

Mojave Desert
Air Quality Management District



Draft
Staff Report
Proposed Amendments to
Rule 1118 – *Aerospace Assembly, Rework and
Component Manufacturing Operations*

For amendment on
October 26, 2015

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**STAFF REPORT
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List of Acronyms

BACT	Best Available Control Technology
BARCT	Best Available Retrofit Control Technology
CARB	California Air Resources Board
CCAA	California Clean Air Act
CEQA	California Environmental Quality Act
FCAA	Federal Clean Air Act
FR	Federal Register
H&S Code	California Health & Safety Code
MDAB	Mojave Desert Air Basin
MDAQMD	Mojave Desert Air Quality Management District
NO _x	Oxides of Nitrogen
RACT	Reasonably Available Control Technology
SCAQMD	South Coast Air Quality Management District
SIP	State Implementation Plan
SO _x	Oxides of Sulfur
TAC	Technical Advisory Committee
USEPA	U.S. Environmental Protection Agency
VOC	Volatile Organic Compounds

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STAFF REPORT
**Rule 1118 – Aerospace Assembly, Rework and Component
Manufacturing Operations**

I. PURPOSE OF STAFF REPORT

A staff report serves several discrete purposes. Its primary purpose is to provide a summary and background material to the members of the Governing Board. This allows the members of the Governing Board to be fully informed before making any required decision. It also provides the documentation necessary for the Governing Board to make any findings, which are required by law to be made prior to the approval or adoption of a document. In addition, a staff report ensures that the correct procedures and proper documentation for approval or adoption of a document have been performed. Finally, the staff report provides evidence for defense against legal challenges regarding the propriety of the approval or adoption of the document.

II. EXECUTIVE SUMMARY

The Mojave Desert Air Quality Management District (MDAQMD) originally adopted Rule 1118 – *Aerospace Vehicle Parts and Products Coating Operations* on October 28, 1996. The MDAQMD submitted Rule 1118 to the California Air Resources Board (CARB) on November 12, 1996 requesting inclusion in the State Implementation Plan (SIP), and CARB submitted Rule 1118 to the United States Environmental Protection Agency (USEPA) on November 26, 1996 as a revision to the SIP. USEPA approved Rule 1118 into the SIP on August 17, 1998 (63 FR 43884). This Federal Register (FR) notice identified that Rule 1118 was inconsistent with the recently issued Control Techniques Guidelines (CTG) for the Aerospace source category.

The Federal Clean Air Act (FCAA) requires areas designated nonattainment for ozone and classified moderate and above to adopt and maintain Reasonably Available Control Technology (RACT) rules for source categories emitting Volatile Organic Compounds (VOC) and oxides of nitrogen (NO_x) for which the USEPA has issued a CTG document. In addition, such areas are required to adopt and maintain RACT rules for all other major stationary sources of VOCs and NO_x (42 U.S.C. §7511a(b)(2); FCAA §182(b)(2)). For purposes of the FCAA, portions of the Mojave Desert have been designated non-attainment for the eight hour ozone standard and classified as Severe-17. On March 10, 1998 USEPA adopted a CTG entitled *Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations*. In addition, USEPA also has promulgated the Maximum Achievable Control Technology (MACT) Standard for Aerospace Manufacturing and Rework Facilities (40 CFR 63 Subpart GG, commencing with §63.741).

The MDAQMD is now amending Rule 1118 to include additional provisions at the request of USEPA to update the rule to conform to provisions of the CTG, MACT and to meet the requirements of federal RACT. The proposed amendments are primarily designed to update the specialty coating categories and definitions to harmonize with the CTG as requested by USEPA. VOC limits for specialty coatings have been updated to include categories in the CTG that were

not covered by the original rule adoption. The proposed amendment also conforms the formatting to the standard MDAQMD rule format, removes several unused definitions, updates several definitions for consistency with the CTG, updates solvent use requirements, transfer efficiency requirements, control equipment requirements, monitoring, recordkeeping and reporting requirements, compliance procedures and test methods, exemptions, and cross references have been updated.

III. STAFF RECOMMENDATION

Staff recommends that the Governing Board of the Mojave Desert Air Quality Management District (MDAQMD or District) amend proposed Rule 1118 – *Aerospace Assembly, Rework and Component Manufacturing Operations* and approve the appropriate California Environmental Quality Act (CEQA) documentation. This action is necessary to update the rule to conform to the provisions of the CTG dated December 1997 entitled *Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations*, the MACT Standard for Aerospace Manufacturing and Rework Facilities (40 CFR 63 Subpart GG, commencing with §63.741), and to ensure that this rule adequately addresses current federal RACT requirements.

IV. LEGAL REQUIREMENTS CHECKLIST

The findings and analysis as indicated below are required for the procedurally correct amendments to Rule 1118 – *Aerospace Assembly, Rework and Component Manufacturing Operations*. Each item is discussed, if applicable, in Section V. Copies of related documents are included in the appropriate appendices.

FINDINGS REQUIRED FOR RULES & REGULATIONS:

- Necessity
- Authority
- Clarity
- Consistency
- Nonduplication
- Reference
- Public Notice & Comment
- Public Hearing

REQUIREMENTS FOR STATE IMPLEMENTATION PLAN SUBMISSION (SIP):

- Public Notice & Comment
- Availability of Document
- Notice to Specified Entities (State, Air Districts, USEPA, Other States)
- Public Hearing
- Legal Authority to adopt and implement the document.
- Applicable State laws and regulations were followed.

ELEMENTS OF A FEDERAL SUBMISSION:

N/A Elements as set forth in applicable Federal law or regulations.

CALIFORNIA ENVIRONMENTAL QUALITY ACT REQUIREMENTS (CEQA):

- N/A Ministerial Action
- N/A Exemption
- Negative Declaration
- N/A Environmental Impact Report
- Appropriate findings, if necessary.
- Public Notice & Comment

SUPPLEMENTAL ENVIRONMENTAL ANALYSIS (RULES & REGULATIONS ONLY):

- Environmental impacts of compliance.
- N/A Mitigation of impacts.
- N/A Alternative methods of compliance.

OTHER:

- Written analysis of existing air pollution control requirements
- Economic Analysis
- Public Review

V. DISCUSSION OF LEGAL REQUIREMENTS

A. REQUIRED ELEMENTS/FINDINGS

This section discusses the State of California statutory requirements that apply to the proposed amendments to Rule 1118. These are actions that need to be performed and/or information that must be provided in order to amend the rule in a procedurally correct manner.

1. State Findings Required for Adoption of Rules & Regulations:

Before adopting, amending, or repealing a rule or regulation, the District Governing Board is required to make findings of necessity, authority, clarity, consistency, non-duplication, and reference based upon relevant information presented at the hearing. The information below is provided to assist the Board in making these findings.

a. Necessity:

The proposed amendments to Rule 1118 are necessary to update the rule to conform to provisions of the CTG, MACT and to meet the requirements of federal RACT.

b. Authority:

The District has the authority pursuant to California Health and Safety Code (H&S Code) §40702 to adopt, amend or repeal rules and regulations. Sections 182(b)(2) and 182(f) of the FCAA require that ozone non-attainment areas implement RACT for sources that are subject to CTGs and for major sources of ozone precursors (42 U.S.C. §7511a).

c. Clarity:

The proposed amendments to Rule 1118 are clear in that they are written so that the persons subject to the Rule can easily understand the meaning.

d. Consistency:

The proposed amendments to Rule 1118 are in harmony with, and not in conflict with or contradictory to any state law or regulation, federal law or regulation, or court decisions. Sections 182(b)(2) and 182(f) of the FCAA require that ozone non-attainment areas implement RACT for sources that are subject to CTGs and for major sources of ozone precursors (42 U.S.C. §7511a).

e. Nonduplication:

The proposed amendment of Rule 1118 does not impose the same requirements as an existing state or federal law or regulation because the CTG is primarily a guidance document and requires rule action to implement its provisions.

f. Reference:

The District has the authority pursuant to H&S Code §40702 to adopt, amend or repeal rules and regulations.

g. Public Notice & Comment, Public Hearing:

Notice for the public hearing for the proposed amendments to Rule 1118 will be published September 25, 2015. See Appendix “B” for a copy of the public notice. See Appendix “C” for copies of comments, if any, and District responses.

2. Federal Elements (SIP Submittals, Other Federal Submittals).

Submittals to USEPA are required to include various elements depending upon the type of document submitted and the underlying Federal law that requires the submittal. The information below indicates which elements are required for the proposed amendments to of Rule 1118 and how they were satisfied.

a. Satisfaction of Underlying Federal Requirements:

The FCAA requires areas designated nonattainment for ozone and classified moderate and above to adopt and maintain RACT rules for source categories emitting VOCs and NO_x for which USEPA has issued a CTG document. In addition, such areas are required to adopt and maintain RACT rules for all other major stationary sources of VOCs and NO_x (42 U.S.C. §7511a(b)(2); FCAA §182(b)(2)). Such RACT rules are required to be submitted into the SIP for the affected area.

MDAQMD Rule 1118 was most adopted on October 28, 1996 and was submitted for inclusion into the SIP¹. USEPA approved Rule 1118 into the SIP on August 17, 1998 (63 FR 43884), and this FR notice identified that Rule 1118 was inconsistent with the recently issued CTG for the Aerospace source category. This amendment will address the CTG, MACT, and ensure that this rule adequately meets the requirements of federal RACT. The criteria for determining completeness of SIP submissions are set forth in 40 CFR Part 51 Appendix V, 2.0. This staff report and supporting

¹ See section VI. F. for SIP history and analysis of Rule 1118.

adoption documentation will satisfy the completeness requirements.

b. Public Notice and Comment:

Notice for the public hearing for the proposed amendments to Rule 1118 will be published September 25, 2015. See Appendix “B” for a copy of the public notice. See Appendix “C” for copies of comments, if any, and District responses.

c. Availability of Document:

Copies of the proposed amendments to Rule 1118 and the accompanying draft staff report will be made available to the public on or before September 14, 2015. A preliminary version of the proposed amendments were reviewed by the Technical Advisory Committee (TAC), a committee consisting of a variety of regulated industry and local governmental entities, on December 10, 2014. The rule, as currently proposed, will again be reviewed by the TAC on or about October 1, 2015. The TAC recommendation will be included in the Staff Report draft that accompanies the amendment package.

d. Notice to Specified Entities:

Copies of the proposed amendments to Rule 1118 and the accompanying draft staff report will be sent to all affected agencies. The proposed amendments will be sent to CARB and USEPA on or about September 14, 2015.

e. Public Hearing:

A public hearing to consider the proposed amendments to of Rule 1118 has been set for October 26, 2015.

f. Legal Authority to Adopt and Implement:

The District has the authority pursuant to H&S Code §40702 to adopt, amend, or repeal rules and regulations and to do such acts as may be necessary or proper to execute the duties imposed upon the District.

g. Applicable State Laws and Regulations Were Followed:

Public notice and hearing procedures pursuant to H&S Code §§40725-40728 have been followed. See Section (V)(A)(1) above for compliance with state findings required pursuant to H&S Code §40727. See Section (V)(B) below for compliance with the

required analysis of existing requirements pursuant to H&S Code §40727.2. See Section (V)(C) for compliance with economic analysis requirements pursuant to H&S Code §40920.6. See Section (V)(D) below for compliance with provisions of the CEQA.

B. WRITTEN ANALYSIS OF EXISTING REQUIREMENTS

H&S Code §40727.2 requires air districts to prepare a written analysis of all existing federal air pollution control requirements that apply to the same equipment or source type as the rule proposed for modification by the district.

The FCAA requires areas designated non-attainment for ozone and classified moderate and above to adopt and maintain RACT rules to control the emissions of VOCs and NOX for categories which the USEPA has adopted a CTG and for all categories where there are major stationary sources of air pollution (42 U.S.C. §7511a(b)(2), FCAA 182(b)(2)). For purposes of the FCAA, the District has been designated non-attainment for ozone and classified severe.

The proposed amendments to Rule 1118 update the rule and align specialty coating categories and other requirements with the CTG dated December 1997 entitled *Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations*. The CTG is primarily a guidance document and requires rule action to implement its provisions. This amendment will ensure that Rule 1118 adequately addresses current federal RACT requirements.

The proposed amendments to Rule 1118 are also consistent with the requirements of the MACT.

C. ECONOMIC ANALYSIS

1. General

The proposed amendments align new specialty coating categories with the aerospace CTG. Existing limits have not been lowered, and new categories have been added if they cannot be encompassed within existing rule categories. CTG VOC limits are presumptive RACT, and as such should be reasonably available. Coating users should not experience any increased cost for using product that are expected to be readily available at this time. The additional coating categories also provide more specialized options for industry.

2. Incremental Cost Effectiveness

Pursuant to H&S Code §40920.6, incremental cost effectiveness calculations are required for rules and regulations which are adopted or amended to meet the California Clean Air Act (CCAA) requirements for Best Available Retrofit Control Technology (BARCT) or “all feasible measures” to control volatile compounds (VOCs), oxides of nitrogen (NOx) or oxides of sulfur (SOx).

The proposed amendment of Rule 1118 is not subject to incremental cost effectiveness calculations because this rule does not impose BARCT or “all feasible measures”.

D. ENVIRONMENTAL ANALYSIS (CEQA)

Through the process described below the appropriate CEQA process for the proposed amendments to Rule 1118 was determined.

1. The proposed amendments to Rule 1118 meet the CEQA definition of “project”. They are not “ministerial” actions.
2. The proposed amendments to Rule 1118 are exempt from CEQA review because they will not create any adverse impacts on the environment. The proposed requirements in the amendment are more stringent because they will align specialty coating categories to those in the aerospace CTG by adding definitions and specialty coating categories that cannot be encompassed within existing rule categories. There are no increases to existing limits. Since there is no potential that the amendments might cause the release of additional air contaminants or create any adverse environmental impacts, a Class 8 categorical exemption (14 Cal. Code Reg. §15308) applies.

Copies of the documents relating to CEQA can be found in Appendix “D”.

E. SUPPLEMENTAL ENVIRONMENTAL ANALYSIS

1. Potential Environmental Impacts

There are no potential adverse environmental impacts of compliance with the amendment of Rule 1118. Rule 1118 will expand the requirements of the rule to include all CTG specialty coating categories. Primers, adhesives, sealants, maskants, lubricants and “other” coatings should be reasonably available in commerce and should not cause additional usage of the products themselves, or of cleaning solvents.

2. Mitigation of Impacts

N/A

3. Alternative Methods of Compliance

N/A

F. PUBLIC REVIEW

See Staff Report Section (V)(A)(1)(g) and (2)(b), as well as Appendix “B”

VI. TECHNICAL DISCUSSION

A. SOURCE DESCRIPTION

1. Rule Applicability

Rule 1118 generally applies to any operation associated with the manufacture and assembly of parts and products for aircraft and space vehicles. Affected industries include facilities which manufacture or rework commercial and military aircraft, satellite, space shuttle and rocket contractors and their subcontractors. Affected operations include, but are not limited to, manufacture, component manufacture, refinishing, repair maintenance and service of any type of commercial and military aircraft or spacecraft. This includes commercial and military airplanes, helicopters, dirigibles, balloons, missiles and spacecraft such as rockets, satellites and space shuttles. In general, Rule 1118 has similar applicability to the Maximum Achievable Control Technology (MACT) Standard for Aerospace Manufacturing and Rework Facilities (40 CFR 63 Subpart GG, commencing with §63.741). Materials regulated by this rule include primers, coatings, adhesives, sealants, maskants, lubricants, and others. Some of these materials are covered under a USEPA CTG entitled *Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations* (December 1997, EPA-453/R-97-004).

Thirteen facilities in the MDAQMD will be potentially be affected by the rule amendment: GA Aeronautical Systems; Lockheed Martin Aeronautics Co.; Pacific Aerospace Resources & Technologies; Boeing Company; Leading Edge; Nordam Repair; NAWS China Lake; USMC MCLB – Nebo Annex; USMC AGCC; Fort Irwin (Milspray); Edwards Air Force Base; California Air National Guard; and, Ducommun AeroStructures.

2. Rule History

On July 1, 1993 the MDAQMD was created pursuant to statute. On October 28, 1996, the MDAQMD adopted Rule 1118 – *Aerospace Vehicle Parts and Products Coating Operations*. The version of Rule 1118 in the SIP for the MDAQMD is the version contained in the rulebook.

There is a SCAQMD rule in the SIP applicable to the Blythe/Palo Verde Valley area of Riverside County. The MDAQMD acquired this area via annexation effective 07/01/94. SCAQMD Rule 1124 – *Aerospace Assembly and Component Manufacturing* (January 06, 1984 amendment, SIP approved January 24, 1985) is included in the SIP for the Blythe/Palo Verde Valley area of Riverside County and is not a current part of the MDAQMD rule book.

Please see section (F) below for a more detailed explanation of the SIP history.

B. EMISSIONS

There are no increases to existing VOC limits in the amendment of Rule 1118. Several limits for existing categories have been lowered. The proposed requirements in the amendment are more stringent because they will align specialty coating categories and limits to those in the CTG by adding definitions and categories previously not covered. Several new CTG category limits are also lowered for consistency with more stringent RACT rules. There is no potential that the amendments might cause the release of additional air contaminants or create any adverse environmental impacts.

C. CONTROL REQUIREMENTS

In the alternative to VOC limits, Rule 1118 provides that a coating of any VOC amount may be used so long as it is vented to an air pollution control device with 95 percent destruction efficiency and 90 percent capture efficiency for an overall control efficiency of 85 percent (see rule subsection (C)(5) – Control Equipment).

D. PROPOSED RULE SUMMARY

This section gives a brief overview of the proposed amendments to Rule 1118. Please refer to Appendix “A” for iterated version of rule.

1. Section (A) – General

Defined terms have been capitalized for consistency with rule format. Language has been standardized to conform with 40 CFR 63 Subpart GG.

2. Section (B) – Definitions

Defined terms have been capitalized within the rule for consistency with rule format. New definitions have primarily been derived from *Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations*, EPA-453/R-97-004, December 1997

The following definitions have been added or updated:

Subsection (B)(1) – “Ablative Coating” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(2) – “Adhesion Promoter” has been termed a coating rather than a primer for consistency with CTG nomenclature.

Subsection (B)(4) – “Adhesive Bonding Primer” definition has been subdivided for consistency.

Subsection (B)(6) – “Aerospace Component” definition has been added as the term is used throughout rule.

Subsection (B)(7) – “Aerospace Material” definition has been added as the term is used throughout rule.

Subsection (B)(8) – “Air Brush Operations” has been added as the term is used in rule.

Subsection (B)(9) – “Aircraft” has been added as the term is used in rule.

Subsection (B)(11) – “Antichafe Coating” has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(12) – “Antique Aerospace Vehicle or Component” has been added because there is the potential for these operations to occur in the District.

Subsection (B)(13) – “Anti-Wicking Wire Coating” has been added to reflect the specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(14) – “Aqueous Cleaning Solvent” has been added to support subsection (C)(2) – Solvent Use, Clean Up, and Stripping.

Subsection (B)(15) – “Barrier Coating” definition has been added to reflect the specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(16) – “Bearing Coating” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(17) – “Bonding Maskant” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(18) – “Caulking and Smoothing Compound” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(20) – “Chemical Milling” definition has been added to clarify the specialty coatings categories of the same name in subsection (C)(1)(a).

Subsection (B)(21) – “Chemical Milling Maskant” definition has been added to reflect the specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(22) – “Chemical Processing Maskant” definition has been added to reflect the specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(23) – “Clear Topcoat” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(24) – “Coating” definition has been added for clarity.

Subsection (B)(25) – “Coating Application Equipment” definition has been added for clarity.

Subsection (B)(26) – “Commercial Exterior Aerodynamic Structure Primer” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(27) – “Commercial Interior Adhesive” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(29) – “Compatible Substrate Primer” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(30) – “Conformal Coating” definition has been added to reflect the specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(31) – “Corrosion Prevention Compound System” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(32) – “Critical Use and Line Sealer Maskant” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(33) – “Cryogenic Flexible Primer” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(34) – “Cryoprotective Coating” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(35) – “Cyanoacrylate Adhesive” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(37) – “Dry Lubricative Material” has been added to reflect the specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(38) “Electric- or Radiation Effects Coating” definition has been modified for consistency with RACT rule definition.

Subsection (B)(39) – “Electronic Wire Coating” has been added to reflect the specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(40) – “Electrostatic Discharge and Electromagnetic Interference (EMI) Coating” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(41) – “Elevated-Temperature Skydrol-resistant Commercial Primer” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(42) – “Epoxy Polyamide Topcoat” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(43) – “Exempt Compounds” definition has been modified for consistency.

Subsection (B)(46) – “Facility” definition has been updated for consistency with Rule 1301.

Subsection (B)(47) – “Fastener” definition has been added for clarification of the CTG specialty coatings category for Fastener Sealant in subsection (C)(1)(a).

Subsection (B)(48) – “Fastener Manufacturer” definition has been added for clarification of the CTG specialty coatings category for Fastener Sealant in subsection (C)(1)(a).

Subsection (B)(49) – “Fastener Sealant” definition has been added for clarification to reflect the specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(50) – “Fire Resistant (Interior) Coating” definition has been modified to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a) by including civilian, military and space applications.

Subsection (B)(51) – “Flexible Primer” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(52) – “Flight Test Coating” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(53) – “Flush Cleaning” definition has been added to support subsection (C)(2) – Solvent Use, Clean Up, and Stripping.

Subsection (B)(54) – “Fuel-Tank Adhesive” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(55) – “Fuel Tank Coating, General” definition has been added to reflect the specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(58) – “Hand Application Method” definition has been revised to use standardized terminology and provide clarification.

Subsection (B)(59) – “Hand-Wipe Cleaning Operation” definition has been added to support subsection (C)(2) – Solvent Use, Clean Up, and Stripping.

Subsection (B)(61) – High-Volume, Low-Pressure (HVLP) Spray” definition has been revised to use standardized terminology and provide clarification.

Subsection (B)(62) – “Impact Resistant Coating” definition has been added to reflect the specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(63) – “Insulation covering” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(64) – “Intermediate Release Coating” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(65) – “Lacquer Coating” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(66) – “Low-Solids Adhesive Coating, Primer or Sealant” has been added to reflect the specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(67) – “Low-Solids Corrosion Resistant Primer” has been added to reflect the specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(68) – “Metallized Epoxy Coating” has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(69) – “Mold Release Coating” has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(70) – “Non-Structural Adhesive” has been modified to match RACT rule definition and provide clarity.

Subsection (B)(71) – “Optical Anti-Reflection Coating” has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(72) – “Part Marking Coating” has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(73) – “Phosphate Ester Resistant Ink” has been added to reflect the specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(74) – “Photolithographic Maskant” has been added to reflect the specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(75) – “Photoresist Operation” definition has been added for clarification.

Subsection (B)(76) – “Prebonding Etchant” definition has been modified by combining definition with Wire Prebonding Etchant to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(77) – “Pretreatment Wash Primer” has been changed to “Pretreatment Coating” for consistency with the CTG category.

Subsection (B)(79) – “Primer Compatible with Rain Erosion Resistant Coating” has been added to reflect the specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(81) – “Repair Coating” has been added to provide clarification and requirements for this type of operation.

Subsection (B)(83) – “Rocket Motor Bonding Adhesive” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(84) – “Rocket Motor Nozzle Coating” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(85) – “Rollable, Brushable or Extrudable Sealant” has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(86) – “Rubber-based Adhesive” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(87) – “Scale Inhibitor Coating” has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(88) – “Screen Print Ink” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(89) – “Sealants” has been updated to match RACT rule definition.

Subsection (B)(90) – “Seal Coat Maskant” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(91) – “Semiaqueous Cleaning Solvents” has been added to support subsection (C)(2) – Solvent Use, Clean Up, and Stripping.

Subsection (B)(92) – “Silicone Insulation Material” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(94) – “Solid Film Lubricant” has been added to reflect the specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(95) – “South Coast Air Quality Management District” has been added as this District is referenced in the rule.

Subsection (B)(97) – “Specialized Function Coating” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(98) – “Specialty Coating” definition has been added to reflect the CTG specialty coatings categories in subsection (C)(1)(a).

Subsection (B)(99) – “Stencil Coating” has been added to provide clarification and requirements for this type of operation.

Subsection (B)(100) – “Stripper” has been updated to match RACT rule definition.

Subsection (B)(102) – “Structural Adhesive, High Temperature – Autoclavable” has been update to replace “Extreme Performance Compounds” definition and for RACT consistency.

Subsection (B)(105) – “Thermal Control Coating” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(106) – “Topcoat” definition has been modified to CTG definition for clarification, and to include clear coating CTG category.

Subsection (B)(107) – “Touch-Up Operation” has been added to provide clarification for this type of operation.

Section (B)(109) – “Type I Etchant” has been added to reflect the specialty coatings category of the same name in subsection (C)(1)(a).

Section (B)(110) – “Type II Etchant” has been added to reflect the specialty coatings category of the same name in subsection (C)(1)(a).

Subsection (B)(112) – “United States Environmental Protection Agency (USEPA)” has been added for completeness.

Subsection (B)(113) – “Volatile Organic Compound (VOC)” definition has been modified for consistency with District Tert-Butyl Acetate (tBA) policy.

Subsection (B)(114) – “Wet Fastener Installation Coating” definition has been added to reflect the CTG specialty coatings category of the same name in subsection (C)(1)(a).

The following definitions have been removed:

Previous subsections (B)(7) and (B)(8) are separated into separate definitions for Chemical Milling, Type I and Type II Etchant.

Previous subsection (B)(9) has been absorbed into new (B)(22).

Previous (B)(11), (B)(14), (B)(16), (B)(27), (B)(29), (B)(39), (B)(45) have been removed as superfluous.

Previous (B)(23) has been moved to Section (E).

Previous (B)(28) has been reformatted for consistency with other definitions. See Chemical Milling Maskant and Chemical Milling Processing.

Previous (B)(49) has been moved to (D)(1).

3. Section (C) – Requirements

Subsection (C)(1)(a) table has been modified to incorporate specialty coating categories that were added in the definition section. Several coatings have been relocated for consistency with definitions in the CTG. Categories in Lubricant section have been specified for clarity by when the coating is applied, either at time of manufacture or installation.

Subsection (C)(2) through (C)(6) have been reorganized with existing provisions, to include federal RACT limits, as well as to incorporate provisions from the CTG model rule.

4. Section (D) – Monitoring, Recordkeeping and Reporting Requirements

Section (D) has been moved and Modified from former Section (E).

Averaging provisions have been removed from subsection (D)(1)(d).

Cleaning solvent recordkeeping requirements have been incorporated in to subsection (D)(1)(e) from the CTG model rule.

5. Section (E) – Compliance Procedures and Test Methods

This Section has been moved and modified from former Section (F).

Equations have been updated and reformatted using equation tool.

Subsection (E)(2) and (E)(3) updated to include ASTM and SCAQMD test method titles.

Subsection (E)(3)(d) test method updated and rule citation corrected pursuant to USEPA comment.

6. Section (F) – Administrative Requirements

Rule title added to referenced rule.

7. Section (G) - Exemptions

Former subsection (1) and (2) have been relocated to Section (D).

New subsection (G)(1) exemption has been modified to reduce aerospace materials with separate formulations from 50 to 20 gallons in a calendar year.

New subsections (G)(2) – (G)(6), (G)(9), (G)(11), (G)(13) have been added to align exemptions with federal RACT provisions.

New subsections (G)(8) and (G)(12) have been incorporated from the CTG model rule.

Subsections (G)(9) has been removed for consistency with CTG Part Marking Coating category.

Subsection (G)(14) has been modified to incorporate additional federal RACT provisions.

Subsection (G)(15) has been relocated from former (D)(5).

E. 110(l) ANALYSIS

Since there are previously existing SIP rules for this category the District will request that they be superseded. In order to replace existing SIP rules the District is required to show that the proposed amendments are not less stringent than the provisions currently in the SIP.

1. San Bernardino County Portion of MDAQMD .

Rule 1118 was originally adopted by the MDAQMD on October 28, 1996. This is the version that is in the SIP for the MDAQMD (63 FR 43884, August 17, 1998). A portion of the 110(l) analysis will be based upon differences between the October 28, 1996 amendment and the current proposed amendments.

63 FR 43884, August 17, 1998, identified that while Rule 1118 was approved, it also identified that the rule was inconsistent with the recently issued CTG for the source category. USEPA was to issue another FR document to specify deadlines for the District to resubmit the rule to meet the CTG and to require sources to comply with limitations and work practices.

The District is now proposing to add additional specialty coating categories which were previously unregulated that will align the rule with the CTG. VOC limits are all as stringent as existing SIP limits, CTG limits, or in some cases, lower limits to be consistent with recently approved RACT rules. The amendment also proposes strengthened solvent cleaning requirements with new language from the CTG model rule. Averaging provisions have been removed at the request of USEPA. The District has also proposed lowering the exemption allowing application of aerospace materials used in volumes of 50 gallons in a calendar year to 20 gallons.

This rule amendment did not interfere with attainment and reasonable further progress, or any other FCAA requirement because the MDAQMD has determined that all limits and requirements contained in the proposed amendments are as stringent or more stringent than in the SIP version of the rule.

2. Riverside County Portion of MDAQMD .

Rule 1124 was originally adopted by the SCAQMD on July 6, 1979 with many subsequent amendments. The January 6, 1984 amendment is the version in the SIP (50 FR 3339, January 24, 1984) at the time of the annexation of the Blythe/Palo Verde Valley portion of the SCAQMD by the MDAQMD. The remainder of the 110(l) analysis will be based upon differences between the January 6, 1984 SCAQMD amendment and the current proposed MDAQMD amendments.

General VOC category requirements in the proposed amendments are consistent with, or lower than, the VOC limits in the 1984 SCAQMD amendment. Since the SCAQMD amendment, there have been many new categories of specialty coatings identified by the CTG and developed in the aerospace industry which may be higher than the limits in the SCAQMD amendment. These higher proposed limits do not contradict the general limits contained in the rule, but satisfy the need to identify and regulate specialty coatings identified and used in the current aerospace environment. These new categories and limits strengthen the proposed rule by including previously unregulated categories that will align the rule with the CTG and other RACT rules.

The composite vapor pressure of VOCs for surface preparation or cleanup has been reduced in the proposed amendment, further strengthening the proposed rule.

Requirements for clean-up of spray equipment are consistent with the provisions of Rule 442 – *Usage of Solvents*.

Stripper requirements have been tightened in the proposed amendments. VOC content has been reduced from 400 grams/liter to 300 grams/liter, and the composite vapor pressure has been reduced from 10.0 mm Hg at 70°F to 9.5 mm HG at 68°F.

Equivalency requirements are consistent with the proposed amendments.

This rule amendment did not interfere with attainment and reasonable further progress, or any other FCAA requirement because the MDAQMD has determined that all limits and requirements contained in the proposed amendments are as stringent or more stringent than in the SIP version of the rule.

F. SIP HISTORY

1. SIP History.

a. SIP in the San Bernardino County Portion of MDAQMD

On July 1, 1993 the MDAQMD was formed pursuant to statute. Pursuant to statute it also retained all the rules and regulations of the San Bernardino County Air Pollution Control District (SBCAPCD) until such time as the Governing Board of the MDAQMD wished to adopt, amend or rescind such rules. The MDAQMD Governing Board, at its very first meeting, reaffirmed all the rules and regulations of the SBCAPCD.

The MDAQMD originally adopted Rule 1118 – *Aerospace Vehicle Parts and Products Coating Operations* on October 28, 1996. The MDAQMD submitted Rule 1118 to CARB on November 12, 1996 requesting inclusion in the State Implementation Plan SIP, and CARB submitted Rule 1118 to USEPA on November 26, 1996 as a revision to the SIP. USEPA approved Rule 1118 into the SIP on August 17, 1998 (63 FR 43884). This FR notice identified that Rule 1118 was inconsistent with the recently issued CTG for the Aerospace source category. This amendment will address the CTG, MACT, and ensure that this rule adequately meets the requirements of federal RACT. It is anticipated that this amendment will replace the current version of the rule in the SIP.

b. SIP in the Riverside County (Blythe/Palo Verde Valley) Portion of the MDAQMD

One of the provisions of the legislations which created the MDAQMD allowed areas contiguous to the MDAQMD boundaries and within the same air basin to leave their current air district and become a part of the MDAQMD. On July 1, 1994 the area commonly known as the Palo Verde Valley in Riverside County, including the City of Blythe, left the South Coast Air

Quality Management District (SCAQMD) and joined the MDAQMD.

Since USEPA adopts SIP revisions in California as effective within the jurisdictional boundaries of local air districts, when the local boundaries change the SIP as approved by USEPA for that area up to the date of the change remains as the SIP in that particular area. Upon annexation of the Blythe/Palo Verde Valley the MDAQMD acquired the SIP prior to July 1, 1994 that was effective in the Blythe/Palo Verde Valley. Therefore, the SIP history for the Blythe/Palo Verde Valley Portion of the MDAQMD is based upon the rules adopted and approved for that portion of Riverside County by SCAQMD.

Rule 1124 – *Aerospace Assembly and Component Coating Operations* was adopted by SCAQMD on July 6, 1979 and subsequently amended on May 7, 1982, January 6, 1984, June 1, 1984, January 9, 1987, February 6, 1987, April 3, 1987, May 5, 1989, March 2, 1990, April 6, 1990, June 1, 1990, November 2, 1990, December 7, 1990, August 2, 1991, March 6, 1992, December 4, 1992, and December 10, 1993. The January 6, 1984 amendment is the version in the SIP at the time of the annexation of the Blythe/Palo Verde Valley portion of the SCAQMD by the MDAQMD (50 FR 3339, January 24, 1984).

2. SIP Analysis.

The District will request CARB to submit the proposed amendments to Rule 1118 to replace the SIP versions in effect in the San Bernardino County portion of the MDAB and the Blythe/Palo Verde Valley portion of Riverside County. This submission is necessary to update the rule to conform to provisions of the CTG, MACT and to meet the requirements of federal RACT.

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Appendix “A”
Rule 1118 – *Aerospace Assembly, Rework and Component
Manufacturing Operations Iterated Version*

The iterated version is provided so that the changes to an existing rule may be easily found. The manner of differentiating text is as follows:

1. Underlined text identifies new or revised language.
2. ~~Lined-out text~~ identifies language which is being deleted.
3. Normal text identifies the current language of the rule which will remain unchanged by the adoption of the proposed amendments.
4. *[Bracketed italicized text]* is explanatory material that is not part of the proposed language. It is removed once the proposed amendments are adopted.

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Rule 1118

Aerospace ~~Vehicle Parts and Products Coating Assembly,~~ Rework and Component Manufacturing Operations

(A) General

(1) Purpose.

- (a) ~~The purpose of this rule is to~~ To reduce the amount of emissions of Volatile Organic Compounds (VOCs) from the source category of aerospace ~~vehicle manufacturing or reworking facility assembly, rework and component manufacturing operations, and to provide the administrative requirements for measuring and recording the VOC emissions from adhesives, coatings and cleaning solvents used by such facilities.~~ [Standardize language to conform with 40 CFR 63 Subpart GG. “Rework” added at the request of USEPA. “Rework” is not defined in CTG or MACT, but is defined in this rule.]

(2) Applicability.

- (a) This rule ~~is applicable~~ applies to ~~any person who manufactures or reworks aerospace vehicles by applying or specifying the use of surface coatings for aerospace vehicle parts and products.~~ any operation associated with manufacturing and assembling products for Aircraft and Space Vehicles. The affected industries include commercial, civil and military Aircraft, satellite, space shuttle and rocket manufacturers and their subcontractors. [Standardize language to conform with 40 CFR 63 Subpart GG. Derived from AVAQMD Rule 1124 (A)(2). “Civil” added at the request of USEPA as 40 CFR 63 Subpart GG distinguishes between commercial, civil and military. None of the terms are defined in the CTG or this rule.]
- (b) This rule also applies to maskant applicators, Aircraft refinishers, Aircraft Fastener Manufacturers, Aircraft operators and Aircraft maintenance and service facilities. [Standardize language to conform with 40 CFR 63 Subpart GG. Derived from AVAQMD Rule 1124 (A)(2)]

(B) Definitions

For purposes of this Rule, the following definitions shall apply:

[Unless otherwise indicated, new definitions are derived from “Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations,” EPA-453/R-97-004, December 1997.]

- (1) “Ablative Coating” – A coating that chars when exposed to open flame or extreme temperatures, as would occur during the failure of an engine casing or during aerodynamic heating. The ablative char surface serves as an insulative barrier, protecting adjacent components from the heat or open flame.
- (2) “Adhesion Promoter Coating” – A Coating primer that is used to promote wetting and form a chemical bond with a subsequently applied Sealant or other elastomer. [Derived from SCAQMD Rule 1124(b)(1) as amended 8/29/01 and AVAQMD 1124(B)(2). Moved from primer category for consistency with the CTG definition.]
- (13) “Adhesive” – Any substance that is used to bond one surface to another by attachment.
- (24) “Adhesive Bonding Primer” – ~~any coating~~ A Primer applied in a ~~very~~ thin film to ~~aircraft or Aerospace parts or products for the primary purpose of providing a primer for a subsequent coat of structural adhesive~~ Components for the purpose of corrosion inhibition and ~~to increased adhesive or adhesive film bond strength by attachment.~~ [Derived from SCAQMD 1124(b)(3) as amended 8/29/01 and AVAQMD 1124(B)(4)]
- (35) “Aerosol Coating Product” – ~~any~~ A pressurized coating product containing pigments or resins that ~~are~~is dispensed by means of a propellant, and is packaged in a disposable, ~~pressurized~~ can for hand-held application. [Derived from AVAQMD 1124(B)(5)]
- (46) ~~“Aerospace Vehicle” – any fabricated part, assembly of parts or completed unit of any aircraft, helicopter, missile, and space vehicles, including such integral equipment as models, mockups, prototypes, molds, jigs, tooling, hardware jackets, test coupons and any auxiliary equipment associated with testing, transport, and storage of such vehicles. “Aerospace Component” - The raw material, partial or completed fabricated part, assembly of parts, or completed unit of any Aircraft or Space Vehicle and includes integral equipment such as models, mock-ups, prototypes, molds, jigs, tooling, hardware jackets, and test coupons. [Derived from 40 CFR 63.742 “Aerospace Vehicle or Component” and AVAQMD 1124(B)(6)]~~
- (67) “Aerospace Material” – Any coating, Primer, Adhesive, Sealant, maskant, lubricant, Stripper or hand-wipe cleaning or clean-up solvent used during the manufacturing, assembly, refinishing, maintenance or service of an Aerospace Component. [Derived from SCAQMD 1124(b)(6) as amended 8/29/01 and AVAQMD 1124(B)(7)]

- (78) “Air Brush Operations” – Application of Aerospace Material with equipment operating at air pressure between 25 psi and 116 psi and an air volume of 0.7 cfm and 1.75 respectively. [Derived from AVAQMD 1124(B)(8)]
- (89) “Aircraft” – Any machine designed to travel through the air, without leaving the earth's atmosphere, whether heavier or lighter than air, including airplanes, balloons, dirigibles, helicopters, and missiles. [Derived from AVAQMD 1124(B)(9)]
- (510) "Air Pollution Control Officer (APCO)" – The person appointed to the position of Air Pollution Control Officer of the District pursuant to the provisions of California Health & Safety -Code §40750, and his or her designee.
- (11) “Antichafe Coating” – A coating applied to areas of moving Aerospace Components which may rub during normal operation. [Derived from AVAQMD 1124(B)(11)]
- (12) “Antique Aerospace Vehicle or Component” – An aircraft or component thereof that was built at least 30 years ago. An antique aerospace vehicle would not routinely be in commercial or military service in the capacity for which it was designed.
- (13) “Anti-Wicking Wire Coating” – The outer coating of a wire which prevents fluid wicking into insulation of the wire. [Derived from AVAQMD 1124(B)(12)]
- (14) “Aqueous Cleaning Solvent” – A solvent in which water is at least 80 percent of the solvent as applied.
- (15) “Barrier Coating” – A coating applied in a thin film to fasteners to inhibit dissimilar metal corrosion and to prevent galling. [Derived from AVAQMD 1124(B)(13)]
- (16) “Bearing Coating” – A coating applied to an antifriction bearing, a bearing housing, or the area adjacent to such bearing in order to facilitate bearing function or to protect be 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.
- (17) “Bonding Maskant” – A temporary coating used to protect selected areas of aerospace parts from strong acid or alkaline solutions during processing for bonding.
- (18) “Caulking and Smoothing Compound” – 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.

- (196) "Chemical Agent Resistant Coating (CARC)" - ~~any~~ An exterior ~~T~~topcoat designed to withstand exposure to chemical and biological warfare agents or the ~~decontaminants~~decontaminants used on these agents.
- ~~(420) "Chemical Milling" – The removal of metal by chemical action of acids or alkalis. [Derived from AVAQMD 1124(B)(18)]~~
- (21) "Chemical Milling Maskant" – A coating applied directly to aluminum components to protect surface areas when Chemical Milling the component with a Type I or Type II Etchant. Type I Chemical Milling Maskants are used with a Type I Etchant and Type II Chemical Milling Maskants are used with a Type II Etchant. This definition does not include Bonding Maskants, Critical Use and Line Sealant Maskants, and Seal Coat Maskants. Additionally, maskants that must be used with a combination of Type I or II Etchants and any of the above types of maskants (I.e., Bonding, Critical Use and Line Sealer, and Seal Coat) are not included. Maskants that are defined as Specialty Coatings are not included in this definition. [Definition updated to CTG definition for clarity of categories.]
- (22) "Chemical Processing Maskant" – A coating applied directly to an Aerospace Component to protect surface areas when anodizing, aging, bonding, plating, etching, and/or performing other chemical surface operations on the component.
- ~~(7) "Chemical Milling – Type I Etchant" – the removal of metal by chemical action of acids or alkalis. Type I etchants contain varying amounts of dissolved sulfur and do not contain amines. [Term removed as superfluous.]~~
- ~~(8) "Chemical Milling – Type II Etchant" – the removal of aluminum by chemical action of a strong sodium hydroxide solution containing amines. This does not include chemical milling processes utilizing bonding maskants, line sealers, critical use and seal coat maskants. [Term removed as superfluous.]~~
- ~~(9) "Chemical Processing" – any process, other than coating or chemical milling, which provides protection to the surface of a product such as, but not limited to, anodizing, aging, bonding, plating, etching and/or performing other chemical operations on the surface of the part. [Term removed as superfluous.]~~
- (23) "Clear Topcoat" – A Topcoat that contains no visible pigments and is uniformly transparent when applied. [Derived from AVAQMD 1124(B)(21)]
- (24) "Coating" – A material that is applied to the surface of an aerospace vehicle or component to form a decorative, protective, or functional solid film, or the solid film itself.
- (25) "Coating Application Equipment" – Equipment used for applying coating to a substrate. Coating Aapplication Eequipment includes coating distribution lines, coating hoses, pressure-pots, spray guns, and hand-application equipment, such as hand-rollers, brushes, daubers, spatulas, and trowels. [Derived from AVAQMD 1124(B)(23)]

- (26) “Commercial Exterior Aerodynamic Structure Primer” – A Primer used on aerodynamic components and structures that protrude from the fuselage, such as wings and attached components, control surfaces, horizontal stabilizers, vertical fins, wing-to-body fairings, antennae, and landing gear and doors, for the purpose of extended corrosion protection and enhanced adhesion.
- (27) “Commercial Interior Adhesive” – Materials used in the bonding of passenger cabin interior components. These components must meet the FAA fireworthiness requirements.
- ~~(28)~~ “(28) “Compliance Assurance Monitoring” – The combined total equipment, mechanism(s), and /or technique(s) used to demonstrate and insure compliance with the control device efficiency requirements stipulated in subsection (E)(2) of this Rule. Such monitoring is used to analyze and/or provide a permanent record of process parameters, such as temperatures, pressures, and flow rates. [Term should not have been removed as superfluous.]
- (29) “Compatible Substrate Primer” – Either compatible epoxy primer or adhesive primer. Compatible epoxy primer is primer that is compatible with the filled elastomeric coating and is epoxy based. The compatible substrate primer is an epoxypolyamide primer used to promote adhesion of elastomeric coatings such as impact-resistant coatings. Adhesive primer is a coating that (1) inhibits corrosion and serves as a primer applied to bare metal surfaces or prior to adhesive application, or (2) is applied to surfaces that can be expected to contain fuel. Fuel tank coatings are excluded from this category.
- (30) “Conformal Coating” – A coating applied to electrical conductors and circuit boards to protect them against electrical discharge damage and/or corrosion. [Derived from AVAQMD 1124(B)(27)]
- (31) “Corrosion Prevention Compound System” – A coating system that provides corrosion protection by displacing water and penetrating mating surfaces, forming a protective barrier between the metal surface and moisture. Coatings containing oils or waxes are excluded from this category.
- (32) “Critical Use and Line Sealer Maskant” – A temporary coating, not covered under other maskant categories, used to protect selected areas of aerospace parts from strong acid or alkaline solutions such as those used in anodizing, plating, Chemical Milling and processing of magnesium, titanium, or high-strength steel, high-precision aluminum Chemical Milling of deep cuts, and aluminum Chemical Milling of complex shapes. Materials used for repairs or to bridge gaps left by scribing operations (i.e., line sealer) are also included in this category.
- (33) “Cryogenic Flexible Primer” – A Primer designed to provide corrosion resistance, flexibility, and adhesion of subsequent coating systems when exposed to loads up to and surpassing the yield point of the substrate at cryogenic temperatures (-275°F and below).

- (34) “Cryoprotective Coating” – A coating that insulates cryogenic or subcooled surfaces to limit propellant boil-off, maintain structural integrity of metallic structures during ascent or re-entry, and prevent ice formation.
- (35) “Cyanoacrylate Adhesive” – A fast-setting, single component Adhesive that cures at room temperature. Also known as “super glue.”
- ~~(11) “Detailing or Touch-up Guns” – any small air spray equipment, including air brushes, that operate at no greater than 5 CFM air flow and no greater than 50 pounds per square inch gauge (Psig) air pressure and are used to coat small products or portions of products. [Term removed as superfluous.]~~
- (1236) “District” – The Mojave Desert Air Pollution Control District (MDAQMD), the geographical area of which is described in District Rule 103 – *Description of the District Boundaries*.
- (37) “Dry Lubricative Material” – Coatings consisting of lauric acid, cetyl alcohol, waxes or other non-cross linked or resin bound materials which act as a dry lubricant or protective coat.
- ~~(1338) “Electric- or Radiation Effect Coatings” – Any electrically conductive or insulative coatings and radiation effect coatings, and coating systems the uses of which may include the prevention of radar detection. or coatings used on radar and antennae enclosures. [Derived from AVAQMD 1124(B)(35)]~~
- ~~(14) “Electrostatic Application” – any equipment which causes atomized paint droplets to be electrostatically charged for the purpose of causing the coating to be deposited onto the intended surface by electrostatic attraction. This application requires a minimum 60kV power supply. [Term removed as superfluous.]~~
- (39) “Electronic Wire Coating” – The outer electrical insulation coating applied to tape insulation of a wire specifically formulated to smooth and fill edges. [Derived from AVAQMD 1124(B)(36)]
- (40) “Electrostatic Discharge and Electromagnetic Interference (EMI) Coating” – A coating applied to Space-Vehicles, missiles, aircraft radomes, and helicopter blades to disperse static energy or reduce electromagnetic interference.
- (41) “Elevated-Temperature Skydrol-resistant Commercial Primer” – Primer applied primarily to commercial Aircraft (or commercial Aircraft adapted for military use) that must withstand immersion in phosphate-ester (PE) hydraulic fluid (Skydrol 500b or equivalent) at the elevated temperature of 150°F for 1,000 hours.
- (42) “Epoxy Polyamide Topcoat” – Coating used where harder films are required or in some areas where engraving is accomplished in camouflage colors.

- (1543) "Exempt Compounds" – those Group I and Group II eA compounds listed as non-photochemically reactive identified as exempt in 40 CFR 51.100(s). [Standardizes language.]
- ~~(16) "Exterior Topcoat" – any topcoat which is not an interior habitable space topcoat. [Term removed as superfluous.]~~
- (447) "Extreme Performance Interior Topcoat" - Any topcoat used in interior spaces of aircraft areas requiring a fluid, stain or nicotine barrier.
- (4548) "Extreme Performance Coating" - Any coating used on a metal surface where the coated surface is, in its intended use, exposed to any of the following:
- (a) Industrial-grade detergents, cleaners, or abrasive scouring agents;
 - (b) Frequent or chronic exposure to salt water, corrosives, caustics, acids, oxidizing agents, chemicals, chemical fumes, chemical mixtures or solution; or
 - (c) Other similar environmental conditions as determined in writing by the District's APCO.
- (46) "Facility" – Any permit unit, group of permit units, non-permitted equipment or any combination thereof which emits or may emit an Air Pollutant; and belongs to a single major industrial group in the Standard Industrial Classification manual; and is located on a single parcel of land or on contiguous property within the District; and which is owned or operated by the same person or by persons under common control—~~all buildings, equipment and materials on one contiguous piece of property.~~ [Derived from District Rule 1301(Y)]
- (47) "Fastener" – Any of various devices, including but not limited to, pins, collars, blots, nuts, and rivets for holding together two (2) or more objects or parts.
- (48) "Fastener Manufacturer" – A Facility that coats Aircraft fasteners, such as pins, collars, bolts, nuts, and rivets, with Solid-Film Lubricants for distribution to other Facilities. [Derived from AVAQMD 1124(B)(43)]
- (49) "Fastener Sealant" – A Sealant applied to a device used to join two (2) or more parts together. [Derived from SJVUAPCD Rule 4605 §3.34.]
- (2050) "Fire-Resistant (Interior) Coating" – any A cabin interior coating that meets
- (a) For civilian Aircraft, Fire-Resistant Interior Coatings are used on passenger cabin interior parts that are subject to FAA fireworthiness requirements, the Federal Aviation Administration required Ohio State University Heat Release, Fire and Burn Tests specifications for civilian aircraft; or

- (b) For military aircraft, Fire-Resistant Interior Coatings are used on parts that are subject to the flammability requirements of MIL-STD-1630A and MIL-A-87721. ~~the Aircraft Structure Integrity Program (MIL-STD-1530A and MIL-A-87221 (Northrop's MS-445-3.3.2.2)) requirements for military aircraft.~~
- (c) For space applications, Fire-Resistant Interior Coatings are used on parts that are subject to the flammability requirements of SE-R-0006 and SSP 30233.
- (51) “Flexible Primer” – A Primer that meets flexibility requirements such as those needed for adhesive bond primed fastener heads or on surfaces expected to contain fuel. The flexible coating is required because it provides a compatible, flexible substrate over bonded sheet rubber and rubber-type coatings as well as a flexible bridge between the fasteners, skin, and skin-to-skin joints on outer aircraft skins. This flexible bridge allows more topcoat flexibility around fasteners and decreases the chance of the topcoat cracking around the fasteners. The result is better corrosion resistance.
- (52) “Flight-Test Coating” – A Coating applied to an Aircraft prior to flight testing to protect the Aircraft from corrosion and to provide required marking during flight test evaluation. [Derived from AVAQMD 1124(B)(46)]
- (53) “Flush Cleaning” -- Removal of contaminants such as dirt, grease, oil, and coatings from an aerospace vehicle or component or Coating equipment by passing solvent over, into, or through the item being cleaned. The solvent may simply be poured into the item being cleaned and then drained, or assisted by air or hydraulic pressure, or by pumping. Hand-wipe cleaning operations where wiping, scrubbing, mopping, or other hand actions are used are not included.
- (54) “Fuel-Tank Adhesive” – An Adhesive used to bond components exposed to fuel that must be compatible with Fuel-Tank Coatings. [Derived from AVAQMD 1124(B)(47)]
- (2455) "Fuel Tank Coating, General" – ~~any~~ ~~A~~ coating applied to ~~the interior of~~ a fuel tank ~~or to fuel-wetted areas of~~ an Aircraft to protect it from corrosion and/or bacterial growth. [Derived from AVAQMD 1124(B)(48)]
- (56) Fuel-Tank Coating, Rapid Cure – A fuel tank coating with shortened curing times and decreased sensitivity to low humidity during the curing process. [Derived from AVAQMD 1124(B)(49)]
- (5722) "General Coating Product" - ~~A~~any coating used on an ~~A~~aerospace ~~V~~ehicle which is not, as a category of products, specified in subsection (C)(1)(a) or (C)(1)(b) of this rule.
- (23) ~~"Grams of VOC per Liter of Coating Less Water and Less Exempt Compounds (VOC content)" – the weight of volatile organic compounds (VOC) per combined volume of VOCs and coating solids and can be calculated by the following equation:~~

$$\text{Grams (lb) of VOC/1(gal) of coating} = \frac{W_s - W_w - W_{es}}{V_m - V_w - V_{es}}$$

Where: W_s = Weight of volatile compounds (including water) in grams:

W_w = Weight of water in grams.

W_{es} = Weight of Exempt Compounds in grams.

V_m = Volume of material in liters.

V_w = Volume of water in liters.

V_{es} = Volume of Exempt Compounds in liters.

[Moved to Section (E)(1)]

- (2458) "Hand Application Method" – ~~†~~The application of ~~a surface coating, sealant or adhesive~~ Aerospace Materials by manually held, non-mechanically operated equipment. Such equipment includes, but is not limited to, paint brushes, hand-rollers, caulking guns, trowels, spatulas, syringe daubers, rags ~~or~~ and sponges. *[Standardizes terminology and revises for clarity with AVAQMD Rule 1124 (B)(50).]*
- (59) "Hand-Wipe Cleaning Operation" – Removing contaminants such as dirt, grease, oil, and coatings from an aerospace vehicle or component by physically rubbing it with a material such as a rag, paper, or cotton swab that has been moistened with a cleaning solvent.
- (2560) "High Temperature Coating" – ~~any~~ A coating that, ~~during normal use~~, must withstand temperatures ~~in excess of~~ more than 350°F. *[Clarity]*
- (2661) "High-Volume, Low-Pressure (HVLV) Spraying" – ~~any~~ An Aerospace Materials Application system spray equipment which is operated with air pressure between 0.1 and 10.0 pounds per square inch gauge (psig) and air volume greater than 15.5 cfm per spray gun. *[Standardize terminology. See also subsection (B)(8) – Air Brush Operations]*
- (62) Impact-Resistant Coating – A flexible coating that protects aerospace components, such as aircraft landing gear, and landing gear compartments, and other surfaces subject to impact and abrasion from runway debris. *[Derived from AVAQMD 1124(B)(53)]*
- (27) ~~"Interior Topcoat"~~ – ~~any topcoat used in habitable interior spaces of aircraft.~~ *[Removed as superfluous]*
- (63) "Insulation Covering" – Material that is applied to foam insulation to protect the insulation from mechanical or environmental damage.
- (64) "Intermediate Release Coating" – A thin coating applied beneath Topcoats to assist in removing the Topcoat in depainting operations and generally to allow the use of less hazardous depainting methods.

- (65) “Lacquer Coating” – A clear or pigmented coating formulated with a nitrocellulose or synthetic resin to dry by evaporation without a chemical reaction. Lacquers are resolvable in their original solvent.
- (66) “Low-Solids Adhesive Coating, Primer or Sealant” — An adhesive coating, primer or sealant which has less than one (1) pound of solids per gallon of material. Such solids are the non-volatiles remaining after a sample is heated at 230°F (110°C) for one (1) hour. [Derived from SCAQMD 1124(b)(35) as amended 8/29/01 and AVAQMD 1124(B)(57)]
- (67) “Low-Solids Corrosion Resistant Primer” — A corrosion resistant polyurethane compatible primer with enhanced adhesion and rain erosion resistance which contains no more than 45 percent (45%) solids, by weight, as applied. [Derived from AVAQMD 1124(B)(58)]
- (28) “Maskant for Chemical Milling or Processing” — any coating applied directly to a part to protect surface areas when chemical milling, anodizing, aging, bonding, plating, etching and/or performing other chemical operations on the surface of the part. [Formatted for consistency. See Chemical Milling Maskant and Chemical Milling Processing.]
- (68) “Metallized Epoxy Coating” – A coating that contains relatively large quantities of flake pigmentation for appearance and/or added protection.
- (69) “Mold Release Coating” – A coating applied to the surface of a mold to prevent the molded component from sticking to the mold as it is removed.
- (29) ~~“Non-compliant Coating” — any coating which exceeds the VOC formulation limitations, as applied, of Subsections (C)(1)(a,b or c). [Removed as superfluous.]~~
- (3070) ~~“Non-structural Adhesive” – any An Adhesive which that bonds non-load-carrying Aircraft components in non-structuralcritical applications and is not covered in any other specialty Adhesive categories. [Derived from SCAQMD 1124(b)(41) as amended 8/29/01 and AVAQMD 1124(B)(61)]~~
- (71) “Optical Anti-Reflection Coating” — A coating with a low reflectance in the infrared and visible wavelength range and is used for anti-reflection on or near optical and laser hardware. [Derived from AVAQMD 1124(B)(62)]
- (72) “Part Marking Coating” – Coatings or inks used to make identifying markings on materials, components, and/or assemblies. These markings may be either permanent or temporary.
- (73) “Phosphate Ester Resistant Ink” – A eCoating that is used for surface identification or marking which inhibits phosphate ester fluid corrosion. [Derived from AVAQMD 1124(B)(64)]

- (74) “Photolithographic Maskant” – A Coating applied by Photoresist Operation(s) directly to printed circuit boards, and ceramic and similar substrates to protect surface areas from Chemical Milling or Chemical Processing. [Derived from AVAQMD 1124(B)(65)]
- (75) “Photoresist Operation” - A process for the application or development of photoresist masking solution on a substrate, including preparation, soft bake, develop, hard bake, and stripping, and can be generally subdivided as follows:
- (a) Negative Photoresist Operation is a process where the maskant hardens when exposed to light and the unhardened maskant is stripped, exposing the substrate surface for Chemical Milling or Chemical Processing.
- (b) Positive Photoresist Operation is a process where the maskant softens when exposed to light and the softened maskant is stripped, exposing the substrate surface for Chemical Milling or Chemical Processing. [Derived from AVAQMD 1124(B)(66)]
- (76) “Pre-Bonding Etchant” – An acid or basic substance that is used to increase the strength of an adhesive bond by chemically altering the substrate surface morphology to increase the bonding surface area of aerospace wire coatings to the underlying insulation layer. [Derived from AVAQMD 1124(B)(67).]
- (3477) "Pretreatment Wash Primer Coating" – any Coating which contains no more than twelve percent (12 %) solids by weight, and at least 0.5 percent (0.5%) acid by weight, of acid to provide surface etching and which is applied directly to surfaces to provide corrosion resistance, adhesion and ease of stripping. [Clarity. Moved from primer category for consistency with the CTG definition.]
- (3278) "Primer" – A Coating applied directly to a part an Aerospace Component for purposes of corrosion prevention, protection from the environment, functional fluid resistance and/or adhesion of subsequent Coatings, Adhesives or Sealants. [Clarity]
- (79) “Primer Compatible with Rain Erosion Resistant Coating” – A Primer to which rain erosion resistant Topcoat is applied. [Derived from AVAQMD 1124(B)(70)]
- (3380) "Rain Erosion-Resistant Coating" – any A Coating that protects the leading edges, flaps, stabilizers, and engine inlet lips against erosion caused by rain impact during flight.
- (81) “Repair Coating” – A Coating used to recoat portions of a product which has sustained mechanical damage to the coating following normal painting operations. [Derived from AVAQMD 1124(B)(72)]
- (3482) "Rework" – The inspection, repair, and reconditioning of vehicles, their part and Aerospace Components subject to this rule. [Standardize terminology.]

- ~~(35) "Repair" – the recoating of previously coated product due to damage to the coating following normal painting operations. *[Removed as superfluous.]*~~
- (83) "Rocket Motor Bonding Adhesive" – Adhesive used in rocket motor bonding applications.
- (84) "Rocket Motor Nozzle Coating" – A catalyzed epoxy Coating system used in elevated temperature applications on rocket motor nozzles.
- ~~(85) "Rollable, Brushable or Extrudable Sealant" – A single or multi-component polymeric material used to seal many types of joints, gaps, removable panels, and windows where moderate movement is expected. Such material may be applied by rolling brushing extruding or daubing. *[Derived from AVAQMD 1124(B)(76)]*~~
- (86) "Rubber-based Adhesive" – A quick setting contact cement that provides a strong, yet flexible bond between two mating surfaces that may be of dissimilar materials.
- ~~(87) "Scale Inhibitor Coating" – A Coating that is applied to the surface of a part prior to thermal processing to inhibit the formation of tenacious scale. *[Derived from AVAQMD 1124(B)(78)]*~~
- (88) "Screen Print Ink" – An ink used in screen printing processes during fabrication of decorative laminates and decals.
- ~~(3689) "Sealants" – any coating applied for the purpose of Viscous semisolid materials that filling voids and providing a barrier against penetration of in order to seal out water, fuel or and other fluids or vapors and solids and in some cases, air movement. *[Derived from AVAQMD 1124(B)(80)]*.~~
- (90) "Seal Coat Maskant" – An overcoat applied over a maskant to improve abrasion and chemical resistance during production operations.
- (91) "Semiaqueous Cleaning Solvents" – A solution in which water is a primary ingredient (≥ 60 percent of the solvent solution as applied must be water). *[Added term as it is used by adding flush solvent section.]*
- (92) "Silicone Insulation Material" – An insulating material applied to exterior metal surfaces for protection from high temperatures caused by atmospheric friction or engine exhaust. These materials differ from Ablative Coatings in that they are not "sacrificial."
- ~~(9337) "Sealant Bonding Primer" - Aany Coating applied in a very thin film to a part or product for the purpose of providing a Primer for a subsequent coat of silicone sealant.~~
- ~~(38) "Self Priming Topcoat" – any coating applied directly to a part or product that is not subsequently overcoated.~~

- (94) “Solid-Film Lubricant” – A very thin coating consisting of a binder system containing as its chief pigment material one or more of the following: molybdenum disulfide, graphite, polytetrafluoroethylene (PTFE), or other solids that act as a dry lubricant between faying surfaces. [Derived from AVAQMD 1124(B)(83)].
- (95) “South Coast Air Quality Management District (SCAQMD)” – The air quality district created pursuant to Division 26, Part 3, Chapter 5.5 of the California Health & Safety Code (commencing with §40400). [Derived from AVAQMD 1124(B)(84)].
- (3996) "Space Vehicle" – ~~any man-made device, either manned or unmanned,~~A vehicle designed ~~for operation to travel~~ beyond earth's atmosphere. [Clarity]
- (97) “Specialized Function Coating” – A coating that fulfills extremely specific engineering requirements that are limited in application and are characterized by low volume usage. This category excludes coatings covered in other Specialty Coating categories.
- (98) “Specialty Coating” – A coating that, even though it meets the definition of a Primer, Topcoat, or self-priming Topcoat, has additional performance criteria beyond those of Primers, Topcoats, and self-priming Topcoats for specific applications. These performance criteria may include, but are not limited to, temperature or fire resistance, substrate compatibility, antireflection, temporary protection or marking, sealing, adhesively joining substrates, or enhanced corrosion protection.
- (99) “Stencil Coating” – An ink or coating that is rolled, sprayed with an airbrush or touch-up gun with a capacity of 8 ounces (236.4 ml) or less, or brushed while using a template to add identifying letters and or numbers to Aerospace Components. [Derived from San Diego APCD Rule 67.9 and AVAQMD 1124(B)(88). Stencil Coating is also limited to 25 square feet per aircraft in exemption section (G)(6).]
- (40100) "Stripper" – ~~any precursor organic compound~~A volatile liquid applied to remove ~~temporary coating, maskant for chemical processing, paint-cured Aerospace Material~~ or their residues. [Derived from SCAQMD 1124(b)(55) as amended 8/29/01 and AVAQMD 1124(B)(89)]
- (41101) "Structural Adhesive - Autoclavable" – ~~any~~An Adhesive used to bond load-carrying Aircraft components and is cured by heat and pressure in an autoclave.
- (102) “Structural Adhesive, High Temperature – Autoclavable” – An Adhesive used to bond load-carrying Aircraft components which is cured by heat and pressure in an autoclave, and can withstand service temperatures above 450° F (232° C). [Derived from AVAQMD 1124(B)(91). Replaces extreme performance compounds.]

- (42103) "Structural Adhesive - Non-Autoclavable" – ~~any An A~~ adhesive cured under ambient conditions and is used to bond load-carrying Aircraft components or other critical functions, such as nonstructural bonding in the proximity of engines.
- (43104) "Temporary Protective Coating" – ~~any A~~ coating applied to ~~a part an~~ Aerospace Component to protect it from mechanical and environmental damage during manufacturing. *[Standardize terminology]*
- (105) "Thermal Control Coating" – A coating formulated with specific thermal conductive or radiative properties to permit temperature control of the substrate.
- (44106) "Topcoat" – ~~any A~~ coating applied over a Primer or other coating on an Aerospace Vehicle or Component, ~~intermediary coating or uncoat~~ for purposes such as appearance, identification, camouflage, or protection. Topcoats that are defined as specialty coatings are not included in this definition. [Definition modified to CTG definition for clarification, and so definition will also include clear coating CTG category.]
- (45) ~~"Touch up" – that portion of the coating operation which is separate from the main coating process but necessary to cover minor imperfections or to achieve coverage as required. [Definition not used. See Touch-Up Operation.]~~
- (107) "Touch-Up Operation" – The application of Aerospace Materials by brush, air brush, detail HVLP spray equipment outside of a permitted paint enclosure to repair minor surface damage and imperfections after the main coating process. [See exemption (G)(6) for affected area exempted.]
- (46108) "Transfer Efficiency" – ~~†~~ The ratio of the weight or volume of coating solids adhering to the an object being coated to the total weight or volume, respectively, of coating solids used in the application process, expressed as a percentage. [Clarity]
- (109) "Type I Etchant" – A Chemical Milling etchant that contains varying amounts of dissolved sulfur and does not contain amines. [Derived from SCAQMD 1124(b)(73) and AVAQMD 1124(B)(98).]
- (110) "Type II Etchant" – A Chemical Milling etchant that is a strong sodium hydroxide solution containing amines. [Derived from SCAQMD 1124(b)(74) and AVAQMD 1124(B)(99).]
- (47111) "Unicoat" – ~~any A~~ coating which is applied directly to an Aerospace Component for purposes of corrosion protection, environmental protection and functional fluid resistance, ~~and~~ that is not subsequently Topcoated.
- (112) "United States Environmental Protection Agency (USEPA)" – The United States Environmental Protection Agency, the Administrator of the USEPA and his or her authorized representative. [Derived from District Rule 1301(GGG)]

(48113) "Volatile Organic Compound (VOC)" – ~~a~~Any compound ~~of containing the element carbon which may participate in such atmospheric photochemical reactions and contribute the formation of photochemical smog,~~ excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate and ~~those~~ Exempt Compounds listed in 40 CFR 51.100(~~S~~)(4). [Standardize language for consistency with District Tert-Butyl Acetate (tBA) policy.]

~~(49) "Volume weighted Average" For those uncontrolled primers, topcoats and maskants that are averaged within their respective product category, the following equation shall be used to determine the monthly volume weighted average mass of VOC emitted per volume of coating (less water and exempt compounds) as applied, subject to (E)(4)(b) daily record keeping.~~

$$G_a = \frac{1}{\sum_{i=1}^n (VOC)_{ei} V_{ei}} \sum_{i=1}^n (VOC)_{ei} V_{ei}$$

Where

~~G_a = Volume weighted average mass of VOC per unit volume (lbs/gal) of coating (less water and exempt compounds) as applied, during each 30-day period.~~

~~n = number of coatings being averaged.~~

~~$(VOC)_{ei}$ = VOC content (lbs/gal) of coating i (less water and exempt compounds) as applied for the coatings being averaged.~~

~~V_{ei} = Volume (gal) of coating i as applied for the coatings being averaged.~~

~~C_{twes} = Total volume (gal) of all coatings (less water and exempt compounds) as applied for the coatings being averaged.
[Moved to (D)(1)(d)(iii)]~~

(114) "Wet Fastener Installation Coating" – A Primer or Sealant applied by dipping, brushing, or daubing to fasteners that are installed before the coating is cured.

(50115) "Wing Coating" – any A corrosion-resistant coating that is resilient enough to withstand the flexing of the aircraft wings.

(C) Requirements

(1) VOC ~~Limit Requirements~~ Content of Coatings

- (a) A person shall not apply to Aerospace Components any Aerospace Materials, including any VOC-containing materials added to the original Aerospace Materials supplied by the manufacturer, which contain VOC in excess of the limits specified below: any coating or specify the use of any coating which, as applied, emits or may emit volatile organic compounds into the atmosphere in excess of the limits shown in the table below. These limits are expressed in Grams of VOC per Liter of Coating Less Water

and Exempt Compounds (VOC content): [Derived from AVAQMD 1124(C)(1)(a)]

<u>Coating Type</u>	<u>VOC Limit</u>	
	<u>g/l</u>	<u>lb/gal</u>
<i>[Parenthetical comments explain location of existing categories in to new table.]</i>		
Adhesive		
———— Bonding Primer <i>[Broken down to commercial aircraft and military aircraft adhesive bonding primer categories in proposed table]</i>	250	2.1
———— Non-structural adhesive <i>[No change to category or limit]</i>	250	2.1
———— Structural adhesive, autoclavable <i>Autoclavable [No change to category]</i>	50	0.4
———— Structural adhesive, non-autoclavable <i>[No change to category, SIP limit retained]</i>	700 [↑850]	5.9
CARC <i>[No change to category, SIP limit retained.]</i>	500 [↑550]	4.2
Electric/Radiation Effect <i>[No change to category or limit]</i>	800	6.7
Extreme Performance		
———— Coating <i>[No change to category or limit]</i>	420	3.5
———— Interior Topcoat <i>[No change to category or limit.]</i>	420	3.5
Fire Resistant Coating		
———— civilian <i>[No change to category or limit]</i>	650	5.4
———— military <i>[No change to category, limit adjusted]</i>	970 [↓800]	7.7
Fuel Tank Coating <i>[Category split into ‘general’ and ‘rapid cure,’ limits adjusted down for general]</i>	720	6.0
General Coating Product <i>[No change to category or limit]</i>	350	2.9
High Temperature Coating <i>[No change to category, SIP limit retained]</i>	720 [↑850]	6.0
Interior Topcoat <i>[This category and limit are incorporated into Topcoat – Other]</i>	340	2.8

<u>Coating Type</u>	<u>VOC Limit</u>	
	<u>g/l</u>	<u>lb/gal</u>
<i>[Parenthetical comments explain location of existing categories in to new table.]</i>		
Maskant for		
————Chemical Processing <i>[No change to category, limit adjusted]</i>	600 <i>[↓250]</i>	5.0
————Chemical Milling, Type I Etchant <i>[No change to category, limit adjusted]</i>	622 <i>[↓250]</i>	5.2
————Chemical Milling, Type II Etchant <i>[No change to category or limit]</i>	160	1.3
Pretreatment Wash Primer <i>[For consistency with CTG, category has been re-named 'pretreatment coating,' no change to limit]</i>	780	6.6
Primer <i>[No change to category or limit]</i>	350	2.9
Rain Erosion Resistant Coating <i>[No change to category, SIP limit retained]</i>	600 <i>[↑800]</i>	5.0
Sealant <i>[Existing category has been subdivided, existing limit stays with 'other' subcategory]</i>	600	5.0
Sealant Bonding Primer <i>[No change to category or limit]</i>	720	6.0
Self Priming Topcoat <i>[This category and limit absorbed into 'other topcoat subdivision]</i>	420	3.5
Space Vehicle Coating		
————Electrostatic Discharge <i>[This category is not specific to space vehicles in the CTG, so it has not been left under the 'space vehicle' heading, but given its own category heading]</i>	800	6.7
————Other <i>[No change to category or limit]</i>	1000	8.3
Temporary Protective Coating <i>[No change to category or limit]</i>	250	2.1
Topcoat <i>[Existing category has been subdivided, existing limit stays with 'other' subcategory]</i>	420	3.5
Unicoat <i>[No change to category or limit]</i>	420	3.5
Wing Coating <i>[No change to category or limit]</i>	750	6.3

SPECIALTY COATING VOC LIMITS	
Grams Per Liter of Coating Less Water and Less Exempt Compounds	
<u>Aerospace Materials: [Explanatory comments not a part of the rule]</u>	<u>VOC Limit</u>
PRIMERS	
<u>General [No change to category or limit]</u>	<u>350</u>
<u>Adhesive Bonding Primers [Category subdivided for consistency with AV 1124 categories.]</u>	<u>=</u>
<u>Commercial Aircraft [Limit set from previous adhesive bonding primer category.]</u>	<u>250</u>
<u>Military Aircraft [Subdivision of existing adhesive bonding primer category. Category and limit consistent with AVAQMD Rule 1124]</u>	<u>805</u>
<u>Commercial Exterior Aerodynamic Structure Primer [New category from CTG. Not a subcategory of pretreatment primer]</u>	<u>650</u>
<u>Compatible Substrate Primer [New category from CTG. Not a low solids corrosion resistant primer]</u>	<u>780</u>
<u>Cryogenic Flexible Primer [New category from CTG. Not a subcategory of pretreatment primer]</u>	<u>645</u>
<u>Elevated-Temperature Skydrol-Resistant Commercial Primer [New category from CTG. Not a subcategory of pretreatment primer]</u>	<u>740</u>
<u>Flexible Primer [New category from CTG. Not a subcategory of pretreatment primer]</u>	<u>640</u>
<u>Low-Solids Corrosion Resistant Primer [New category and limit consistent with AVAQMD Rule 1124 for RACT]</u>	<u>350</u>
<u>Primer Compatible with Rain Erosion-Resistant Coating [New category and limit consistent with AVAQMD Rule 1124]</u>	<u>850</u>
<u>Sealant Bonding Primer [Existing category and limit]</u>	<u>720</u>
COATINGS	
<u>General [Existing category and limit]</u>	<u>350</u>
<u>Ablative Coating [New category from CTG]</u>	<u>600</u>
<u>Adhesion Promoter Coating [New category from CTG. Limit is consistent with AV 1124 for RACT.]</u>	<u>850</u>
<u>Antichafe Coating [New category from CTG. Limit is consistent with AV 1124 for RACT.]</u>	<u>420</u>
<u>Bearing Coating [New category from CTG. Not a subcategory of Fastener Lubricative or non-fastener lubricative coating]</u>	<u>620</u>
<u>Chemical Agent-Resistant Coating (CARC) [Existing category, retain existing SIP limit]</u>	<u>550500</u>
<u>Conformal Coating [New category and limit consistent with AVAQMD Rule 1124 for RACT]</u>	<u>750</u>
<u>Cryoprotective Coating [New category from CTG. Not specific to space vehicles. Prevents ice formation]</u>	<u>600</u>
<u>Electric- or Radiation-Effect Coating [Existing category and limit]</u>	<u>800</u>
<u>Electrostatic Discharge and Electromagnetic Interference (EMI) Coating [New category from CTG, not specific to space vehicles. Existing category and limit as been given own category heading and relocated from under 'space vehicles.']</u>	<u>800</u>
<u>Extreme Performance Coating [Existing category and limit]</u>	<u>420</u>

SPECIALTY COATING VOC LIMITS	
Grams Per Liter of Coating Less Water and Less Exempt Compounds	
<u>Fire-Resistant (Interior) Coating</u>	<u>==</u>
<u> Civilian [Existing category and limit]</u>	<u>650</u>
<u> Military [Existing category, adjusted limit]</u>	<u>800</u>
<u> Space [New sub-category split out to conform to CTG definition, CTG limit used]</u>	<u>800</u>
<u>Flight-Test Coating [New category and limits from CTG]</u>	<u>==</u>
<u> Used on Missiles or Single Use Target Aircraft</u>	<u>420</u>
<u> All Other</u>	<u>840</u>
<u>Fuel-Tank Coating [Existing category has been split. General category is lower limit than CTG. Categories and limits consistent with AVAQMD Rule 1124 for RACT]</u>	<u>==</u>
<u> General</u>	<u>420</u>
<u> Rapid Cure</u>	<u>720</u>
<u>High-Temperature Coating [Existing category, retain existing SIP limit]</u>	<u>850/720</u>
<u>Impact-Resistant Coating [New category and limit consistent with AVAQMD Rule 1124 for RACT]</u>	<u>420</u>
<u>Intermediate Release Coating [New category and limit from CTG]</u>	<u>750</u>
<u>Lacquer Coating [New CTG category and limit. Lacquer is not always a topcoat]</u>	<u>830</u>
<u>Metallized Epoxy Coating [New category from CTG. Limit is lower for consistency with AV 1124 for RACT.]</u>	<u>700</u>
<u>Mold Release Coating [New category and limit from CTG]</u>	<u>780</u>
<u>Optical Anti-Reflection Coating [New category from CTG. Limit is lower for consistency with AV 1124 for RACT.]</u>	<u>700</u>
<u>Part Marking Coating [New category and limit from CTG]</u>	<u>850</u>
<u>Pretreatment Coating [Moved from primer category for consistency with CTG definition. Existing category and limit]</u>	<u>780</u>
<u>Rain Erosion-Resistant Coating [Existing category, retain existing SIP limit]</u>	<u>800/600</u>
<u>Rocket Motor Nozzle Coating [New category and limit from CTG. Not a subcategory as it is very specific to withstand heat, pressure and magnetic forces]</u>	<u>660</u>
<u>Scale Inhibitor Coating [New category and limit from CTG]</u>	<u>880</u>
<u>Space-Vehicle Coatings, Other: Does not include Electric Discharge and EMI Protection Coating or Fire Resistant (Interior) Coating [CTG does not distinguish between space and other. Existing category and limit.]</u>	<u>1000</u>
<u>Specialized Function Coating [New category and limit from CTG]</u>	<u>890</u>
<u>Temporary Protective Coating [Existing category and limit]</u>	<u>250</u>
<u>Thermal Control Coating [New category and limit from CTG]</u>	<u>800</u>
<u>Topcoat [Updated to include clear coating category from CTG]</u>	
<u> Clear Topcoat [New category from CTG (Clear Coating). Retain existing SIP limit for "Topcoat"..]</u>	<u>520/420</u>
<u> Epoxy Polyamide Topcoat [New category and limit from CTG]</u>	<u>660</u>

SPECIALTY COATING VOC LIMITS	
Grams Per Liter of Coating Less Water and Less Exempt Compounds	
<u>Other Topcoat [Reorganized for consistency with rest of table format. This subcategory absorbs 'self-priming topcoat, and 'Interior Topcoat.' This limit is from previous 'interior topcoat' category. Added "Topcoat" to "Other" for clarification that this category is "Other Topcoats"]</u>	<u>340</u>
<u>Extreme Performance Interior Topcoat [Existing category and limit]</u>	<u>420</u>
<u>Unicoat [Existing category and limit]</u>	<u>420</u>
<u>Wet Fastener Installation Coating [New category and limit from CTG]</u>	<u>675</u>
<u>Wing Coating [Existing category and limit]</u>	<u>750</u>
<u>Wire Coatings [New categories and limits consistent with AVAQMD Rule 1124 for RACT]</u>	<u>=</u>
<u>Anti-Wicking</u>	<u>420</u>
<u>Electronic Wire Coating</u>	<u>420</u>
<u>Pre-Bonding Etchant</u>	<u>420</u>
<u>Phosphate Ester Resistant Ink</u>	<u>925</u>
ADHESIVES	<u>=</u>
<u>Commercial Interior Adhesive [New category and limit from CTG, not covered by non-structural category]</u>	<u>760</u>
<u>Cyanoacrylate Adhesive [New category and limit from CTG]</u>	<u>1020</u>
<u>Fuel-Tank Adhesive [New category and limit from CTG]</u>	<u>620</u>
<u>Non-Structural Adhesive [Existing category and limit]</u>	<u>250</u>
<u>Rocket Motor Bonding Adhesive [New category and limit from CTG, not covered by space vehicle adhesive]</u>	<u>890</u>
<u>Rubber-based Adhesive [New category and limit from CTG]</u>	<u>850</u>
<u>Space Vehicle Adhesive [New category and limit consistent with AVAQMD Rule 1124 for RACT]</u>	<u>800</u>
<u>Structural Adhesive</u>	<u>=</u>
<u>Autoclavable [Existing category and limit]</u>	<u>50</u>
<u>High Temperature -- Autoclavable [New category and limit consistent with AVAQMD Rule 1124 for RACT]</u>	<u>650</u>
<u>Non-Autoclavable [Existing category, retain existing SIP limit.]</u>	<u>850/700</u>
SEALANTS	
<u>Rollable, Brushable or Extrudable Sealant [New category and limit from CTG]</u>	<u>280</u>
<u>Fastener Sealant [New category and limit consistent with AVAQMD Rule 1124 for RACT]</u>	<u>675</u>
<u>Other [Existing category and limit]</u>	<u>600</u>
MASKANTS	<u>=</u>
<u>Bonding Maskant [New category and limit from CTG. Definition of Chemical Milling Maskants says it is not bonding maskant]</u>	<u>1230</u>
<u>Critical Use and Line Sealant Maskant [New category from CTG. Limit is lower for consistency with AV 1124 for RACT.]</u>	<u>750</u>
<u>Chemical Milling Maskant</u>	

SPECIALTY COATING VOC LIMITS	
Grams Per Liter of Coating Less Water and Less Exempt Compounds	
<u>For use with Type I Etchant [Existing category, adjusted limit]</u>	<u>250</u>
<u>For use with Type II Etchant [Existing category and limit]</u>	<u>160</u>
<u>For Chemical Processing *Less water, exempt compounds and perchloroethylene (PERC) [Existing category, adjusted limit]</u>	<u>250*</u>
<u>Photolithographic Maskant [New category and limit consistent with AVAQMD Rule 1124 for RACT]</u>	<u>850</u>
<u>Seal Coat Maskant [New category and limit from CTG. Definition of Chemical Milling Maskants says it is not bonding maskant]</u>	<u>1230</u>
LUBRICANTS <u>[All new lubricant subcategories and limits consistent with AVAQMD Rule 1124 for RACT]</u>	=
<u>Fastener Installation Lubricant (applied at time of aircraft/component assembly)</u>	=
<u>Solid-Film Lubricant</u>	<u>880</u>
<u>Dry Lubricative Material</u>	<u>675</u>
<u>Fastener Lubricative Coating (applied at time of fastener manufacture)</u>	=
<u>Solid-Film Lubricant</u>	<u>250</u>
<u>Dry Lubricative Material</u>	<u>120</u>
<u>Barrier Coating</u>	<u>420</u>
<u>Non-Fastener Lubricative Coatings (applied at time of non-fastener manufacture)</u>	=
<u>Solid-Film Lubricant</u>	<u>880</u>
<u>Dry Lubricative Materials</u>	<u>675</u>
OTHER	
<u>Caulking and Smoothing Compound [New category and limit from CTG]</u>	<u>850</u>
<u>Corrosion Prevention System Compound [New category and limit from CTG]</u>	<u>710</u>
<u>Insulation Covering [New category and limit from CTG]</u>	<u>740</u>
<u>Screen Print Ink [New category and limit from CTG, not covered specifically by graphic arts rules]</u>	<u>840</u>
<u>Silicone Insulation Material [New category and limit from CTG for aerospace industry specific material]</u>	<u>850</u>

[Added "Other" category to include materials that do not conform to existing categories.]

New categories for consistency with CTG: Commercial Exterior Aerodynamic Structure Primer, Compatible Substrate Primer, Cryogenic Flexible Primer, Elevated-Temperature Skydrol-Resistant Commercial Primer, Flexible Primer, Ablative Coating, Adhesion Promoter Primer, Antichafe Coating, Bearing Coating, Cryoprotective Coating, Electrostatic Discharge and Electromagnetic Interference (EMI) Coating, Fire-Resistant (Interior) Coating-Space, Flight-Test Coating, Intermediate Release Coating, Lacquer Coating, Metallized Epoxy Coating, Mold Release Coating, Optical Anti-Reflection Coating, Part Marking Coating, Rocket Motor Nozzle Coating, Scale Inhibitor Coating, Specialized

Function Coating, Thermal Control Coating, Clear Topcoat, Epoxy Polyamide Topcoat, Wet Fastener Installation Coating, Commercial Interior Adhesive, Cyanoacrylic Adhesive, Fuel-Tank Adhesive, Rocket Motor Bonding Adhesive, Rubber-based Adhesive, Rollable, Brushable or Extrudable Sealant, Bonding Maskant, Critical Use and Line Sealant Maskant, Seal Coat Maskant, Solid Film Lubricant, Dry Lubricative Material, Caulking and Smoothing Compound, Corrosion Prevention System Compound, Insulation Covering, Screen Print Ink, Silicone Insulation Material.

New Categories for consistency with AVAQMD Rule 1124 for RACT, and for consistency between District rules for multi-district facilities: Adhesive Bonding Primers (commercial Aircraft, Military Aircraft), Low-Solids Corrosion Resistant Primer, Primer Compatible with Rain Erosion-Resistant Coating, Conformal Coating, Impact Resistant Coating, Wire Coatings, Space Vehicle Adhesive, High Temperature – Autoclavable Structural Adhesive, Fastener Sealant, Photolithographic Maskant, Barrier Coating.

Changes and clarifications derived from CTG Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations, EPA-453/R-97-004, December 1997 unless otherwise noted.]

(b) Documents shall be provided to the APCO demonstrating that the Unicoat is being used in lieu of the application of a Primer and Topcoat, and the applicant must receive written approval for the use of the Unicoat specifying the conditions of application from the APCO. [Derived from AVAQMD Rule 1124 (C)(1)(b)]

(c) For Low-Solids Adhesives, Coatings, Primers or Sealants, the appropriate limits in subparagraph (C)(1)(a) shall be expressed in grams of VOC per liter of material. [Derived from AVAQMD Rule 1124 (C)(1)(c)]

(2) Solvent Use, Clean Up, and Stripping

~~(b) Stripper: A person shall not apply any stripper or specify the use of any stripper unless it complies with one of the following:~~

~~(i) The stripper contains less than 400 grams/liter (3.3 lbs/gal) of VOC content; or~~

~~(ii) The stripper has a true vapor pressure of less than 10 mm Hg at actual usage temperature. [Moved to (C)(2)(b)]~~

~~(ea) Solvent Use and Clean Up: A person shall not use VOC-containing materials for cleaning or clean-up, excluding coating stripping and equipment cleaning, unless:~~

- (i) ~~The VOC content~~ composite partial pressure is 45 mm Hg or less at a temperature of 20 ~~degrees~~° C (68° F), or
- (ii) ~~The material contains 200 grams or less of VOC content~~ per liter of material, as applied.

(b) A person shall not use Stripper on Aerospace Components unless: [Moved and modified from former (C)(1)(b). Note Stripper VOC content reduced to 300 g/l, vapor pressure reduced to 9.5 mm Hg and temperature specified to meet RACT limits of AVAQMD Rule 1124.]

- (i) The stripper contains less than 300 grams/liter (2.5 lbs/gal) of VOC content; or
- (ii) The stripper has a true VOC composite partial vapor pressure of 9.5 mm Hg (0.18 psia) or less at 20°-C (68° F). [Moved and modified from former (C)(1)(b). Note Stripper VOC content reduced to 300 g/l, vapor pressure reduced to 9.5 mm Hg and temperature specified.]

(c) Cleaning solvents used in hand-wipe cleaning operations shall: [Derived from CTG model rule.]

- (i) Meet the definition of Aqueous Cleaning Solvent; or
- (ii) Have a VOC composite pressure less than or equal to 45 mm HG at 20°C (68° F).

(d) For cleaning solvents used in the flush cleaning of aerospace parts, assemblies, and coating unit components, the used cleaning solvent (except for semiaqueous cleaning solvents) must be emptied into an enclosed container or collection system that is kept closed when not in use or captured on wipers and disposed of in accordance with subsection (C)(3)(a). Aqueous and semiaqueous cleaning solvents are excluded from these requirements.

(e) Spray guns must be cleaned by one or more of the following methods:

- (i) Enclosed spray gun cleaning system that is kept closed when not in use.

a. Leaks from enclosed spray gun cleaners are repaired within 14 days from when the leak is first discovered. If the leak is not repaired by the 15th day after detection, the cleaning solvent shall be removed and the enclosed cleaner shall be shut down until the leak is repaired or its use is permanently discontinued;

- (ii) Unatomized discharge of cleaning solvent into a waste container that is kept closed when not in use;
- (iii) Disassembled spray gun that is cleaned in a vat and kept closed when not in use; or
- (iv) Atomized spray into a waste container that is fitted with a device designed to capture atomized cleaning solvent emissions.

~~(ee)~~ A person shall not atomize any solvent into open air. [Derived from AVAQMD 1124(C)(2)(c)]

(3) Storage of VOC-Containing Materials

(a) All VOC containing material, used or unused, including but not limited to surface coatings, thinners, cleanup solvents, or surface preparation materials, and all solvent laden cloth and paper, shall be stored in non-absorbent, non-leaking containers which shall be kept closed at all times except during extraction or introduction of material for mixing, use or storage.

(b) Handling and transfer procedures must be implemented to minimize spills during filling and transferring cleaning solvent to or from enclosed systems, vats, waste containers, and other cleaning operation equipment that hold or store fresh or used cleaning solvents. [Moved and modified from former (C)(3). Derived from AVAQMD 1124(C)(4) and CTG.]

(c) The provisions of Subsections (C)(3)(a) and (b) shall not apply to:

(i) Cotton tipped swabs used for very small cleaning operations. [Derived from CTG]

(ii) Aqueous cleaning solvents. [Derived from CTG]

~~(d) Add-on Emissions Control Equipment— Sources may elect to use add-on emissions control equipment to achieve compliance with the provisions of Section (C)(1).~~

~~(i) The combined capture and control system efficiency must, at a minimum, be 85% effective in reducing VOC emissions.~~

~~(ii) Such control equipment must, prior to operation, be approved in advance by the Air Pollution Control Officer (APCO).~~

~~(iii) Any person choosing to install such control equipment shall obtain an Authority to Construct from the District prior to installation. [Moved to (C)(5)]~~

(24) Application Equipment Requirements~~Transfer Efficiency~~

(a) ~~A No person or Facility shall not apply coatings subject to the provisions of this rule Aerospace material except by unless it is applied with using~~ properly operated equipment ~~or controlled, according to operating procedure specified by the equipment manufacturer or the APCO, and by the use of one of the following methods: [Derived from AVAQMD 1124(C)(5)]~~

~~(ai)~~ Electrostatic application; ~~or~~

~~(bii)~~ Flow/curtain coater application; ~~or~~

~~(iii)~~ Roll coater;

~~(eiv)~~ Dip coater application; ~~or~~

- ~~(dv)~~ High ~~V~~volume, ~~L~~low ~~P~~pressure (~~HVLP~~) ~~S~~spraying (~~HVLP~~); ~~or~~
- ~~(evi)~~ Electrodeposition; ~~or~~
- ~~(vii)~~ Cotton tipped swab application;
- ~~(fvi)~~ Hand ~~A~~application ~~M~~methods, or
- ~~(g)~~ ~~Detailing or touch-up guns, or~~
- ~~(hvii)~~ ~~Alternative Application Techniques~~—~~A~~Such other ~~a~~alternative application ~~t~~techniques for coatings may be used ~~m~~methods as are demonstrated to the APCO, using District-approved procedures, to be capable of achieving ~~w~~when the ~~a~~alternative technique is demonstrated to have a ~~T~~transfer ~~E~~efficiency at least ~~e~~equal ~~e~~equivalent to ~~m~~method (C)(4)(a)(v) ~~o~~one of the above methods, when used in such a manner that the parameters under which they were tested are permanent ~~f~~features of the application technique. Such alternative application techniques shall be approved in writing prior to use by the APCO. *[Derived from AVAQMD 1124(C)(5)(a-h)]*
- ~~(viii)~~ Approved air pollution control equipment under subsection (C)(5).

~~(3)~~ Closed Container Requirements

~~All VOC-containing materials, used or unused, including but not limited to surface coatings, thinners, cleanup solvents, or surface preparation materials shall be stored in closed containers and opened only during extraction or introduction of material for mixing, use or storage. *[Moved to (C)(3)]*~~

~~(5)~~ Control Equipment

~~(a) Owners and/or operators may comply with provisions of paragraphs (C)(1), (C)(2), and (C)(4) by using approved air pollution control equipment provided that the VOC emissions from such operations and/or materials are reduced in accordance with the following:~~

- ~~(i) The control device shall reduce emissions from an emission collection system by at least 95 percent (95%), by weight, or by reducing the output of the air pollution control device to less than 50 ppm calculated for carbon with no dilution.~~
- ~~(ii) The owner/operator demonstrates that the system collects at least 90 percent (90%), by weight, of the emissions generated by the sources of emissions. *[Moved and Modified from former (C)(1)(d). Derived from AVAQMD 1124(C)(6)]*~~

~~(6)~~ Prohibition of Solicitation of Violations

~~(a) A person shall not solicit or require any other person to use, in the District, any Aerospace Material or combination of Aerospace Materials to be applied to any Aircraft Component subject to the provisions of this rule that does not meet the limits and requirements of this rule. [Derived from AVAQMD Rule 1124(C)(7)(a)]~~

~~(b) The requirements of this paragraph shall apply to all written or oral agreements executed or entered into after [date of amendment]. [Derived from AVAQMD Rule 1124(C)(7)(b)]~~

~~(4) Labeling Requirements~~

~~(a) Each container of any coating, solvent or stripper subject to this rule shall display the date on which the contents were manufactured or a code indicating the date of manufacture. Each manufacturer of such coatings shall file with the District's APCO and the Executive Officer of the California Air Resources Board an explanation of each code.~~

~~(b) Each container of any coating, solvent or stripper subject to this rule shall have the VOC content displayed, either~~

~~(i) on the manufacturer's label. VOC content may be calculated using product formulation data, or may be determined using the test method in Section (F); or~~

~~(ii) on a product information sheet; or~~

~~(iii) on the product Material Safety Data Sheet (MSDS).~~

~~(c) Each container of any coating, solvent or stripper subject to this rule shall display the maximum VOC content of the coating, as applied. When thinning is recommended on the label for normal environmental and application conditions, the subsequent thinning shall not cause a coating, as applied, to exceed its applicable standard. This recommendation shall not apply to the thinning of coatings with water. [Provision removed. Required by other state and federal regulations.]~~

(D) Monitoring, and Recordkeeping and Reporting [Moved & modified from former (E). Included "Reporting" at the Request of USEPA. Retained "Monitoring" since there are testing requirements in this Section.]

(1) Recordkeeping.

Persons subject to this rule shall maintain the following records:

(a) Materials List Record – Maintain a current listing of all VOC-containing materials in use at their facility. This listing shall include:

(i) Material name and manufacturer identification;

(ii) Application method;

(iii) Material type/category and specific use instructions;

- (iv) Specific mixing ratio; and
- (v) Maximum VOC content as applied (including thinning solvents).

- (b) Technical Information Records – Current coating manufacturer specification sheets, Material Safety Data Sheets (MSDS) or current air quality data sheets, which list the VOC content of each material in use at their facility, shall be available for review on site.
- (c) Purchase Records – Maintain purchase records identifying the type or name and the volume of material purchased for each VOC-containing material.
- (d) Materials Usage Records
 - (i) If the facility uses exclusively coatings formulations compliant with Section (C), records may be maintained on a monthly basis.
 - (ii) Maintain on a daily basis a record of the volume, VOC content, and resulting VOC emissions of each VOC-containing material used. These records shall be summarized cumulatively on a monthly basis and for each calendar year.
 - (iii) Monthly volume-weighted averaging for non-compliant primer or topcoat or maskant coatings:

a. Averaging shall be within the coating class only. Averaging primers with topcoats, primers with maskants, or topcoats with maskants is prohibited under this subsection.

b. Averaging is permitted for uncontrolled coatings only, subject to requirements of (D)(1)(d)(iii)a. and (D)(1)(d)(iii)b. For purposes of this section uncontrolled means no control device is used to reduce emissions of VOCs from the operation.

c. Averaging may be on a process line or facility wide basis and is subject to record keeping requirements of (D)(1)(d)(ii).

d. Each averaging scheme shall be approved by the APCO prior to commencing operations and be included as a permit condition on the operating permit for the facility.

e. Averaging calculations are performed pursuant to the following formula:

$$G_a \equiv \frac{\sum_{i=1}^n (VOC)_{ei} V_{ei}}{C_{lves}}$$

Where:

- G_a ≡ Volume-weighted average mass of VOC per unit volume (lbs/gal) of coating (less water and exempt compounds) as applied, during each 30-day period.
- n ≡ number of coatings being averaged.
- $(VOC)_{ei}$ ≡ VOC content (lbs/gal) of coating i (less water and exempt compounds) as applied for the coatings being averaged.
- V_{ei} ≡ Volume (gal) of coating i as applied for the coatings being averaged.
- C_{lves} ≡ Total volume (gal) of all coatings (less water and exempt compounds) as applied for the coatings being averaged.

~~[Moved from former (B)(49)] [Averaging provisions removed from rule.]~~

(e) Cleaning Solvent Recordkeeping [Derived from CTG Model Rule.]

(i) For Aqueous and Semiaqueous ~~Hand-Wipe~~ Cleaning Solvents, maintain a list of materials used with corresponding water contents. [Removed "hand wipe" because model CTG rule says hand wipe cleaning must use aqueous cleaning solvents.]

(ii) For vapor pressure compliant Hand-Wipe cleaning solvents:

a. Maintain a current list of cleaning solvents in use with their respective vapor pressures or, for blended solvents, VOC composite vapor pressure.

b. Record cleaning solvent usage on a monthly basis.

(iii) For cleaning solvents with a vapor pressure greater than 45 mm Hg used in exempt hand-wipe cleaning operations:

a. Maintain a list of exempt hand-wipe cleaning operations.

b. Record cleaning solvent usage on a monthly basis.

(25) Add-on Emissions Control Equipment Records – Operators of Facilities that use non-compliant coating materials with compliance achieved through the operation of add-on emission control equipment shall:

(a) Maintain daily records of key operating and maintenance procedures.

(b) Utilize Compliance Assurance Monitoring, as approved by the APCO, to meet administrative and equipment operational requirements.

(c) If a control device is used, each owner/operator shall conduct an initial performance test to demonstrate compliance with the overall reduction efficiency specified in subsection ~~(C)(1)(d)(i)(C)(5)~~. For carbon adsorption systems, the initial performance test shall be used to establish the appropriate rolling average material balance period for determining compliance.

(3) Except for Specialty Coatings, any source that complies with the recordkeeping requirements of the Aerospace NESHAP, 40 CFR 63.752, is deemed to be in compliance with the requirements of (D)(1).

(46) Records Availability and Retention – All records required by this rule shall be retained for the previous five (5) year period and be available for inspection -upon request by the APCO or their designated representative.

(57) Any person or facility claiming to be exempt from Section (C) of this rule must comply with applicable Recordkeeping requirements to provide documentation for the claimed exempt status. [Moved & Modified from former (D)(1)].

(68) Any person or facility claiming exempt status must make, in writing, a certified Statement of Compliance to the District at the same time as the annual permit review/renewal or by March 1 of each calendar year for facilities not required to have permits to operate by the District. [Moved and Modified from former (D)(2)].

(E) Compliance Procedures and Test Methods [Moved and Modified from former (F)]

(1) Calculations

(a) For the purpose of determining compliance with VOC content limits specified in Section (C), grams of VOC per liter of Aerospace Material shall be determined by using the following formulas as applicable:

(i) For Aerospace Materials not containing reactive diluents, grams of VOC per liter of coating, less water and less Exempt Compounds shall be determined as follows:

$$\frac{\text{Grams of VOC per Liter of Coating, Less Water and Less Exempt Compounds}}{\text{Exempt Compounds}} = \frac{W_s - W_w - W_{es}}{V_m - V_w - V_{es}}$$

Where:

- W_s = Weight of volatile compounds, in grams.
- W_w = Weight of water, in grams.
- W_{es} = Weight of Exempt Compounds, in grams.
- V_m = Volume of material, in liters.
- V_w = Volume of water, in liters.
- V_{es} = Volume of Exempt Compounds, in liters.

(ii) For Aerospace Materials that contain reactive diluents, grams of VOC per liter of coating, less water and less Exempt Compounds shall be determined as follows:

$$\frac{\text{Grams of VOC per Liter of Coating, Less Water and Less Exempt Compounds}}{\text{Exempt Compounds}} = \frac{W_s - W_w - W_{es}}{V_m - V_w - V_{es}}$$

Where:

- W_s = Weight of volatile compounds evolved during curing and analysis, in grams.
- W_w = Weight of water evolved during curing and analysis, in grams.
- W_{es} = Weight of Exempt Compounds evolved during curing and analysis, in grams.
- V_m = Volume of material prior to reaction, in liters.
- V_w = Volume of water evolved during curing and analysis, in liters.
- V_{es} = Volume of Exempt Compounds evolved during curing and analysis, in liters.

(b) Total grams of VOC per liter of Aerospace Material shall be determined using the following formula:

$$\frac{\text{Grams of VOC per Liter of Coating}}{\text{Coating}} \equiv \frac{W_s - W_w - W_{es}}{V_m}$$

Where:

W_s \equiv Weight of volatile compounds, in grams.

W_w \equiv Weight of water, in grams.

W_{es} \equiv Weight of Exempt Compounds, in grams.

V_m \equiv Volume of material, in liters.

(c) The VOC composite partial pressure shall be determined as follows:

$$PP_c \equiv \frac{\sum_{i=1}^n \frac{W_i}{MW_i} \times VP_i}{\frac{W_w}{MW_w} + \frac{W_e}{MW_e} + \sum_{i=1}^n \frac{W_i}{MW_i}}$$

Where:

W_i \equiv Weight of the “i”th VOC compound, in grams.

W_w \equiv Weight of water, in grams.

W_e \equiv Weight of Exempt Compound, in grams

MW_i \equiv Molecular weight of the “i”th VOC compound, in grams per gram-mole.

MW_e \equiv Molecular weight of Exempt Compound, in grams per gram-mole.

PP_c \equiv VOC composite partial pressure at 20°C, in mm Hg.

VP_i \equiv Vapor pressure of the “i”th VOC compound at 20°C, in mm Hg.

[Moved and modified from former (B)(23)]

(2) VOC Content of Aerospace Materials

(a) To determine the physical properties of an Aerospace Material in order to perform the calculations in subsection (E)(1) , the following reference methods shall be used:

- (i) EPA Reference Method 24 (Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings, Code of Federal Regulations Title 40, Part 60, Appendix A).
 - a. Analysis done according to EPA Method 24 shall utilize ASTM Method D-2369-95 (Standard Test Method for Volatile Content of Coatings), referenced in EPA Method 24.
 - b. The exempt solvent content shall be determined using SCAQMD Test Methods 302-91 (Distillation of Solvents from Paints, Coatings and Inks, February 1993) and 303-91 (Determination of Exempt Compounds, August 1996) (SCAQMD “Laboratory Methods of Analysis for Enforcement Samples” manual) or;
 - (ii) SCAQMD Test Methods 302-91, 303-91, and 304-91 (Determination of Volatile Organic Compounds (VOC) in Various Materials, February 1996) (SCAQMD “Laboratory Methods of Analysis for Enforcement Samples” manual).
- (b) The following classes of compounds listed below will be analyzed as exempt compounds for compliance with ~~subdivision~~Section (C), only at such time as manufacturers specify which individual compounds are used in the coating formulations and identify the test methods, which, prior to such analysis, have been approved by the USEPA and the SCAQMD, that can be used to quantify the amounts of each Exempt Compound.
- (i) Cyclic, branched, or linear, completely fluorinated alkanes; cyclic, branched, or linear, completely fluorinated ethers with no unsaturations; cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

(3) Test Methods

- (a) Efficiency of the control device shall be determined according to EPA Method 25 (Determination of Total Gaseous Nonmethane Organic Emissions as Carbon), 25A (Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer), or SCAQMD Test Method 25.1 (Determination of Total Gaseous Non-Methane Organic Emissions as Carbon, February 1991) or SCAQMD Test Method 25.3 (Determination of Low Concentration Non-Methane Non-Ethane Organic Compound Emissions from Lean Fueled Combustion Sources, March 2000). Emissions determined to exceed any limits established by this rule through the use of either of the above-referenced test methods shall constitute a violation of this rule.

- (b) The capture efficiency of the emissions collection system shall be determined by the USEPA Method 204A (Volatile Organic Compounds in Liquid Input Steam), EPA Method 204B (Volatile Organic Compounds Emissions in Captured Steam), EPA Method 204C (Volatile Organic Compounds Emissions in Captured Steam (Dilution Technique)), EPA Method 204D (Volatile Organic Compounds Emissions in Uncaptured Stream from Temporary Enclosure), EPA Method 204E (Volatile Organic Compounds Emissions in Uncaptured Stream from Building Enclosure), and EPA Method- 204F (Volatile Organic Compounds Content in Liquid Input Stream (Distillation Approach)) and the most recent version of USEPA's Guidelines for Determining Capture Efficiency or any other method approved by the USEPA, the California Air Resources Board, and the SCAQMD.
- (c) The Transfer Efficiency of alternative coating application methods shall be determined in accordance with the SCAQMD method "Spray Equipment Transfer Efficiency Test Procedure for Equipment User," May 24, 1989.
- (d) The identity and quantity of components in solvents shall be determined in accordance with SCAQMD Test Method 308-91 (Quantitation of Compounds by Gas Chromatography) contained in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples" manual. The VOC composite partial pressure is calculated using the equation in subsection (E)(1)(c).
- (e) Multiple Test Methods
- (i) When more than one test method or set of test methods are specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of the rule.
- (f) Any applicable alternative test method may be used so long as such method has been approved by USEPA, CARB and the APCO.

(F) Administrative Requirements

(1) Rule 442 Applicability

- (a) Any Aerospace Material or facility which is exempt from all or a portion of this rule, shall comply with the provisions of Rule 442 – *Usage of Solvents*.

(DG) Exemptions

- ~~(1) Any person or facility claiming to be exempt from Section (C) of this rule must comply with applicable Recordkeeping requirements of Section (E) of this rule so as to provide documentation for the claimed exempt status. [Moved to (D)(7)]~~
- ~~(2) Any person or facility claiming exempt status must make, in writing, a certified Statement of Compliance to the District at the same time as the annual permit review/renewal or by March 1 of each calendar year for facilities not required to have permits to operate by the District. [Moved to (D)(8)]~~
- ~~(31) The provisions of Section (C)(1) shall not apply to any coatings Aerospace Materials with separate formulations that are used in volumes of less than 50-20 gallons in any calendar year, provided that the total volume of non-complying coatings used at a stationary source does not exceed 200 gallons annually. Coatings used for operations that are exempt per Sections (D)(4) and (D)(5) shall not be included in calculating the volume of coatings used under this exemption. [Derived from AVAQMD 1124(G)(1)]~~
- ~~(2) The provisions of subdivision Section (C) of this rule shall not apply to a facility which uses a total of less than three (3) gallons of VOC-containing Aerospace Materials on each and every day of operation. [Derived from AVAQMD 1124(G)(2)]~~
- ~~(3) The provisions of subsections (C)(1) and (C)(4) of this rule shall not apply to incidental corrosion maintenance Repair Coating operations at military Facilities, provided that the coating use at any maintenance repair location within the Facility does not exceed 1.5 gallons per day, and the total coating usage for such operations at the Facility does not exceed five (5) gallons per day. [Derived from AVAQMD 1124(G)(3)]~~
- ~~(4) The provisions of subparagraph section (C)(2)(a) shall not apply to Space Vehicle manufacturing. [Derived from AVAQMD 1124(G)(4)]~~
- ~~(5) The provisions of paragraph subsection (C)(1) shall not apply to clear or translucent coatings applied on clear or transparent substrates. [Derived from AVAQMD 1124(G)(5)]~~
- ~~(46) The provisions of Section-subsection (C)(24) shall not apply to Touch-up Operations and Stencil Coatings provided that the Touch-up Operations and Stencil Coatings do not exceed 25 sq. ft per aircraft. repair. [Derived from AVAQMD 1124(G)(6). See also (B)(98) and (B)(106)]~~
- ~~(5) The provisions of this rule shall not apply to coatings supplied in hand held aerosol containers. [Moved to (G)(15)]~~
- ~~(67) The provisions of subs Section (C)(1) shall not apply to the recoating of assembled Aircraft at Rework facilities if the original coatings formulations are used.~~

- (8) The provisions of this rule shall not apply to rework operations performed on Antique Aerospace Vehicles or components. [Derived from CTG.]
- (89) The provisions of paragraph (C)(1) shall not apply to Adhesives with separate formulations that are used in volumes of less than ten (10) gallons per year. [Derived from AVAQMD 1124(G)(8)]
- (9) ~~The provisions of paragraph (C)(1) shall not be applied to the application of materials marking coatings. [Derived from AVAQMD 1124(G)(9)] do not add....see part marking category~~
- (71010) The provisions of Section (C)(1) shall not apply to laboratories which apply ~~coatings~~ Aerospace Materials to test specimens for the purpose of research, development, quality control, and testing of production-related operations. [Standardize Terms]
- (11) The provisions of subsection (C)(2) do not apply to the surface cleaning of solar cells, fluid systems, avionic equipment, and laser optics. [Derived from AVAQMD Rule 1124 (G)(10).]
- (12) ~~The provisions of paragraph~~ following Hand-wipe solvent cleaning operations are exempt from the requirements of subsection (C)(2)(c): ~~of this rule do not apply to the surface cleaning of solar cells, fluid systems, avionic equipment, and laser optics. [Derived from AVAQMD 1124(G)(12)CTG model rule]~~
- (a) Cleaning during the manufacture, assembly, installation, maintenance, or testing of components of breathing oxygen systems that are exposed to the breathing oxygen;
 - (b) Cleaning during the manufacture, assembly, installation, maintenance, or testing of parts, subassemblies, or assemblies that are exposed to strong oxidizers or reducers (e.g., nitrogen tetroxide, liquid oxygen, hydrazine);
 - (c) Cleaning and surface activation prior to adhesive bonding;
 - (d) Cleaning of electronics parts and assemblies containing electronics;
 - (e) Cleaning of aircraft and ground support equipment fluid systems that are exposed to the fluid, including air-to-air heat exchangers and hydraulic fluid systems;
 - (f) Cleaning of fuel cells, fuel tanks, and confined spaces;
 - (g) Surface cleaning of coated optics, and thermal control surfaces;
 - (h) Cleaning during fabrication, assembly, installation, and maintenance of upholstery, curtains, carpet, and other textile materials used on the interior of the aircraft;
 - (h) Cleaning of metallic and nonmetallic materials used in honeycomb cores during the manufacture or maintenance of these cores, and cleaning of the completed cores used in the manufacture of aerospace vehicles or components;

- (i) Cleaning of aircraft transparencies, polycarbonate, or glass substrates;
 - (j) Cleaning and solvent usage associated with research and development, quality control, or laboratory testing;
 - (k) Cleaning operations, using nonflammable liquids, conducted within 5 feet of energized electrical systems. Energized electrical systems means any AC or DC electrical circuit on an assembled aircraft once electrical power is connected, including interior passenger and cargo areas, wheel wells and tail sections; and,
 - (l) Cleaning operations identified as essential uses under the Montreal Protocol for which the Administrator has allocated essential use allowances or exemptions in 40 CFR § 82.4.
- (13) The provisions of subdivision (D)(1) and (C)(4) shall not be applied to the application of materials that contain less than 20 g/L of VOC per liter of material. [Derived from AVAQMD 1124(G)(13)]
- (814) The provisions of (C)(14) shall not apply to the use of materials dispensed from airbrush application methods for stenciling, lettering or other identification markings when such markings cover less than 20 percent of the vehicle, part or product's exterior surface area. provided that the paint reservoir on the air brush is eight (8) ounces or less and that the total amount of coating used for Air Brush Operations at the Facility does not exceed five (5) gallons per year. [Derived from AVAQMD 1124(G)(14)]
- (15) The provisions of this rule shall not apply to Aerosol Coating Products. [Moved from former (D)(5)]

~~(E) Recordkeeping and Compliance Testing~~

~~Persons subject to this rule shall comply with the following requirements.~~

- ~~(1) Materials List Record—Maintain a current listing of all VOC-containing materials in use at their facility. This listing shall include:
 - ~~(a) material name and manufacturer identification;~~
 - ~~(b) application method;~~
 - ~~(c) material type and specific use instructions;~~
 - ~~(d) specific mixing ratio;~~
 - ~~(e) maximum VOC content as applied (including thinning solvents).~~~~
- ~~(2) Technical Information Records—Current coating manufacturer specification sheets, Material Safety Data Sheets (MSDS) or current air quality data sheets, which list the VOC content of each material in use at their facility, shall be available for review on site.~~

- ~~(3) — Purchase Records — Maintain purchase records identifying the type or name and the volume of material purchased for each VOC-containing material.~~
- ~~(4) — Materials Usage Records~~
- ~~(a) — If the facility uses exclusively coatings formulations compliant with Section (C), records may be maintained on a monthly basis.~~
- ~~(b) — Maintain on a daily basis a record of the volume, VOC content, and resulting VOC emissions of each VOC-containing material used. These records shall be summarized cumulatively on a monthly basis and for each calendar year.~~
- ~~(c) — Monthly volume-weighted averaging for non-compliant primer or topecoat or maskant coatings:~~
- ~~(i) — Averaging shall be within the coating class only. Averaging primers with topecoats, primers with maskants, or topecoats with maksants is prohibited under this subsection.~~
- ~~(ii) — Averaging is permitted for uncontrolled coatings only, subject to requirements of (E)(4)(c)(i) and (E)(4)(c)(ii). (Uncontrolled means when no control device is used to reduce emissions of VOCs from the operation).~~
- ~~(iii) — Averaging may be on a process line or facility wide basis and is subject to record keeping requirements of (E)(4)(b).~~
- ~~(iv) — Each averaging scheme shall be approved by the APCO prior to commencing operations and be included as a permit condition on the operating permit for the facility.~~
- ~~(v) — Calculations shall follow the formula in definition (B)(49) and procedures per (E)(4)(c).~~
- ~~(5) — Add-on Emissions Control Equipment Records — Operators of facilities that use non-compliant coating materials with compliance achieved through the operation of add-on emission control equipment shall:~~
- ~~(a) — maintain daily records of key operating and maintenance procedures.~~
- ~~(b) — utilize Compliance Assurance Monitoring, as approved by the APCO, to meet administrative and equipment operational requirements.~~
- ~~(c) — If a control device is used, each owner/operator shall conduct an initial performance test to demonstrate compliance with the overall reduction efficiency specified in Subsection (C)(1)(d)(i). For carbon adsorber systems, the initial performance test shall be used to establish the appropriate rolling average material balance period for determining compliance.~~

~~(6) — Records Availability and Retention — All records required by this rule shall be retained for the previous five year period and be available for inspection upon request by the APCO or their designated representative.~~

~~(F) — Test Methods~~

~~(1) — The VOC content of a coating, solvent or stripper shall be determined using EPA Reference Method 24, its constituent methods or an equivalent method approved by the District APCO, ARB and EPA. The determination of exempt compounds shall be performed in accordance with ASTM D 4457-85.~~

~~(2) — Compliance with Section (C)(1)(d) shall be determined by using ARB Method 100 or EPA Method 25 or a method determined to be equivalent and approved by the APCO, ARB, and EPA.~~

~~(3) — Compliance with Section (C)(1)(d) shall be based on EPA Guidelines for Developing Capture Efficiency Protocols from 55 FR 26865, June 29, 1990; or~~

~~EPA technical guideline document "Guidelines for Determining Capture Efficiency" as finalized 1/9/95; or~~

~~EPA technical guidance document "Revised Capture Efficiency Guidance for Control of Volatile Organic Compound Emissions" as finalized 2/7/95; or~~

~~EPA Source Test Method 204 and variations A, B, C, D, E, and F as revised 8/1/95.~~

~~(4) — MDAQMD recommends that Transfer Efficiency for Alternative Application Techniques (compliance with Section (C)(2)) be determined using South Coast Air Quality Management District Method "Spray Equipment Transfer Efficiency Test Procedure of Equipment User", May 24, 1989.~~

~~(5) — Compliance with Section (C)(1) shall be determined using ASTM D 2879-86, manufacturer's specified vapor pressure, or an accepted scientific reference.~~

~~(6) — Compliance with Section (B)(31), percent acid, shall be determined using ASTM method D-1613-85. [Moved to section (E)]~~

~~[SIP: Approved: 8/17/98, 63 FR 43884, 40 CFR 52.220(c)(242)(I)(A)(1)]~~

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Appendix “B”
Public Notice Documents

1. Draft Proof of Publication – Daily Press
2. Draft Proof of Publication – Riverside Press Enterprise

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NOTICE OF HEARING

NOTICE IS HEREBY GIVEN that the Governing Board of the Mojave Desert Air Quality Management District (MDAQMD) will conduct a public hearing on October 26, 2015 at 10:00 A.M. to consider the proposed amendment of Rule 1118 – *Aerospace Assembly, Rework and Component Manufacturing Operations*.

SAID HEARING will be conducted in the Governing Board Chambers located at the MDAQMD offices 14306 Park Avenue, Victorville, CA 92392-2310 where all interested persons may be present and be heard. Copies of proposed amended Rule 1118 – *Aerospace Assembly, Rework and Component Manufacturing Operations* and the Staff Report are on file and may be obtained from the Clerk of the Governing Board at the MDAQMD Offices. Written comments may be submitted to Eldon Heaston, Executive Director at the above office address. Written comments must be received no later than October 23, 2015 to be considered. If you have any questions you may contact Tracy Walters at (760) 245-1661 extension 6122 for further information. Traducción esta disponible por solicitud.

The Federal Clean Air Act (FCAA) requires areas designated nonattainment for ozone and classified moderate and above to adopt and maintain Reasonably Available Control Technology (RACT) rules for source categories emitting Volatile Organic Compounds (VOC) and oxides of nitrogen (NO_x) for which the USEPA has issued a CTG document. In addition, such areas are required to adopt and maintain RACT rules for all other major stationary sources of VOCs and NO_x (42 U.S.C. §7511a(b)(2); FCAA §182(b)(2)). For purposes of the FCAA, portions of the Mojave Desert have been designated non-attainment for the eight hour ozone standard and classified as Severe-17. On March 10, 1998 USEPA adopted a CTG entitled *Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations*. In addition, USEPA also has promulgated the Maximum Achievable Control Technology (MACT) Standard for Aerospace Manufacturing and Rework Facilities (40 CFR 63 Subpart GG, commencing with §63.741).

The MDAQMD is now amending Rule 1118 to include additional provisions at the request of USEPA to update the rule to conform to provisions of the CTG, MACT and to meet the requirements of federal RACT. The proposed amendments are primarily designed to update the specialty coating categories and definitions to harmonize with the CTG as requested by USEPA. VOC limits for specialty coatings have been updated to include categories in the CTG that were not covered by the original rule adoption. The proposed amendment also conforms the formatting to the standard MDAQMD rule format, removes several unused definitions, updates several definitions for consistency with the CTG, updates solvent use requirements, transfer efficiency requirements, control equipment requirements, monitoring, recordkeeping and reporting requirements, compliance procedures and test methods, exemptions, and cross references have been updated.

Pursuant to the California Environmental Quality Act (CEQA) the MDAQMD has determined that a Categorical Exemption (Class 8 – 14 Cal. Code Reg §15308) applies and has prepared a *Notice of Exemption* for this action.

Michele Baird
Clerk of the Board
Mojave Desert Air Quality Management District

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Pursuant to the California Environmental Quality Act (CEQA) the MDAQMD has determined that a Categorical Exemption (Class 8 – 14 Cal. Code Reg §15308) applies and has prepared a *Notice of Exemption* for this action.

Michele Baird
Clerk of the Board
Mojave Desert Air Quality Management District

Appendix “C”
Public Comments and Responses

1. Transmittal of EPA Rule Review Comments, February 5, 2015
2. Transmittal of EPA Rule Review Comments, September 4, 2015

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**United States Environmental
Protection Agency
Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901**

February 05, 2015

Transmittal of EPA Rule Review Comments

To: Eldon Heaston, Mojave Desert Air Quality Management District
eheaston@mdaqmd.ca.gov

Carol Sutkus, California Air Resources Board
csutkus@arb.ca.gov

From: Vanessa Graham,
graham.vanessa@epa.gov

Re: Mojave Desert Air Quality Management District (MDAQMD) Draft Rule 1118 Aerospace Assembly and Component Manufacturing Operations, submitted to EPA on December 11, 2014

We are providing comments based on our preliminary review of the draft rule identified above. Please direct any questions about our comments to me at (415) 947-4120 or to Andrew Steckel at (415) 947-4115.

(A) General

(1)(a) For consistency with 40 CFR 63 Subpart GG, we recommend revising this section to, “..aerospace assembly and rework operations...”

(2)(a) 40 CFR 63 Subpart GG distinguishes between commercial and civil aircraft. Please amend (2)(a) to, “The affected industries include commercial, civil and military...”

(B) Definitions

Please add a definition for Aqueous Cleaning Solvent, a term used in (D)(1)(e)(i), such as the definition from EPA’s Control Techniques Guideline (CTG), “A solvent which water is at least 80 percent of the solvent as applied.”

(95) Please modify the Stencil Coating definition similar to San Diego APCD Rule 67.9: “an ink or coating which is rolled, sprayed with an airbrush or a touch-up gun with a capacity of 8 oz (236.4 ml) or less, or brushed using a template to add identifying letters and/or numbers to aerospace components.”

(C) Requirements

(1)(a) Table

In the section of the table listing topcoat VOC limits, we recommend clarifying that the “Other” Category applies to “Other Topcoats.”

Several VOC limits in the 12/11/14 proposed draft are higher than limits in the 10/28/96 SIP-approved rule. Please retain the lower limits or demonstrate that these relaxations are consistent with CAA section 110(l) requirements.

1. Chemical Agent Resistant Coating (CARC) limit is 500 g/l in the SIP-approved rule; the draft revisions propose to increase the limit to 550 g/l.
2. High Temperature Coating limit is 720 g/l in the SIP-approved rule; the draft revisions propose to increase the limit to 850 g/l.
3. Rain Erosion-Resistant Coating limit is 600 g/l in the SIP-approved rule; the draft revisions propose to increase the limit to 800 g/l.
4. Structural Adhesive Non-autoclavable limit is 700 g/l in the SIP-approved rule, the draft revisions propose to increase the limit to 850 g/l.
5. Clear Topcoat was subject to the 420 g/l general topcoat limit in the SIP-approved rule; the draft revisions propose to increase the limit to 520 g/l.
6. Epoxy Polyamide Topcoat was subject to the 420 g/l general topcoat limit in the SIP-approved rule; the draft revisions propose to increase the limit to 660 g/l.

Neighboring agencies also have significantly lower VOC content limits for several other specialty coating categories. Please consider further strengthening Rule 1118 as follows:

1. Lowering the Adhesion Promoter Coating limit from 850 to 250 g/l consistent with SCAQMD Rule 1124.
2. Lowering the Flight Test Coating (All other) limit of 840 g/l to 600 g/l consistent with SJVUAPCD Rule 1124.
3. Lowering the Wing Coating limit of 750 g/l to 420 g/l consistent with VCAPCD Rule 74.13.

(D) Monitoring and Recordkeeping consider changing the title to **Recordkeeping and Reporting** consistent with the CTG.

(1)(d) EPA recommends deleting the emission averaging compliance option in the section titled “Material Usage Records.” However, if the district chooses to retain such an option, the following changes are recommended or needed.

We recommend moving the provisions to a new paragraph, perhaps titled, “emissions averaging.”

(1)(e) Please review equation below found in the current draft rule for accuracy. Some terms used in this equation do not match the defined terms.

$$G_a = \frac{\sum_{i=1}^n (VOC_i)(V_i)}{V_t}$$

(VOC) _i	=	VOC content (lbs/gal) of coating i (less water and exempt compounds) as applied for the coatings being averaged.
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V _i	=	Volume (gal) of coating i as applied for the coatings being averaged.
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Requirements for such averaging programs can be found on page 89 of EPA's "Improving Air Quality with Economic Incentive Programs," January 2001 EPA-452/R-01-001. <http://epa.gov/airquality/advance/pdfs/eipfin.pdf>

Key provisions from this guidance that are not apparent in the current draft rule 1118 include:

1. Emissions averaging generally requires a clear environmental benefit.
2. Programs generally should clarify that violations of a multi-day average emission limit are a violation for each day of the period.
3. Major stationary sources covered under an averaging program generally must have a title V operating permit that complies with the provisions outlined in 7.2(c) page 93.

(1)(e)(i) Cleaning Solvent Recordkeeping

Please modify for consistency with the CTG Model Rule such as: "For aqueous and semiaqueous hand-wipe cleaning..."

(E) Compliance Procedures and Test Methods

Consistent with EPA's "Little Bluebook", page 13, references to EPA-approved ASTM methods should include the full title and date of the version being specified. References to EPA-approved state or local methods should also include the full title. A list of EPA approved test methods for Region 9, complete with titles and dates can be found on the following link: <http://yosemite.epa.gov/r9/r9testmethod.nsf>. Additional information for updates for Federal Test Methods can be found under 40 CFR 6.17 Incorporation by Reference.

(G) Exemptions

(6) This paragraph addresses Touch-up Operations and Stencil Coatings but references (B)(67) and (B)(68), which do not seem related. Please correct if needed.

1. District response to USEPA comment, February 5, 2015 (Comments are bracketed and italicized)

(A) General

(1)(a) For consistency with 40 CFR 63 Subpart GG, we recommend revising this section to, “..aerospace assembly and rework operations...” [*“Rework” added to rule title and §(A)(1)(a).*]

(2)(a) 40 CFR 63 Subpart GG distinguishes between commercial and civil aircraft. Please amend (2)(a) to, “The affected industries include commercial, civil and military...” [*“Civil” added, although this term is not defined in CTG or this rule. 40 CFR 63 Subpart GG does distinguish between commercial, civil and military.*]

(B) Definitions

Please add a definition for Aqueous Cleaning Solvent, a term used in (D)(1)(e)(i), such as the definition from EPA’s Control Techniques Guideline (CTG), “A solvent which water is at least 80 percent of the solvent as applied.” [*(B)(14) defines “Aqueous Cleaning Solvent” and (B)(90) defines “Semiaqueous Cleaning Solvent.”*]

(95) Please modify the Stencil Coating definition similar to San Diego APCD Rule 67.9: “an ink or coating which is rolled, sprayed with an airbrush or a touch-up gun with a capacity of 8 oz (236.4 ml) or less, or brushed using a template to add identifying letters and/or numbers to aerospace components.” [*Definition has been modified as requested. There is also a limitation of 25 sq ft per aircraft for stencil coating in §(G)(6).*]

(C) Requirements

(1)(a) Table

In the section of the table listing topcoat VOC limits, we recommend clarifying that the “Other” Category applies to “Other Topcoats.” [*Added “Other” to the general topcoat category for clarification.*]

Several VOC limits in the 12/11/14 proposed draft are higher than limits in the 10/28/96 SIP-approved rule. Please retain the lower limits or demonstrate that these relaxations are consistent with CAA section 110(l) requirements.

1. Chemical Agent Resistant Coating (CARC) limit is **500 g/l** in the SIP-approved rule; the draft revisions propose to increase the limit to 550 g/l. [*SIP level retained.*]

2. High Temperature Coating limit is **720 g/l** in the SIP-approved rule; the draft revisions propose to increase the limit to 850 g/l. [*SIP level retained.*]

3. Rain Erosion-Resistant Coating limit is **600 g/l** in the SIP-approved rule; the draft revisions propose to increase the limit to 800 g/l. [*SIP level retained.*]

4. Structural Adhesive Non-autoclavable limit is **700 g/l** in the SIP-approved rule, the draft revisions propose to increase the limit to 850 g/l. [*SIP level retained.*]

5. Clear Topcoat was subject to the 420 g/l general topcoat limit in the SIP-approved rule; the draft revisions propose to increase the limit to 520 g/l. *[SIP level retained.]*

6. Epoxy Polyamide Topcoat was subject to the 420 g/l general topcoat limit in the SIP-approved rule; the draft revisions propose to increase the limit to 660 g/l. *[This was not an original SIP topcoat category. The CTG was adopted after the rule was adopted, and the MDAQMD believes it can be added as a new category with the CTG limit.]*

Neighboring agencies also have significantly lower VOC content limits for several other specialty coating categories. Please consider further strengthening Rule 1118 as follows:

1. Lowering the Adhesion Promoter Coating limit from 850 to 250 g/l consistent with SCAQMD Rule 1124. *[SCAQMD is an “Extreme” district and requires BACT. MDAQMD prefers to retain limit consistent with AVAQMD Rule, which is still lower than the CTG limit.]*

2. Lowering the Flight Test Coating (All other) limit of 840 g/l to 600 g/l consistent with SJVUAPCD Rule 1124. *[SJVUAPCD is an “Extreme” district and requires BACT. MDAQMD prefers to retain limit consistent with AVAQMD Rule, which is still lower than the CTG limit.]*

3. Lowering the Wing Coating limit of 750 g/l to 420 g/l consistent with VCAPCD Rule 74.13. *[VCAPCD does not have any source meeting the CTG threshold and as such, does not require a RACT rule. MDAQMD prefers to retain limit consistent with AVAQMD Rule, which is still lower than the CTG limit.]*

(D) Monitoring and Recordkeeping consider changing the title to **Recordkeeping and Reporting** consistent with the CTG. *[Included “Reporting”. Retained “Monitoring” since there are testing requirements in this Section.]*

(1)(d) EPA recommends deleting the emission averaging compliance option in the section titled “Material Usage Records.” However, if the district chooses to retain such an option, the following changes are recommended or needed. *[Removed emission averaging section.]*

We recommend moving the provisions to a new paragraph, perhaps titled, “emissions averaging.” *[N/A. Removed.]*

(1)(e) Please review equation below found in the current draft rule for accuracy. Some terms used in this equation do not match the defined terms. *[N/A. Removed.]*

$$G_a = \frac{\sum_{i=1}^n (VOC_i)(V_i)}{V_t}$$

(VOC) _i	=	VOC content (lbs/gal) of coating i (less water and exempt compounds) as
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		applied for the coatings being averaged.
V_i	=	Volume (gal) of coating i as applied for the coatings being averaged.

Requirements for such averaging programs can be found on page 89 of EPA's "Improving Air Quality with Economic Incentive Programs," January 2001 EPA-452/R-01-001. <http://epa.gov/airquality/advance/pdfs/eipfin.pdf>

[N/A. Removed.]

Key provisions from this guidance that are not apparent in the current draft rule 1118 include:

1. Emissions averaging generally requires a clear environmental benefit.
2. Programs generally should clarify that violations of a multi-day average emission limit are a violation for each day of the period.
3. Major stationary sources covered under an averaging program generally must have a title V operating permit that complies with the provisions outlined in 7.2(c) page 93.

(1)(e)(i) Cleaning Solvent Recordkeeping

Please modify for consistency with the CTG Model Rule such as: "For aqueous and semiaqueous hand-wipe cleaning..." *[See email dated 3/2/15 discussing the model rule inconsistencies section (c)(ii) dealing with aqueous and semiaqueous. This section expanded to include CTG model rule requirements for clarification.]*

(E) Compliance Procedures and Test Methods

Consistent with EPA's "Little Bluebook", page 13, references to EPA-approved ASTM methods should include the full title and date of the version being specified. References to EPA-approved state or local methods should also include the full title. A list of EPA approved test methods for Region 9, complete with titles and dates can be found on the following link: <http://yosemite.epa.gov/r9/r9testmethod.nsf>. Additional information for updates for Federal Test Methods can be found under 40 CFR 6.17 Incorporation by Reference. *[Updated with full date and titles.]*

(G) Exemptions

(6) This paragraph addresses Touch-up Operations and Stencil Coatings but references (B)(67) and (B)(68), which do not seem related. Please correct if needed. *[Corrected.]*

2. USEPA "No Comment" Letter, September 4, 2015

Alan De Salvio

From: Steckel, Andrew <Steckel.Andrew@epa.gov>
Sent: Tuesday, September 08, 2015 7:48 AM
To: Alan De Salvio; Sutkus, Carol@ARB
Cc: Graham, Vanessa; Drake, Kerry
Subject: EPA no comment on Mojave Rule 1118



United States Environmental
Protection Agency
Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901

September 04, 2015

Transmittal of EPA Rule Review Comments

To: Alan De Salvio, Mojave Desert Air Quality
Management District
adesalvio@mdaqmd.ca.gov

From: Carol Sutkus, California Air Resources Board
csutkus@arb.ca.gov
Andy Steckel
steckel.andrew@epa.gov

Re: Mojave Desert Rule 1118

Thank you for addressing our February 5, 2015 comment letter regarding Mojave Desert draft Rule 1118; Aerospace Assembly, Rework and Component Manufacturing Operations. We appreciate that you incorporated many of our comments in the updated draft Rule 1118, dated July 27, 2015. We have no additional comments at this time. Feel free to contact me at (415) 947-4115 or Vanessa Graham in this regard at (415) 947-4120.

2. District response to USEPA “No Comment” Letter, September 4, 2015

No comment necessary.

Appendix “D”
California Environmental Quality Act
Documentation

1. Draft Notice of Exemption – San Bernardino County
2. Draft Notice of Exemption – Riverside County

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NOTICE OF EXEMPTION

TO: County Clerk
San Bernardino County
385 N. Arrowhead, 2nd Floor
San Bernardino, CA 92415

FROM: Mojave Desert
Air Quality Management District
14306 Park Ave
Victorville, CA 92392-2310

X MDAQMD Clerk of the Governing Board

PROJECT TITLE: Amendments to MDAQMD Rule 1118 – *Aerospace Assembly, Rework and Component Manufacturing Operations.*

PROJECT LOCATION – SPECIFIC: San Bernardino County portion of the Mojave Desert Air Basin and Palo Verde Valley portion of Riverside County.

PROJECT LOCATION – COUNTY: San Bernardino and Riverside Counties

DESCRIPTION OF PROJECT: The Federal Clean Air Act (FCAA) requires areas designated nonattainment for ozone and classified moderate and above to adopt and maintain Reasonably Available Control Technology (RACT) rules for source categories emitting Volatile Organic Compounds (VOC) and oxides of nitrogen (NO_x) for which the USEPA has issued a CTG document. In addition, such areas are required to adopt and maintain RACT rules for all other major stationary sources of VOCs and NO_x (42 U.S.C. §7511a(b)(2); FCAA §182(b)(2)). For purposes of the FCAA, portions of the Mojave Desert have been designated non-attainment for the eight hour ozone standard and classified as Severe-17. On March 10, 1998 USEPA adopted a CTG entitled *Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations*. In addition, USEPA also has promulgated the Maximum Achievable Control Technology (MACT) Standard for Aerospace Manufacturing and Rework Facilities (40 CFR 63 Subpart GG, commencing with §63.741).

The MDAQMD is now amending Rule 1118 to include additional provisions at the request of USEPA to update the rule to conform to provisions of the CTG, MACT and to meet the requirements of federal RACT. The proposed amendments are primarily designed to update the specialty coating categories and definitions to harmonize with the CTG as requested by USEPA. VOC limits for specialty coatings have been updated to include categories in the CTG that were not covered by the original rule adoption. The proposed amendment also conforms the formatting to the standard MDAQMD rule format, removes several unused definitions, updates several definitions for consistency with the CTG, updates solvent use requirements, transfer efficiency requirements, control equipment requirements, monitoring, recordkeeping and reporting requirements, compliance procedures and test methods, exemptions, and cross references have been updated

NAME OF PUBLIC AGENCY APPROVING PROJECT: Mojave Desert AQMD

NAME OF PERSON OR AGENCY CARRYING OUT PROJECT: Mojave Desert AQMD

EXEMPT STATUS (CHECK ONE)

Ministerial (Pub. Res. Code §21080(b)(1); 14 Cal Code Reg. §15268)

Emergency Project (Pub. Res. Code §21080(b)(4); 14 Cal Code Reg. §15269(b))

X Categorical Exemption – Class 8 (14 Cal Code Reg. §15308)

REASONS WHY PROJECT IS EXEMPT: The proposed amendments to Rule 1118 are exempt from CEQA review because they will not create any adverse impacts on the environment. The proposed requirements in the amendment are more stringent because they will align specialty coating categories to those in the aerospace CTG by adding definitions and specialty coating categories that cannot be encompassed within existing rule categories. There are no increases to existing limits. Since there is no potential that the amendments might cause the release of additional air contaminants or create any adverse environmental impacts, a Class 8 categorical exemption (14 Cal. Code Reg. §15308) applies.

LEAD AGENCY CONTACT PERSON: Eldon Heaston **PHONE:** (760) 245-1661

SIGNATURE: _____ **TITLE:** Executive Director **DATE:** 10/26/2015

DATE RECEIVED FOR FILING:

NOTICE OF EXEMPTION

TO: Clerk/Recorder
Riverside County
3470 12th St.
Riverside, CA 92501

FROM: Mojave Desert
Air Quality Management District
14306 Park Ave
Victorville, CA 92392-2310

X MDAQMD Clerk of the Governing Board

PROJECT TITLE: Amendments to MDAQMD Rule 1118 – *Aerospace Assembly, Rework and Component Manufacturing Operations..*

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NAME OF PUBLIC AGENCY APPROVING PROJECT: Mojave Desert AQMD

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LEAD AGENCY CONTACT PERSON: Eldon Heaston **PHONE:** (760) 245-1661

SIGNATURE: _____ **TITLE:** Executive Director **DATE:** 10/26/2015

DATE RECEIVED FOR FILING:

Appendix “E” Bibliography

The following documents were consulted in the preparation of this staff report.

1. Control of Volatile Organic Compound Emissions from Coating Operations at Aerospace Manufacturing and Rework Operations, EPA-453/R-97-004, December 1997.
2. National Emissions Standards for Hazardous Air Pollutants for Source Categories: Aerospace Manufacturing and Rework, 40 CFR Part 63 Subpart GG.
3. Antelope Valley Air Quality Management District Rule 1124 – *Aerospace Assembly and Component Manufacturing Operations*, Amended August 20, 2013, and Final Staff Report Amendment to Rule 1124 – *Aerospace Assembly and Component Manufacturing Operations*, Adopted August 20, 2013.
4. South Coast Air Quality Management District Rule 1124 – *Aerospace Assembly and Component Coating Operations*, Amended 01/06/1984.
5. MDAQMD Rule 1118 – *Aerospace Vehicle Parts and Products Coating Operations*, September 28, 1996.
6. 49 FR 42957, October 25, 1984.
7. 50 FR 3338, January 24, 1985.
8. 63 FR 43884, August 17, 1998.

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