Section (a). Such operations would be subject to other rules of the District, as applicable. Rule 67.9 will not be revised as suggested.

WRITTEN COMMENT

Coatings used for the purposes of research and development should not have any restrictions on volume usage. Material substitution is a critical element of an aerospace company's regulatory compliance planning. Volume restrictions will hinder the company's ability to achieve total compliance. Therefore, it is recommended that the 50 gallon per year limit be removed from Subsection (b)(1)(iv).

DISTRICT RESPONSE

The District believes that 50 gallons per year is a reasonable upper limit for the use of non-compliant coatings in research and development activities. Presumably, coatings used in research and development for regulatory compliance planning are compliant coatings. There is no restriction on compliant coating usage. Subsection (b)(1)(iv) has been amended to clarify the intent of this exemption.

WRITTEN COMMENT

Subsections (b)(3) and (b)(4) should be amended to include caulking and smoothing compounds and preservative oils and compounds. These materials are low in VOC and are used widely throughout the facility. Daily recordkeeping requirements would be difficult to meet.

DISTRICT RESPONSE

The caulking and smoothing compounds and preservatives oils and compounds were considered as separate new specialty coating categories in the amended Rule 67.9 because they have a high VOC content (in the range of 850 g/l). Therefore, they can not be exempt from daily recordkeeping requirements.

WRITTEN COMMENT

Operations used to support the manufacture of aerospace components should be under Rule 67.9. In addition, small test panels used when testing coatings should be defined as "aerospace components" so that they do not come under Rule 67.3. The definition of aerospace component should be changed to include test panels, forms and tools.

DISTRICT RESPONSE

Rule 67.9 does not apply to operations associated with the manufacturing of aerospace components which do not involve any of the operations explicitly specified in Section (a). Therefore, forms and tools are not considered to be aerospace components. The definition of "aerospace component" has been revised to include aerospace test panels.

WRITTEN COMMENT

A definition for line sealer maskant and a corresponding VOC limit should be added to Rule 67.9.

DISTRICT RESPONSE

The District agrees such a category is necessary. The requested new specialty coating category and corresponding VOC limit have been added to Rule 67.9.

WRITTEN COMMENT

Some oils are used for corrosion purposes only and are not used to provide lubrication. Additionally, some components that are coated for corrosion protection are not subsequently painted. Furthermore, some preservative oils and greases are pigmented. Therefore, the definition of preservative oil and compound in Subsection (c)(26) should be modified to reflect this.

DISTRICT RESPONSE

The District agrees. The definition of "preservative oil and compound" has been amended to address the expressed concerns.

WRITTEN COMMENT

Any "surface preparation" or cleaning done on an aerospace part should be defined as surface preparation or cleaning done prior to a coating operation. To prevent operations like weld preparation, i.e. surface cleaning (preparation) done prior to welding, to be construed as "surface preparation", a definition of surface preparation and cleaning should be added to Section (c).

DISTRICT RESPONSE

The reference to "surface preparation" has been deleted from Rule 67.9. For the purpose of this rule, "surface cleaning" refers to cleaning of an aerospace component prior to or immediately after the application of an aerospace coating. Subsection (a)(1) has been amended to clarify what operations are intended to be subject to Rule 67.9.

WRITTEN COMMENT

Maskant "lifts" are repaired by applying a small amount of solvent (usually MEK) under the raised area and "re-bonding" the maskant. The definition of touch-up coating in Subsection (c)(42) should be amended to incorporate such operations.

DISTRICT RESPONSE

The definition of "touch-up coating" has been modified to include maskant repairing operations.

WRITTEN COMMENT

Coatings are used in some instances during wet fastener installation. Therefore, the definition of wet fastener installation coating in Subsection (c)(45) should identify sealant or coating.

DISTRICT RESPONSE

The definition of "wet fastener installation" has been revised to include primer also.

WRITTEN COMMENT

If a not specifically identified category is not exempt from Rule 67.9, then a definition and corresponding VOC limit is necessary for an "Other Coating Category".

DISTRICT RESPONSE

Any aerospace coatings which do not correspond to a specialty coating category specified in the table of Subsection (d)(1), other than topcoats, will be classified as a topcoat. Therefore, the addition of a new "other coating" category is unjustified. A VOC limit for such a category could not be technically justified. Also, such a broad coating category could be abused.

WRITTEN COMMENT

There are some concerns that certain coating operations can not utilize the allowable types of application equipment, or achieve the minimum transfer efficiency level of 65%. Therefore, Subsection (d)(2)(v) should be expanded to allow the use of conventional equipment for high solid coating applications.

DISTRICT RESPONSE

Certain HVLP turbine systems have reportedly been used by some aerospace companies to successfully spray high solid coatings. These companies should be contacted regarding the use of this equipment for high solid coatings. The application of high solid coatings can not be considered for exemption from the high transfer efficiency requirements of Subsection (d)(2). An exception has been made for maskants and temporary protective coatings applied with airless spray equipment.

WRITTEN COMMENT

Subsection (d)(4) should be modified to limit its applicability to surface preparation or cleaning of an aerospace component prior to painting.

DISTRICT RESPONSE

The reference to "surface preparation" in Rule 67.9 has been deleted. Subsection (d)(4) applies to operations for the purposes of not only cleaning of an aerospace component prior to application of a coating but also cleaning of the aerospace component immediately after the coating application, if such cleaning operations are required in the process. Therefore, Subsection (d)(4) will not be amended as suggested.

WRITTEN COMMENT

Subsections (d)(7) and (d)(8) should be deleted and a new section (d)(7) should be added to require manufacturers of aerospace coatings to provide the VOC

content of the coating, as applied, less water and less exempt compounds, in a Material Safety Data Sheet (MSDS) or Technical Data Sheet. As written, even though a coating which can be classified as more than one type of coating is in compliance with the most stringent VOC limit of the applicable coating categories, it may not be in compliance with the labeling requirement of Subsections (d)(7) and (d)(8).

DISTRICT RESPONSE

Subsections (d)(7) and (d)(8) were incorporated into Rule 67.9 to facilitate the enforceability of the rule. The suggested amendments to these subsections will make Rule 67.9 difficult to enforce. Aerospace coatings should be labeled such that all of the coating categories specified in Subsection (d)(1)(i) which are applicable to the coating are identified. The coating must comply with the most stringent VOC limit among the applicable coating categories. It is the responsibility of the manufacturer to label all coating containers in accordance with the requirements of Subsections (d)(7) and (d)(8). Should the coating be tested by the District and its VOC content, as applied, was found to be higher than the allowable limits specified in Subsection (d)(1), a notice of violation (NOV) will be issued to the manufacturer of the coating and not the user, provided that the user has not exceeded the maximum thinning ratio recommended by the coating manufacturer. However, a NOV will be issued to the user if a coating was found by the inspector to be used for any purposes other than those labeled by the manufacturer on the coating container.

WRITTEN COMMENT

Subsection (e)(3) should be a subsection under Subsection (e)(2).

DISTRICT RESPONSE

The District believes inclusion of Subsection (e)(3) is appropriate. The wording of Section (e) has been incorporated into other District's VOC rules which have been approved by the EPA and ARB. Therefore, revising the wording of this section for Rule 67.9 alone would make it inconsistent with other VOC control measures.

WRITTEN COMMENT

Some aerospace companies do not have the ability to track the use of solvents on a daily basis utilizing their existing recordkeeping systems; nor do the companies have the capability to differentiate solvent usage, i.e., surface preparation versus equipment cleaning. Other than materials used in permitted areas, daily recordkeeping is not possible at this time. It is

recommended that these materials be tracked on an annual basis. If this is not possible, then additional time will be necessary to create an extensive daily recordkeeping program. In this case, Section (f) should be amended to extend the effective compliance date by six months to one year. This will give industry the time they need to establish a recordkeeping system to meet the requirements of Section (f).

DISTRICT RESPONSE

The requirements for daily recordkeeping are mandated by the ARB and EPA for daily VOC emissions standards. Daily recordkeeping requirements have generally been incorporated into the permit conditions for aerospace operations that require a Permit to Operate. However, to satisfy the expressed concern, Section (f) has been revised to extend the effective compliance date for daily recordkeeping requirements by six months.

WRITTEN COMMENT

Dip coating applications are difficult to quantify on a daily basis. Quantity of materials are normally added to the tanks on an "as needed" basis. Therefore, it is recommended that the recordkeeping requirements for dip tank operations be on a material addition instead of material usage basis.

DISTRICT RESPONSE

The District agrees. Records of material additions to dip tanks may be used to estimate the daily usage associated with dip tank operations. For example, the average daily amount of material used for dip tank operations will be equal to the amount of material added to the tank divided by the total number of days elapsed between two consecutive tank additions.

WRITTEN COMMENT

In some processes, the same maskant is used for both chemical processing and chemical milling operations. Therefore, it is necessary to have the same compliance date specified for both chemical milling and chemical processing maskants so that one maskant can still be used for both operations. Emissions of ROG may potentially increase if two separate maskants are used instead of one. The compliance date for maskants to have a VOC content of less than 250 g/l should be 7/1/93, which is the same as the one specified for chemical milling maskants by the SCAQMD.

DISTRICT RESPONSE

The compliance dates for which both chemical milling and chemical processing maskants are required to have a VOC content of less than 250 g/l have been changed to 7/1/93 in order to be consistent with the SCAQMD requirements.

WORKSHOP COMMENT

Subsection (a)(1) seems to imply that any operation involving the cleaning of an aerospace component will be subject to Rule 67.9, even though the cleaning operation is not associated with an aerospace coating operation.

DISTRICT RESPONSE

Since Rule 67.9 is an aerospace coating rule, only those cleaning operations which are done as part of an aerospace coating operation will be subject to Rule 67.9. Subsection (a)(1) has been amended to clarify what operations are intended to be subject to Rule 67.9.

WORKSHOP COMMENT

Is the exemption specified under Subsection (b)(1)(iii) an exemption for small sources only? As written, it is unclear whether the 50 gallons per year limit refers to only non-compliance aerospace coatings or to any aerospace coating applied at the facility.

DISTRICT RESPONSE

No, Subsection (b)(1)(iii) is not a small source exemption. This exemption is intended to apply to any facility where only a small quantity of non-compliant aerospace coatings are used. Therefore, the 50 gallons per year limit should apply only to the use of non-compliant coatings at the facility, excluding the non-compliance coatings claimed under the exemptions in Subsections (b)(1)(i), (b)(1)(iv), (b)(1)(v) and (b)(1)(vi). Subsection (b)(1)(iii) has been amended to clarify the applicability of this exemption.

WORKSHOP COMMENT

Since the definition of prepreg composite material in Subsection (c)(25) will be amended to include only organic resins, the definition of aerospace coating should also be modified to limit the applicability of Rule 67.9 to organic coatings only.

DISTRICT RESPONSE

Since aerospace coatings may contain both organic and inorganic materials, revising the definition of aerospace coatings to include only organic coatings may result in confusion and misinterpretation of the rule. This suggestion will not be incorporated.

WORKSHOP COMMENT

The word "interior" should not be added to the definition of primer in Subsection (c)(28) since there may be problems in classifying an aerospace component as an interior or exterior component.

DISTRICT RESPONSE

The inclusion of the word "interior" in the definition of "primer" is necessary to differentiate a primer which is not subsequently topcoated from other types of coatings. A coating formulated to be used as a primer which is applied to an exterior surface may be classified as a primer only if it is not used as a final coating. For example, if a primer is applied to the outside of an aircraft during repair and may not be topcoated for several months, it is still classified as a primer since it would be topcoated eventually. In addition, if a coating formulated to be used as a primer is applied to an aerospace component which is primarily designed to be an interior component but which may occasionally be exposed to the atmosphere, it is still classified as a primer. For example, a primer applied to a component of an aircraft, which is a part of the aircraft's interior shell but which may be exposed to outside air when the door is opened, would still be classified as a primer.

WORKSHOP COMMENT

The definition of aerospace component in Subsection (c)(4) includes mockups and prototypes. Since mockup and prototypes are considered a part of research and development, and since coatings used for the purposes of research and development are exempted under the provisions of Subsection (b)(1)(iv), the reference to mockups and prototypes should be deleted from the definition of aerospace component.

DISTRICT RESPONSE

The rule contains an upper limit on the quantity of non-compliant coatings which are exempt under the provisions of Subsection (b)(1)(iv). Therefore, research and development coating operations will be subject to the limits of Rule 67.9 if the non-compliant coating usage limit is exceeded. In this case, it is necessary to include mockups and prototypes in the definition of aerospace

component to preserve the applicability of the rule. However, in order to clarify any ambiguity, Subsection (b)(1)(iv) has been amended to explicitly include coating applied to mockups and prototypes.

WORKSHOP COMMENT

The reference to the interior of the fuel tank should be deleted from the definition of fuel tank coating in Subsection (c)(15) since fuel tank coating may also be needed for the coating of the fuel tank's exterior surface.

DISTRICT RESPONSE

The reference to the interior of the fuel tank is specified in the definition of "fuel tank coating" in the existing rule. Deletion of this limitation may be considered a rule relaxation and will not be allowed by the ARB and EPA unless adequate technical justification is provided. Such justification has not been provided to the District. However, to satisfy the expressed concern, the definition of "fuel tank coating" has been modified to allow the use of fuel tank coating on surfaces that are frequently wetted by fuel.

WORKSHOP COMMENT

Will a totally enclosed cleaning device used for the cleaning of aerospace coating application equipment require a permit?

DISTRICT RESPONSE

For an operation which already has an existing permit, the permit will be modified to include the enclosed cleaning device as part of the permitted unit. A new permit will be required for the cleaning device if the operation is currently exempt from the permitting process.

WORKSHOP COMMENT

Is hand wiping allowed under the provisions of Subsection (d)(4)?

DISTRICT RESPONSE

Yes, if hand wiping is done using cleaning solvents which comply with the VOC content or vapor pressure limits specified in Subsections (d)(4)(i) and (d)(4)(ii).

WORKSHOP COMMENT

Will source tests be required to comply with Section (e)?

DISTRICT RESPONSE

Yes, source tests will be required to demonstrate compliance unless the operation is identical to an operation that has previously been source tested.

WORKSHOP COMMENT

The words "exempt solvents" in Subsection (f)(1)(iv) should be changed to "exempt compounds".

DISTRICT RESPONSE

The District agrees. Subsection (f)(1)(iv) has been amended as suggested.

WORKSHOP COMMENT

The word "apply" in Subsection (d)(9) should be changed to "supply".

DISTRICT RESPONSE

The District agrees. Subsection (d)(9) has been modified as suggested.

ARB COMMENT

Subsections (d)(1)(ii) and (d)(1)(iii) should be modified to clearly indicate what types of maskants are subject to their provisions since the rule distinguishes between chemical milling and chemical processing maskants.

DISTRICT RESPONSE

Subsection (d)(1)(ii) has been modified to indicate that both chemical milling and chemical processing maskants are subject to the provisions of this subsection. Subsection (d)(1)(iii) has been modified to indicate that only chemical processing maskants are subject to the provisions of this section. In addition, Subsection (d)(1)(iv) has been added to explicitly specify the requirements for chemical milling maskants.

ARB COMMENT

The wording used to specify the limit for the VOC content of maskants in Subsection (d)(1)(ii) and (d)(1)(iii) is confusing and appears to imply the treating of perchloroethylene as an exempt solvent. It is recommended that these subsections be amended to specify a limit on total VOC (including perchloroethylene) per liter less water and exempt compounds as well as an additional limit on perchloroethylene (alone) per liter less water and exempt compounds.

DISTRICT RESPONSE

The specification of a limit on total VOC (including perchloroethylene) in conjunction with an additional limit on perchloroethylene (alone), as suggested, is inadequate since this will allow substitution of perchloroethylene in maskants by other non-exempt photochemically reactive compounds. In addition, the District believes that the inclusion of both a limit for perchloroethylene alone and a limit for VOC's other than perchloroethylene will prevent perchloroethylene being misinterpreted as an exempt compound, even though the other VOC limit is expressed on a "less perchloroethylene" basis.

ARB COMMENT

It is unclear why the restriction on the perchloroethylene content of chemical processing maskants should be abandoned after July 1, 1992.

DISTRICT RESPONSE

It was not the District's intent to delete the restriction on the perchloroethylene content of chemical processing maskants in the future. Subsection (d)(1)(iii) has been modified to retain the perchloroethylene content limit.

ARB COMMENT

It is unclear why the VOC content in Subsection (d)(1)(ii) is not expressed as grams per liter less water and exempt compounds. This conflicts with the stated units of VOC content for coatings specified in the definition of VOC in Subsection (c)(44).

DISTRICT RESPONSE

Subsection (d)(ii) has been modified to express the VOC content of maskants on a "less water and less exempt compounds" basis.

ARB COMMENT

The phrasing "total vapor pressure of VOC" specified in Subsections (d)(3)(ii), (d)(4)(ii), (d)(5)(iv) and (g)(5) seems to indicate that only the contribution of compounds classifiable as VOC to vapor pressure is referred to. This is consistent with the calculation method specified in Subsection (g)(5). However, as usually defined, vapor pressure refers to the overall pressure exerted by a liquid's vapor and this overall pressure is what ASTM D2879-83 measures. Supplementary methods should be specified for adjusting ASTM D2879-83 test results for the partial pressures of water and exempt compounds if it is intended that only VOC partial pressures be considered.

DISTRICT RESPONSE

It is the District's intent that only the partial pressures of VOC be considered in determining compliance with the vapor pressure limits specified in Subsections (d)(3)(ii), (d)(4)(ii) and (d)(5)(iv). Since currently there are no EPA-approved test methods for determination of the composition of a vapor mixture, the partial pressure of water and exempt compounds will be estimated using the District's "Procedure for Estimating the Vapor Pressure of a Solvent Mixture". In applying this method, the fraction of water and exempt compounds in the liquid phase will be determined using an appropriate ASTM test method. Subsection (g)(5) has been modified to reflect the suggested procedure for estimating partial pressures of water and exempt compounds.

ARB COMMENT

In Subsection (g)(5), the intent seems to be to use the vapor pressure calculation method as a screening method, and ASTM D2879-83 as a verification method. This should be more clearly stated. Additionally, "VOC containing compounds" should be changed to "VOC containing materials."

DISTRICT RESPONSE

The District believes that Subsection (g)(5) adequately states the intent of this section. The vapor pressure calculation method specified in Subsection (g)(5) will be used as a screening method to determine the vapor pressure of any VOC containing materials subject to Subsections (d)(3)(ii) and (d)(4)(ii) of Rule 67.9. The ASTM D2879-83 test method will only be used if such analysis is deemed necessary for the determination of compliance with Rule 67.9, i.e., if the calculated vapor pressure is very close to the allowable limits specified in

Rule 67.9. The word "compounds" has been changed to "materials" as suggested.

ARB COMMENT

In Subsection (g)(3), the implied intention that emissions of exempt compounds should be measured by EPA Method 18 and subtracted from the total organic emissions measured by EPA Method 25 should be stated more clearly.

DISTRICT RESPONSE

The District believes it is appropriate to specify only the applicable test methods in the test method section of Rule 67.9. Since the test procedure is clearly described in each test method, it is the responsibility of the person who conducts a test to know how the test should be performed . Therefore, it is unnecessary to provide a detailed explanation of how the test methods should be used in the rule.

ARB COMMENT

The South Coast Air Quality Management District (SCAQMD) test method referenced in Subsection (g)(4) is not officially final. The approvals required by Subsection (d)(2)(vii) may act to catch any testing problems in the review process, but the availability of the test method to the public should be verified by the District.

DISTRICT RESPONSE

The draft version of the SCAQMD test method referenced in Subsection (g)(4) is currently available to the public. If a revised version of the test method be approved in the future, Rule 67.9 will be amended to incorporate the updated version of the test.

ARB COMMENT

To improve the enforceability, it is recommended that the definition of "antichafe coating" in Subsection (c)(5) be amended to include physical requirements for this coating category such as coefficient of friction using ASTM methods.

DISTRICT RESPONSE

The District believes the definition of "antichafe coating", as written, is enforceable since it will prevent the classification of lubricative coatings as antichafe coatings. It will not be feasible to include physical requirements such as coefficient of friction in the definition of "antichafe coating" as suggested because the materials to which these coatings are applied as well as the operating conditions which dictate the use of these coatings can vary widely.

ARB COMMENT

To improve the enforceability, the definition of "fuel tank adhesive" in Subsection (c)(14) should be modified to indicate that the adhesive must be used in conjunction with fuel tank coatings.

DISTRICT RESPONSE

The District agrees. The definition of "fuel tank adhesive" has been modified as suggested.

ARB COMMENT

To improve the enforceability, it is recommended that a definition be added to Section (c) to define the word "scale" which is used in the definition of "heat treatment scale inhibitor" since scale defines a specific type of corrosion.

DISTRICT RESPONSE

"Scale" is a general term which is widely used in the chemical industry to refer to the degradation of metallic alloys by an oxidation process. Since the conditions leading to the formation of scale can vary greatly depending on the type of alloys, the District believes that inclusion of a definition for "scale" in Rule 67.9 is inappropriate and will not improve the enforceability of the rule.

ARB COMMENT

The definition of "optical anti-reflective coating" in Subsection (c)(24) describes flat black paint, except for the mention of optical equipment. This definition should be modified to clearly indicate that flat black coatings are not covered by the definition except when used on or near optical equipment.

DISTRICT RESPONSE

The District believes that the definition of "optical anti-reflective coating", as written, does indicate that the coating in this category must be used on or near optical equipment.

ARB COMMENT

To improve enforceability, it is recommended that the definition of "prepreg composite material" in Subsection (c)(25) be amended to describe the partially polymerized state of this material.

DISTRICT RESPONSE

The District agrees. The definition of "prepreg composite material" has been modified as suggested.

ARB COMMENT

The adoption of many very specific coating categories in Rule 67.9 may result in difficulty in enforcing the rule. Therefore, it is recommended that either a petition-like program, such as the one found in the Bay Area Air Quality Management District (BAAQMD), or a coating usage tracking program, such as the one proposed by the Ventura APCD, be adopted to improve the enforceability of Rule 67.9. The petition program would simply require a user to petition to the District for the usage of identified low usage/high VOC coatings. The coating usage tracking program, on the other hand, includes a recordkeeping requirement which requires industry to maintain a current list of manufacturer identification, VOC content as applied, and a specification information for specific specialty coating categories. Such tracking program will allow the collection of coating information prior to inspection, giving the inspector assistance in the identification of low usage/high VOC coating categories.

DISTRICT RESPONSE

The District believes that a petition-like program would be difficult and time-consuming to enforce in San Diego County due to the large number of specialty coating categories associated with aerospace coating operations required for the manufacturing and assembling of aerospace vehicles. (It should be noted that there are only rework facilities in the BAAQMD and, therefore, the number of coating categories requiring special usage petition is substantially less.)

The amended Rule 67.9, as written, contains provisions for recordkeeping requirements (Section (f)) as well as labeling requirements (Subsections (d)(7)

and (d)(8)) which are specifically designed to improve the enforceability of the rule. These requirements are even more stringent than the tracking program proposed by the Ventura APCD.

ARB COMMENT

Since aerospace companies in San Diego County have reportedly been using conformal coatings with VOC content of 201 to 664 g/l, the VOC limit for this coating category should be lowered accordingly.

DISTRICT RESPONSE

The District has not been able to verify that all companies using conformal coating in San Diego County will be able to use the referenced coating. Therefore, the proposed VOC content limit for "conformal coatings" was set at the same value specified in the SCAQMD's aerospace coating rule (Rule 1124) in order to preserve consistency among the districts in Southern California. Rule 67.9 will be revised in the future to incorporate a lower VOC limit for conformal coatings if such lower limit is found to be technically feasible for all applications and is implemented by other districts in Southern California.

ARB COMMENT

The division of the VOC content limit for "solid film lubricants" into two categories appears to be unnecessary unless the intention was to drop the VOC limit for fastener lubricants down to a lower value in the future as found in SCAQMD Rule 1124 for aerospace operations.

DISTRICT RESPONSE

A VOC limit of 250 g/l for fastener solid film lubricants has been added to Rule 67.9, effective 7/1/94.

ARB COMMENT

Other aerospace rules which have adopted a transfer efficiency requirement do not allow the use of airless spray equipment. Since HVLP guns have reportedly been used to spray high solids materials in other industries, it is recommended that Subsection (d)(2)(v) which allows the use of airless spray equipment be deleted from Rule 67.9.

DISTRICT RESPONSE

Based on a survey of the aerospace industry in San Diego as well as discussion with other districts, none of the HVLP systems tested can be used successfully to spray coatings such as maskants and temporary protective coatings. Therefore, the District believes that the inclusion of airless spray equipment for use with maskants and temporary protective coatings in Rule 67.9 is justifiable at the present time.

ARB COMMENT

The wording in Subsections (e)(1)(ii) and (e)(1)(iii) should be clarified to better reflect the fact that the emissions collection system collects evaporated VOC's (not "emissions") while the emissions control device abates VOC delivered by the collection system, (again, not "emissions").

DISTRICT RESPONSE

The District believes that the wording of Subsections (e)(1)(ii) and (e)(1)(iii) is appropriate. This wording is consistent with other District's VOC rules which have previously been approved by the ARB and EPA.

EPA COMMENT

The exemptions specified in Subsections (b)(1)(i), (b)(1)(iv), (b)(1)(v) and (b)(1)(vi) for touch-up and stencil coatings, research and development operations, aerosol spray containers, and prepreg composite materials should be included under the exemption of Subsection (b)(1)(iii) for low-use coatings.

DISTRICT RESPONSE

The District does not agree. Since aerospace coatings operations are generally very large operations, it is not feasible to group all low-usage coatings under a single facility-wide exemption limit of 50 gallons per year. The exemptions specified under Subsections (b)(1)(i), (b)(1)(iv), (b)(1)(v) and (b)(1)(vi) are necessary because of the inherent nature of the specific coating or coating operation. The justifications for inclusion of these exemptions are discussed below.

The exemption specified in Subsections (b)(1)(i) is necessary because it is not technically feasible at the present time to lower the VOC content of touch-up and stencil coatings. Touch-up coating normally must have a high VOC content since it must be compatible with several types of coatings. Similarly, since a primer is not generally used with stencil coating, the stencil coating must be able to stick to a wide variety of topcoats. In addition, stencil coatings

are generally applied in a very thin film. Therefore, the VOC content of stencil coatings must be kept at a fairly high level.

The exemption for research and development in Subsection (b)(1)(iv) is necessary because non-compliant coatings must be used in some cases to test the performance of new compliance coatings. Furthermore, some of the coatings used for research and development are classified as "top secret" and can not be easily regulated.

The exemption for aerosol spray containers in Subsection (b)(1)(v) is necessary because aerosol spray materials have high VOC content. Since it is not technically feasible at the present time to develop low VOC aerosol materials nor is it practical to totally out law the use of aerosol sprays, inclusion of an exemption for aerosol spray containers in Rule 67.9 is appropriate.

While prepreg composite material is not a low-usage material, the District believes the inclusion of an exemption for prepreg composite material in Subsection (b)(1)(vi) is appropriate because this material generally has a very low VOC content. Therefore, emissions from the use of this material will be negligible in comparison to other aerospace coatings.

EPA COMMENT

Aerospace coating operations are subject to the requirements of the Miscellaneous Metal Parts and Products (MMP&P) Control Technique Guideline (CTG). At the present time, the coating limit recommendations provided by the Phase III Study for Aerospace Coating Operations are still applicable. Therefore, the District should require coating limits that are consistent with the MMP&P CTG and the Phase III Study. Where such limits cannot be achieved, technical justification must be provided to support the need for the higher limits.

DISTRICT RESPONSE

The specialty coating categories and limits proposed for Rule 67.9 were developed to address the specialized coating needs of local aerospace industry. Specific technical support for these specialty coating categories has been shown. In addition, Rule 67.9 was made as consistent as technically justified with those of other southern California air pollution control districts in order to establish regulatory consistency in southern California. This is necessary because the aerospace specialty coatings market in San Diego County alone is not large enough to encourage coating manufacturers to invest the necessary resources to develop coatings with lower solvent contents. However, the District believes the combined markets of all affected southern California districts will be adequate for this to occur. The District will participate in a

committee of affected districts, the EPA and the ARB to address the problems with the aerospace coating rules and to propose revisions at a future date, once the identified issues are resolved.

EPA COMMENT

The limits for maskants should be amended to eliminate the exemption of perchloroethylene from VOC control requirement as it is considered a VOC by the EPA.

DISTRICT RESPONSE

The District believes the proposed limits for maskants are appropriate at the present time. As written, Rule 67.9 provides for regulation of other VOC's and caps emissions of perchloroethylene. Where the technology is found to be available for reformulation of maskants, such as for chemical milling maskants, a lower limit on the VOC content of maskants, including perchloroethylene, has been specified.

EPA COMMENT

It is recommended that the discretionary clauses specified in Section (e) be removed or Section (e) be modified to include a statement which does not bind the EPA to any approvals made by the District.

DISTRICT RESPONSE

The wording of Section (e) has been incorporated into other District VOC rules which have been approved by the EPA and ARB. Therefore, revising this section for Rule 67.9 alone would make it inconsistent with other VOC control measures. The reference to the APCO's approval in Section (e) is intended as a reminder for any person who wants to use air pollution control equipment to comply with Rule 67.9 that a permit is required for the installation and operation of the control equipment. The District believes this should not be considered as a discretionary action by the APCO since the criteria upon which the approval will be based have been explicitly specified in the rule. The requirement that emission control devices and their operation and maintenance be approved, in writing, by the APCO is basic to the effectiveness of the District's permitting program. The permitting program is one of the principal tools for enforcing Rule 67.9 requirements.

EPA COMMENT

Any test methods referenced in Section (g) which have not been approved by the EPA must be submitted to the EPA for evaluation. Approval of the rule will depend upon the acceptability of the referenced test methods.

DISTRICT RESPONSE

The District will submit copies of all test methods referenced in Section (g) which have not been approved by the EPA with the amended Rule 67.9

RULE 67.9
AEROSPACE COATING OPERATIONS

ADDENDUM TO WORKSHOP REPORT

A workshop notice was mailed to all companies involved in aerospace coating operations in San Diego County, the U.S. Environmental Protection Agency (EPA), the California Air Resources Board (ARB), and other interested parties. The workshop was held on March 6, 1991. The proposed Rule 67.9 was subsequently revised to incorporate the comments received prior to and during the workshop. The revised Rule 67.9 was mailed to workshop's participants on March 21, 1991, along with a workshop report summarizing the District's responses to the comments. ~~Following are the District's responses to comments received on the revised Rule 67.9.~~ Subsequently, additional comments were received that resulted in additional changes to the rule. Following are the additional comments and District response.

WRITTEN COMMENT

An additional exemption should be included in Section (b) to address testing of coatings and materials in aerospace laboratories. Coatings with high VOC contents are often used in evaluating the performance requirements of new low VOC content materials. While these high VOC content coatings are used in small quantities, these quantities could exceed the 50 gallons per year limit in Subsection (b)(ii). It is recommended that an exemption similar to that of Rule 1124 from the SCAQMD be added to Rule 67.9 to allow for special coating usage in laboratory situations.

DISTRICT RESPONSE

An exemption has been added to Rule 67.9 for coatings used exclusively for purposes of research and development, provided not more than 50 gallons per year of all such non-compliant coatings are used. The District believes that 50 gallons per year is a reasonable upper limit for the use of non-compliant coatings in research and development activities.

WRITTEN COMMENT

Not all adhesives are typical of VOC-containing coatings. Many adhesives are films supported by some carrier media, i.e., prepreg materials. Therefore, the words "a coating" in the definition of "adhesive" should be replaced by the words "any substance".

DISTRICT RESPONSE

The District agrees. The reference to "coating" in the definition of "Adhesive" has been deleted.

WRITTEN COMMENT

Approximately 15% of the surfaces of fuel tank parts are externally exposed. These surfaces are coated with the fuel tank coating to prevent surface contamination and subsequent coating adhesion problems in service. Moreover, the application of alternative coatings to the exterior surfaces of fuel tank parts would require additional masking and solvent cleaning steps resulting in further VOC emissions. The definition in Rule 1124 from the SCAQMD provides for fuel tank coating application "to a fuel tank of an aircraft" without limiting it to interior portions only. This language should be incorporated into San Diego County's proposed amendments.

DISTRICT RESPONSE

The Districts does not agree. The reference to the interior of the fuel tank is specified in the definition of "Fuel Tank Coating" in the existing rule and, therefore, can not be deleted without adequate technical justification. Such justification has not been provided. It should be noted that the definition in SCAQMD's Rule 1124 is being revised to include additional restrictions in the uses of "Fuel Tank Coating". However, the District believes it can justify allowing the use of fuel tank coating on fuel fill and drainage tracks and surfaces that are frequently wetted by fuel. The definition has been modified accordingly.

WRITTEN COMMENT

The apparent intent of the proposed definition for "Preservative Oils and Compounds" is to address materials used to prevent corrosion. In general, these coatings are not pigmented; however, for purposes of identification, some pigmentation may be necessary. The definition of "Preservative Oils and Compounds" should be modified to exclude the references to pigment and to lubrication (addressed by the lubricant categories).

DISTRICT RESPONSE

The reference to pigment in the definition of "Preservative Oils and Compounds" has been deleted. Since some preservative oils and compounds are being used by

local aerospace companies for corrosion and/or lubrication, the definition of "Preservative Oils and Compounds" has been modified to reflect this.

WRITTEN COMMENT

The proposed VOC content for "Fuel Tank Coating" is 650 grams per liter (g/l), as applied. The SCAQMD limit is 720 g/l. Current coatings available range in VOC content from 600 to 720 g/l. Reformulation of these coatings for a 70 g/l reduction before rule adoption is not possible nor it would result in significant VOC reduction. Therefore, it is recommended that the VOC limit for "Fuel Tank Coating" be changed to 720 g/l.

DISTRICT RESPONSE

The District does not agree. The proposed VOC limit for "Fuel Tank Coating" reflects the VOC content of the coatings currently used in San Diego. In addition, this limit is specified in the existing Rule 67.9. A higher VOC limit would be considered a rule relaxation.

WRITTEN COMMENT

The proposed VOC content for "Rain Erosion Resistant Coating" (690 g/l) is inconsistent with SCAQMD limit of 800 g/l. While both districts propose reductions of 420 g/l in 1994, suitable coatings for specialized applications are not available at the 690 g/l limit. Since reformulation to meet the adoption date is not possible, it is recommended that the VOC limit for this specialty coating category be changed to 800 g/l.

DISTRICT RESPONSE

The District does not agree. The proposed VOC limit for "Rain Erosion Resistant Coating" reflects the VOC content of the coatings currently used in San Diego. A higher VOC limit would not be technically justified.

WRITTEN COMMENT

Form Release Agents, Preservative Oils and Compounds, Caulking and Smoothing Compounds, Conformal Coatings, Heat Treatment Scale Inhibitors, and Thermocontrol Coatings are either new categories or categories with different names than those in the existing SCAQMD Rule 1124. The use of such coatings is generally small, and on a relative scale, little environmental benefit is gained through their regulation. Low-use specialty coatings are more appropriately regu-

lated under a general rule for organic-containing materials, where emissions are still limited, but extensive labelling and recordkeeping are not required. In addition, the proposed amendments do not address all the specialty coatings used by the aerospace industry by the addition of these categories. Therefore, it is recommended that Form Release Agents, Preservative Oils and Compounds, Caulking and Smoothing Compounds, and Thermocontrol Coatings be considered exempt and thus subject to Rules 66, 67.6 and/or 67.12 as applicable.

DISTRICT RESPONSE

The District does not agree. Form release agents, preservative oils and compounds, caulking and smoothing compounds, and thermocontrol coatings are specialized coatings for which a need for higher VOC limits has been technically justified. Since these coatings may or may not be used in low quantities, the District believes their usage should be regulated under Rule 67.9. It should be noted that an explicit exemption for low-usage coatings is included in Rule 67.9.

WRITTEN COMMENT

The July 1, 1992 date proposed by San Diego County for the VOC content limit of chemical milling maskant would require reductions one year sooner than the SCAQMD. The aerospace industry is currently reviewing low VOC materials and working toward the July 1, 1993 deadline SCAQMD established in their existing rule. At the present, however, it is optimistic to expect that a reformulated candidate can be implemented by this date. A qualified candidate may be available in the near future; however, it is difficult to apply to aerospace components. Implementation will require additional time to train applicators, install necessary facility equipment to provide special environmental conditions for application, and will generate additional waste due to increased rework. The date proposed in Rule 67.9 does not allow time to review other, more practical, candidates.

DISTRICT RESPONSE

The compliance date for low-VOC chemical milling and chemical processing maskants has been changed to July 1, 1993 to be consistent with other districts in southern California. It should be noted, however, that low-VOC water-borne maskants have been developed and shown to be successful for use in chemical milling and potentially promising for use in chemical processing. The District will reexamine the issues relating to maskants in the future. Rule 67.9 may be further revised at a later date if the results of performance tests of these low-VOC maskants are successful.

WRITTEN COMMENT

Because aerospace coatings are manufactured throughout the world, the labelling requirements proposed in Subsections (d)(7) and (d)(8) would be difficult to meet. Coatings used in the SCAQMD jurisdiction or in other state and local districts would not necessarily have accurate labels in San Diego County because VOC and/or coating definitions may vary substantially. For example, at least one local air pollution control agency in the western U.S. is proposing a VOC definition without listing any exempt compounds. The VOC content on the label would not be accurate for both that agency's regulations and San Diego County. Another example of a discrepancy resulting from labelling requirements is the varying definition for primer and pretreatment coatings between three local agencies: SCAQMD, San Diego, and Ventura Counties. Moreover, some coatings may have more than one use, i.e. a specific coating may be used for a variety of applications. While the VOC content will meet the regulated limit, the category/definition may not agree with the use. Coating manufacturers may not be aware of all uses or definitions for a particular coating, especially some of the low-use specialty coatings described above.

As an alternative to labelling requirements, other districts (SCAQMD & Ventura APCD) use a "list and category identification system" similar to the requirements specified in Subsection (f)(1) to aid enforcement activities. If a coating is discovered being used, but not on the list, or if a coating is being used in a category not previously specified on the list, then a violation has taken place. Since these "lists" will be required to meet other recordkeeping purposes, they can logically serve another purpose; whereas Subsections (d)(7) and (d)(8) will require extensive monitoring, recordkeeping and labelling on the aerospace company's part, and will constitute no improvement in air quality. Therefore, it is recommended that Subsections (d)(7) and (d)(8) be deleted from Rule 67.9.

DISTRICT RESPONSE

The District believes the labelling requirements as specified in Subsections (d)(7) and (d)(8) would greatly improve the enforceability of Rule 67.9. However, since other districts in southern California do not require coating containers to be labeled in their aerospace rules, it may be difficult to implement these provisions at the present time. Therefore, the labelling requirements of Subsection (d)(7) and (d)(8) have been replaced by a new provision similar to the coating usage tracking program used by the Ventura APCD. To facilitate the enforceability of the rule, users of aerospace coatings are required to submit to the District a list of all coatings applied at each affected facility. The user must identify the intended uses of each aerospace coating, as well as provide all technical information to support that the coating has been formulated for each intended use. The use of an aerospace

coating is prohibited unless the coating is included on the list and is used only as the coating category specified on the list for that specific coating. The list must be revised and submitted to the District when a new coating is used or when the coating is used for purposes other than those previously identified on the list. The coating must be in compliance with the VOC content limit specified in Rule 67.9 for each intended use identified on the list.

WRITTEN COMMENT

Although the test methods specified in Rule 67.9 for use in determining VOC content and vapor pressure are similar to those of the SCAQMD, possible compliance issues could result as materials with VOC contents expressed on labels are imported to or exported from other districts where VOC definitions and test methods vary. While the use of ASTM and EPA methods is preferred because of their nationwide applicability, language accepting the use of VOC content expressed on labels using test methods developed by other districts should be added to Rule 67.9.

DISTRICT RESPONSE

The District does not agree. Most of the test methods specified in Rule 67.9 are standard methods which are approved by the EPA and the ARB. These methods are currently used by districts in southern California to determine the VOC content and vapor pressure of coatings. The District believes that specifying approved test methods in Rule 67.9 is appropriate. This is also a requirement of the EPA and ARB.

WRITTEN COMMENT

Section (f) on recordkeeping is consistent with the SCAQMD requirements for daily records on coatings. However, the requirements to maintain records on solvent usage for all cleaning and surface preparation will be extremely difficult. Solvents are often dispensed from small bottles in minute quantities. Measurements could be arbitrary or rough estimate at best. It is suggested that wipe solvent usage be based on daily inventories of solvents kept at dispensing stations. In other words, log books can be kept at storage cabinets or supply counter where solvents are stored and dispensed. Usage would be determined by the distribution of the solvent from those stations to specific process areas. This would eliminate error in daily use estimates. Therefore, it is recommended that Subsection (f)(2) be modified to reflect this.

DISTRICT RESPONSE

The District agrees. Subsection (f)(2) has been amended to require daily dispensing records instead of daily usage records of solvents used only for equipment cleaning and surface cleaning operations.

WRITTEN COMMENT

Subsection (b)(1)(vi) should be modified to exempt epoxy prepreg materials also. It is recommended that the reference to Rule 67.12 be deleted from this subsection.

DISTRICT RESPONSE

The District agrees. Subsection (b)(1)(vi) has been amended as suggested.

WRITTEN COMMENT

The definition of "Form Release Agent" should be modified to include mold release agents which are applied on metal or composite molds used to form or mold composite parts (prepreg lay-up or wet lay-up).

DISTRICT RESPONSE

The District agrees. The definition of "Form Release Agent" has been amended to include mold release agents.

WRITTEN COMMENT

Placing restrictions on the use of coatings for research and development would bring a halt to originating new and more acceptable coatings. It is recommended that Subsection (b)(1)(iv) be deleted from Rule 67.9.

DISTRICT RESPONSE

The District does not agree. Inclusion of an exemption in Rule 67.9 for non-compliant coatings used exclusively for the purposes of research and development is necessary for the development and testing of new compliant coatings. However, the District believes that 50 gallons per year is a reasonable upper limit for the use of such non-compliant coatings. Presumably, the majority of coatings used in research and development for product improvements and/or new product devel-

opment are compliant coatings. There is no restriction on compliant coating usage.

WRITTEN COMMENT

An "Other Coating Category" should be created to allow new coatings not identified or defined in the existing rule to be placed in a category that would reasonably represent the VOC of the material. As program requirements change and new work is secured, coatings like rocket booster, metallic epoxy, wing or wire may be required. Since many coatings being used by other aerospace companies, but not currently in use in San Diego County, have a much higher VOC level than that of a topcoat, regulating these materials which are treated as specialty coatings in other districts as topcoats may create problems. The creation of an "other category" would allow partial correction of this scenario. If this is too broad of a category, then specific categories (as identified in other aerospace rules) should be identified despite current uses.

DISTRICT RESPONSE

The District does not agree. Rule 67.9 includes all specialty coatings the local aerospace industry has identified as currently used in San Diego County. The District believes the inclusion of specialty coating categories which are not currently used in San Diego County is not justified at the present time. Should a new specialty coating category be required in the future, additional amendments to Rule 67.9 could be considered.

WRITTEN COMMENT

Bondo's, filler's, and primer surfacers are not coatings, nor are greases, waxes or other lubricative and/or preservative materials. Therefore, the definitions for "Caulking and Smoothing Compounds" and "Preservative Oils and Compounds" should be modified to delete the reference to coating in these definitions. Additionally, the VOC's associated with these materials are generally very low. Since daily recordkeeping on low usage, low VOC materials is arduous and is not reasonable, it is recommended that these materials be included in the exemptions specified in Subsections (b)(3) and (b)(4).

DISTRICT RESPONSE

The District believes the definitions of "Caulking and Smoothing Compounds" and "Preservative Oils and Compounds" are appropriate. The word "coating", for the purposes of Rule 67.9, means a material which can be applied as a thin layer to a substrate, including, but not limited to, paints, sealants, etc.

While some caulking and smoothing compounds and preservative oils and compounds are low-VOC materials, other compounds in these categories have been found to have a high VOC content. Therefore, inclusion of these specialty categories in the exemption specified in Subsection (b)(4) is not justified. However, the District agrees that daily recordkeeping requirements may not be necessary for low-usage materials which have a low VOC content. Therefore, Subsection (b)(3) has been amended to exempt caulking and smoothing compounds and preservative oils and compounds which have a low VOC content from daily recordkeeping requirements.

WRITTEN COMMENT

It has been identified that fuel tank coatings are generally used on the exterior of the fuel tanks because the areas require protection of tanks in case of fuel leakage between inspections. In the case of the 747, these inspections take place once every 393 days. It should be noted that, by specification, only limited areas outside of the fuel tank utilize a fuel tank coating. These areas typically have these requirements because of the potential for exposure to fuel during operation. Therefore, it is recommended that the phrase "frequently wetted by fuel" in the definition of "Fuel Tank Coating" be changed to "potential exposure to fuel" to better represent the engineering requirements.

DISTRICT RESPONSE

The District does not agree. The suggested wording is not restrictive enough to prevent unnecessary uses of this specialty coating. However, the definition of "Fuel Tank Coating" has been modified to explicitly allow application of this coating on fuel fill and drainage tracks.

WRITTEN COMMENT

As discussed in the workshop report, stencil spray applications are limited to airbrushes. Touch-up guns with capacity of less than 8 ounces are also used for stencil applications. Since the amount of material applied is the same whether a touch-up gun or an airbrush is used, touch-up guns should be allowed for use in stencil spray applications.

DISTRICT RESPONSE

The District agrees. The definition of "Stencil Coating" has been amended to include touch-up guns with capacity of 8 ounces or less.

WRITTEN COMMENT

The definition of "Unicoat" could be misconstrued as a primer because of the similarity between the two definitions. In addition, the term "applied directly to" might exclude applications over prepared (resin sealed, anodized, alodined), but not painted surfaces. Therefore, it is recommended that the definition of "Unicoat" be modified to clarify this. Additionally, "primerless topcoat" should be used instead of "Unicoat" since it better describes the types of materials being categorized, and is not a registered trade name.

DISTRICT RESPONSE

The District believes that the definition of "Primer" in Rule 67.9 clearly differentiates a unicoat from a primer. A coating used for purposes of corrosion prevention, environmental protection and/or functional fluid resistance which is not subsequently topcoated would be classified as a primer only if it is applied on interior areas. In addition, since chemical treatments of an aerospace component using inorganic solutions are not considered as aerospace coating operations, a coating applied over a chemically treated surface which is not subsequently topcoated would still be classified as a unicoat. The definition of "Unicoat" has been amended to clarify the District's intent. The use of the word "unicoat" is retained in Rule 67.9 at the present time to preserve consistency among the districts in southern California.

WRITTEN COMMENT

The word "content" in Subsection (f)(1)(ii) is spelled incorrectly.

DISTRICT RESPONSE

The spelling mistake in Subsection (f)(1)(ii) has been corrected.

WRITTEN COMMENT

Does an aerospace company become a "supplier" if the company purchases materials in bulk and dispenses them in smaller containers for use throughout the facility?

DISTRICT RESPONSE

No, they would not be considered as a "supplier". It should be noted that the labelling requirements and the provisions which prohibit the formulation or reformulation of VOC-containing materials to increase the content of methylene chloride and CFC's in Rule 67.9 are applicable only to the manufacturers, not to the users and distributors, of these materials.

WRITTEN COMMENT

Section (f) should be expanded to include the recordkeeping requirements for dip tanks as identified in the workshop report.

DISTRICT RESPONSE

The District agrees. Subsection (f)(2) has been modified to clarify the recordkeeping requirements for dip tanks.

ADVISORY COMMITTEE MEETING COMMENT

Subsection (b)(4) should be modified to clarify the intent of this exemption.

DISTRICT RESPONSE

Subsection (b)(4) has been amended to clarify that this exemption applies only to adhesives and sealants which are applied outside application stations required to have a District Permit to Operate.

ADVISORY COMMITTEE MEETING COMMENT

The definition of "Unicoat" should be expanded to include coatings applied over an old coating system in lieu of stripping the old coating system.

DISTRICT RESPONSE

The District agrees. The definition of "Unicoat" has been amended as suggested.

Dick

apcd

County of San Diego

R. J. Sommerville
Air Pollution Control Officer

May 17, 1991

TO: Supervisor John MacDonald, Chairman, Air Pollution Control Board
Supervisor Brian P. Bilbray, Vice Chairman
Supervisor George F. Bailey
Supervisor Susan Golding
Supervisor Leon L. Williams

FROM: R. J. Sommerville
Air Pollution Control Officer

ADDITIONAL CHANGES TO DISTRICT RULES SCHEDULED FOR ADOPTION ON MAY 21, 1991

On May 21, 1991, the Board will consider adopting a new Rule 67.1 (Alternative Emission Control Plans), and amendments to Rules 67.2 (Dry Cleaning Equipment Using Petroleum-Based Solvents), 67.7 (Cutback and Emulsified Asphalts), 67.9 (Aerospace Coating Operations), 67.10 (Kelp Processing and Bio-Polymer Manufacturing Operations), and 67.16 (Graphic Arts Operations) to correct deficiencies identified by the Environmental Protection Agency.

As a result of comments received from the Air Resources Board, the Environmental Protection Agency and industry during the public comment period, a number of minor changes are being proposed to Rules 67.1, 67.2, 67.9 and 67.10. They are as follows:

RULE 67.1

The word "new" has been added to the opening sentence of Subsection (c)(8), and the 60 day period specified in Subsection (g)(1) has been changed to a 120 day period.

RULE 67.2

The definition of "Petroleum-Based Organic Solvent" in Subsection (c)(4) has been revised to specify it is a liquid petroleum distillate at standard conditions. A test method for exempt compounds has been added to Section (f).

RULE 67.9

Subsection (b)(1) has been revised to exempt the specified materials from the listing requirements of Subsection (d)(7). Subsection (b)(3) has been revised to exempt caulking and smoothing compounds, and preservative oils and compounds from the recordkeeping requirements of Subsection (f)(2). Subsection (b)(1)(vi) has been revised to clarify that the exemption relates to all preimpregnated (prepreg) composite materials. Subsections (b)(3) and (4) have been reworded to clarify the intent and to exempt the specified materials from the listing requirements of Subsection (d)(7).

The definition of "Form Release Agent" has been revised to include mold release agents. The definition of "Fuel Tank Coating" has been revised to include fuel fill and drainage tracks. The definition of "Stencil Coating" has been revised to include touch-up guns with capacities of 8 ounces or less. The definition of "Unicoat" has been revised to allow a Unicoat to be applied over an old coating without stripping.

Subsections (d)(7) and (8) have been replaced by Section (d)(7) which requires that aerospace companies provide the District a list of coatings used and the specific coating categories associated with those uses. Coatings cannot be used other than as listed.

Subsection (f)(1)(iv) has been revised to delete the requirement that the density of solvents be listed as part of the recordkeeping requirements. Subsection (f)(2) is revised to require daily dispensing records be kept for solvents used for equipment and surface cleaning operations, and of materials added to dip tanks used for dip coating operations.

Subsection (g)(1) has been revised to clarify the test method applies only to coatings. Subsection (g)(3) has been revised to more clearly specify EPA's Capture Efficiency Test Method. Subsection (g)(5) has been revised to specify the method for correcting vapor pressure measurements for partial pressures of water and exempt compounds. Subsection (g)(8) has been added to apply to strippers and cleaning materials.

RULE 67.10

A new Subsection (d)(9) will be added to address procedures to be followed if technology forcing features of the rule are not completely achievable. Specific language is still being developed in concert with Kelco, state and federal agencies.

The Air Resources Board, the Environmental Protection Agency and industries participating in the workshop process have been advised of the changes to these rules and are in agreement. Copies of the revised rules are attached.

If you have any questions, please call me at 694 (750)-3300.

R. J. SOMMERVILLE
Air Pollution Control Officer

RJS:RJSm:vch

cc: Lari Sheehan
Clerk of the Board

Bcc: M. Lake
Natalie