Eastern Kern Air Pollution Control District

RULE 410.4
METAL, PLASTIC, AND PLEASURE CRAFT PARTS AND PRODUCTS COATING OPERATIONS

FINAL STAFF REPORT

March 13, 2014

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I. BOARD ADOPTION

Rule 410.4, Metal, Plastic, and Pleasure Craft Parts and Products Coating Operations was amended by the Eastern Kern Air Pollution Control District (District)'s Governing Board on March 13, 2014 at its regular Board meeting in Rosamond California.

Amended Rule 410.4 became effective and enforceable upon adoption. A copy of the Rule has been submitted to the California Air Resources Board (ARB) for their review and then to be forwarded to the U.S. Environmental Protection Agency (EPA) for inclusion into the State Implementation Plan (SIP).

II. INTRODUCTION

Rule 410.4 was originally adopted June 26, 1979 and amended April 11, 1991, July 12, 1993, March 4, 1995, March 7, 1996, and March 13, 2014. This staff report presents an extensive revision of the Rule. Amended Rule 410.4 limits volatile organic compound (VOC) emissions from the coating of metal parts and products, large appliances parts and products, metal furniture, plastic parts and products, automotive transportation and business machine plastic parts and products, and pleasure crafts. The Rule also limits VOC emissions associated with cleaning, storage, and disposal of organic solvents and waste solvent materials associated with such coating operations.

On November 6, 2013 the District held a public rule development workshop at the Mojave Veteran's Building in Mojave, CA. At this workshop District staff presented proposed revisions to Rule 410.4, Metal, Plastic, and Pleasure Craft Parts and Products Coating Operations. The District submitted copies of the proposed revision to ARB and EPA for an initial review prior to the workshop. A 30-day public review and comment period followed the workshop.

District received comments and suggested changes from EPA, ARB, and industry. District considered all comments and suggested changes

Appendix A is Amended Rule 410.4, Metal, Plastic, and Pleasure Craft Parts and Products Coating Operations.

Appendix B shows all changes made to Rule 410.4, Metal, Plastic, and Pleasure Craft Parts and Products Coating Operations in strikeout underline form.

Appendix C is the District's Response to Comments following the November 6, 2013 public workshop held at the Mojave Veteran's Center in Mojave, CA.

III. APPLICABILITY

Amended Rule 410.4 updates the previous rule title from *Surface Coating of Metal Parts and Products* to Metal, Plastic, and Pleasure Craft Parts and Products Coating Operations in order to include plastic parts and products and pleasure craft coating operations. Provisions of Rule 410.4 shall apply to surface coating of metal parts or products, large appliances parts or products, metal furniture, and plastic parts or products including automotive, transportation, and business machine, and pleasure crafts, and to the cleaning, storage, and disposal of all organic solvents and waste solvent materials associated with such coating operations.

IV. CTG FOR MISCELLANEOUS METAL AND PLASTIC COATINGS

In September 2008, EPA promulgated a Control Techniques Guidelines (CTG) for Miscellaneous Metal and Plastic Parts Coatings (EPA-453/R-08-003, September 2008). The CTG contains Reasonably Available Control Technology (RACT) guidelines and recommendations, including VOC content limits, specific exemptions, and recommended work practice procedures, for coatings applied on miscellaneous metal and plastic parts and products, business machine plastic parts, and metal and plastic parts of pleasure crafts.

Clean Air Act (CAA) section 172(c)(1) provides that SIPs for nonattainment areas must include “reasonably available control measures” (RACM), including RACT, for sources of emissions. Section 182(b)(2)(A) provides that for certain nonattainment areas, States must revise their SIPs to include RACT for each category of VOC sources covered by a CTG document issued between November 15, 1990 and the date of attainment.

In order to promote regulatory uniformity throughout Kern County, amendments to Rule 410.4 are based on EPA's 2008 CTG for Miscellaneous Metal and Plastic Parts Coatings and San Joaquin Air Pollution Control District's (SJVAPCD) Rule 4603, Surface Coating of Metal Parts and Products, Plastic Parts and Products, and Pleasure Crafts amended September 17, 2009.

V. EXEMPTIONS

None of the previous exemptions were deleted from Rule 410.4 and many new exemptions have been added. See Section IV, Exemptions of Appendix.

VI. VOC CONTENT LIMITS

The previous (1996) version of Rule 410.4 included one set of VOC content limits specifically for metal parts and products surface coatings. The revision includes VOC content limits for the following three categories:

- Metal Parts and Products Coatings (Table 1)
- Plastic Parts and Products Coatings (Table 2)
- Pleasure Craft Coatings (Table 3)

Table 1 details maximum VOC content limits for miscellaneous metal parts and products, large appliance parts and products and metal furniture coatings.

Table 2 is divided into three sections. The top section details maximum VOC content limits for plastic parts and products coatings; the middle section details maximum VOC content limits for automotive/transportation plastic parts and products coatings; the bottom section details maximum VOC content limits for business machine plastic parts and products coatings.

Table 3 details maximum VOC content limits for pleasure craft coatings.

All VOC content limits are expressed in grams per liter and (pounds per gallon) less water and exempt compounds. See Table 1, Table 2, and Table 3 located under Section V, Requirements of Appendix A, for complete lists of Coating Categories and their associated VOC content limits.

VII. SOLVENTS

For purpose of this rule, solvents are defined as any liquid containing an organic compound or combination of organic compounds used as diluent, thinner, dissolver, viscosity reducer, cleaning agent, or other similar uses. These liquids are principally derived from petroleum and include petroleum distillates, chlorinated hydrocarbons, chlorofluorocarbons, ketones, and alcohols. Solutions, emulsions, and dispersions of water and soap, or water and detergent, are not considered organic solvents. Soaps and detergents are considered water based surfactants.

Solvents used for cleaning of coatings application equipment remains the same with a VOC content limit of 950 grams or less per liter (7.9 lb/gal) of material and with a VOC composite partial pressure of 35 mm Hg or less at 20/C (68/F). The District has retained this limit largely because the equipment cleaning methods require solvents to be contained in a closed system. However, surface preparation solvents have a revised VOC limit that shall not exceed 25 g/l (0.2 lb/gal).

The 25 g/l limit is the lowest VOC content limit that is technologically and commercially feasible and has been since January 1, 2009. 25 g/l VOC content

can be achieved through the use of exempt compounds. Many air districts require solvents in various coating operation rules to meet the 25 g/l VOC content limit.

VIII. CHANGES IN CATEGORIES AND DEFINITIONS

To enhance clarity, enforcement, and to limit the types of products that qualify for inclusion into each specific category, Section III of the amended Rule provides definitions for revised and new terms that are not self-explanatory.

Definitions for the following items have been revised in 410.4:

- Brush Coating
- Business Machine
- Coating
- Continuous Coating
- Dip Coating
- Electrodeposition
- Electrostatic Spray Application
- Exempt Compounds
- Extreme Performance Coating
- Flow Coating
- High Temperature Coating
- High Volume, Low Pressure (HVLP)
- Light-Duty Truck
- Marine Vessel
- Pretreatment Coating or Pretreatment Wash Primer
- Roll Coating
- Touch Up Coating
- Volatile Organic Compound (VOC)

Definitions for the following items have been added to 410.4:

- Adhesive
- Aerosol Coating
- Antifoulant Coating
- Antifouling Sealer/Tie Coat
- APCO
- Application Equipment
- ASTM
- Basecoat/Clearcoat
- Business Machine
- California Air Resources Board (CARB or ARB)
- Clearcoat
- Coating of Plastic Parts of Automobiles and Trucks
- Coating of Plastic Parts of Business Machines
- Dissolver
- Electric Dissipating Coating
- EMI/RFI Shielding
- Emission Control System
- Mold Seal Coating
- Motor Vehicle
- Multi-Component Coating
- Non-Absorbent Container
- Non-Leaking Container
- Non-Structural Adhesive
- Normal Business Hours
- Optical Coating
- Organic Solvent
- Organic Solvent Cleaning
- Plastic Part
- Pleasure Craft
- Pleasure Craft Coating
- Shock-Free Coating
- Single Pack (1K)
- Solid Film Lubricant
- Solvent
- Stencil Coating
- Stripping

- EPA
- Extreme High Gloss Coating
- Fog Coating
- Finish Primer/Surfacer
- High Build Primer/Surfacer
- Mask Coating
- Metal Furniture
- Metallic/Iridescent Coating
- Military Specification Coating
- Surface Preparation
- Transfer Efficiency
- Thinner
- Texture Coating
- Topcoat
- Two-Pack System (2K)
- Vacuum Metalizing/Physical Vapor Deposition (PVD)

IX. CHANGES IN REQUIREMENTS

As noted in Section VI, VOC Content Limits of this Staff Report, the revision includes VOC content limits for the following three substrate categories; Metal Parts and Products Coatings (Table 1); Plastic Parts and Products Coatings (Table 2); and Pleasure Craft Coatings (Table 3). Except as provided in Subsections V.E. or V.K. of Rule 410.4, no person shall apply a coating to any metal parts or products, large appliances parts or products, metal furniture, and plastic parts or products including automotive, transportation, and business machine, or pleasure crafts with a VOC regulatory content, as calculated pursuant to Section III.JJ., in excess of the limits expressed in *Table 1, Table 2, or Table 3*. See Section V, Requirements of Appendix A for complete details.

Sections V.A., V.C., and V.D. apply to any stationary source with total actual VOC emissions from all metal parts and products, plastic parts and products, automotive/transportation and business machine plastic parts and products, or pleasure craft coating operations, including related cleaning activities, before consideration of controls, equal to or greater than 2.7 tons per calendar.

If total actual VOC emissions are less than 2.7 tons per calendar year, before consideration of controls, source shall comply with applicable recordkeeping requirements of Section VI.B. and demonstrate VOC emissions regulated by this Rule are less than 2.7 tons.

The following requirements have been added to Rule 410.4:

- VOC Content Limit for Dip coating of steel joists (SIC 3441), air-dried:

    1. 340 g/l (2.8 lbs/gal) for coatings with a viscosity, as applied, of more than 45.6 centistokes at 78°F or an average dry-film thickness of greater than 2.0 mils;

    2. 400 g/l (3.32 lbs/gal) for coatings with a viscosity, as applied, of less than or equal to 45.6 centistokes at 78°F and an average dry film thickness of less than or equal to 2.0 mils.

- Section V.F.4. Spray gun: If a spray gun is used, the end user must demonstrate that the gun meets the HVLP definition in Section IV.V in design and use. A satisfactory demonstration must be based on the manufacturer's published technical material on the design of the gun and by a demonstration of the operation of the gun using an air pressure tip gauge from the manufacturer of the gun.

- Section V.G.1. VOC content of surface preparation solvent shall not exceed 25 g/l (0.2 lb/gal), as calculated pursuant to Section III.KK., unless such cleaning operation is performed within the control of an APCO approved VOC emission control system that meets the requirements of Section V.E.

- Section V.K. Sell-Through/Existing Stock of Coatings: A coating manufactured prior to amendment date of this rule, that complied with the VOC Content limit(s) in effect at that time, may be sold, supplied, or offered for sale for 12 months after rule adoption date. Such a coating may be applied at any time, both before and after adoption date, provided manufacture Date-Code and VOC Content is clearly printed on coating container.

The following requirements of Rule 410.4 have been revised:

- Alternate Emission Control has been revised from: ~~*In lieu of complying with VOC content limits specified in subsections IV.A. and IV.B., air pollution control equipment with a capture efficiency of at least 85% and a control efficiency of at least 90% may be used.*~~ To*: Alternate Emissions Control: In lieu of complying with VOC content limits specified in Tables 1, 2, and 3, an emission control system with a capture efficiency of at least 90% and a control efficiency of at least 90% may be used if it has been approved in writing by the APCO. Any approved emission control system must be maintained and used in proper working condition at all times. Use of a VOC emission control system shall not result in emissions in excess of those that would have been emitted had the operator complied with the provisions of Section V.A, B, C or D.*

- Application Equipment Requirements has been revised from: ~~*No person shall coat any metal part or product subject to provisions of this Rule unless one of the following methods is used:*~~ To: *Coating Application Methods: No person shall apply any coating to any metal part or product, large appliance part or product, metal furniture, plastic part or product, automotive/transportation and business machine plastic part or product, or pleasure craft subject to provisions of this Rule unless one of the following application methods is used:*

- Other application method has been revised from: ~~*Other application method demonstrated to achieve at least 65% transfer efficiency, for example, flow or continuous coating.*~~ To: *Other Any alternative coating*

application method which has been demonstrated to achieve at least 65% transfer efficiency or equivalent efficiency of an HVLP and approved, in writing, by the EPA and APCO., for example, flow or continuous coating.

- Storage and Disposal Requirements has been revised from: ~~*Regardless of VOC content, all VOC-containing materials used in solvent cleaning operations shall be stored in non-absorbent, vapor-tight containers that are kept closed at all times except when filling or emptying.*~~ To: *Regardless of VOC content, all VOC-containing materials used in solvent cleaning operations shall be stored in non-absorbent, vapor-tight containers that are kept closed at all times except when filling or emptying.*

The following requirements of Rule 410.4 have been deleted:

1. ~~*Surface Cleaning: No material shall be used containing VOC in excess of 200 grams per liter (1.7 lb/gal) of material to remove dirt, oils, or other contaminants prior to application of surface coatings or adhesives.*~~
2. ~~*Stripping: No material shall be used containing VOC in excess of 200 grams per liter (1.7 lb/gal) of material to strip any coating.*~~
4. ~~*Cleaning of Polyester Resin Application Equipment: Solvents used for cleaning polyester resin application equipment shall comply with one of the limits specified below:*~~
   a. ~~*Solvent shall have a VOC content of 200 grams or less per liter (1.7 lb/gal); or*~~
   b. ~~*Solvent shall have a VOC content of 1100 grams or less per liter (9.2 lb/gal) and a VOC composite partial pressure of 1.0 mm Hg or less at 20/C (68/F)*~~

X. ADMINISTRATIVE REQUIREMENTS

Rule 410.4 contains an extensive revision of the Administrative Requirements section. Please see Section VI, Administrative Requirements of Appendix A for complete details and Section VI, Administrative Requirements of Appendix B for strikeout underline changes.

XI. TEST METHODS

Rule 410.4 contains an extensive revision of the Test Methods section. Please see Section VII, Test Methods of Appendix A for complete details and Section VII, Test Methods of Appendix B for strikeout underline changes.

XII. ECONOMIC IMPACTS

Pursuant to California Health & Safety Code (CH&SC) §40920.6(a), the District is required to analyze the cost effectiveness of new rules or rule amendments that

implement Best Available Retrofit Control Technology (BARCT) or all feasible measures. Amended Rule 410.4 employs federal RACT requirements but not BARCT or all feasible measures, and is therefore not subject to the cost effectiveness analysis mandate.

XIII. ENVIRONMENTAL IMPACTS

Both the California Environmental Quality Act (CEQA) and ARB policy require an evaluation of the potential adverse environmental impacts of proposed projects. The intent of Rule 410.4 is to protect public health by reducing the public's exposure to potentially harmful VOC emissions. An additional consideration is the impact that the amended rule may have on the environment. District has determined that no significant adverse environmental impacts should occur as a result of Amended Rule 410.4.

Pursuant to the Section 15061, Subsections (2) & (3) of the CEQA Guidelines, staff will prepared and file a Notice of Exemption for this project upon adoption.

XIV. SOCIOECONOMIC IMPACTS

CHSC Section 40728.5 exempts districts with a population of less than 500,000 persons from the requirement to assess the socioeconomic impacts of adopting rules. Eastern Kern County population is below 500,000 persons.

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APPENDIX A:

AMENDED RULE 410.4

METAL, PLASTIC, AND PLEASURE CRAFT

PARTS AND PRODUCTS COATING OPERATIONS

RULE 410.4 Metal, Plastic, and Pleasure Craft Parts and Products Coating Operations - Adopted 6/26/79, Amended 4/11/91, 7/12/93, 4/6/95, 3/7/96, 3/13/14

I. Purpose

The purpose of this rule is to limit volatile organic compound (VOC) emissions from the coating of metal parts and products, large appliances parts and products, metal furniture, plastic parts and products, automotive/transportation and business machine plastic parts and products, and pleasure crafts, and from cleaning, storage, and disposal of organic solvent solvents and waste solvent materials associated with such coating operations.

II. Applicability

Provisions of this Rule are enforceable upon amendment date and shall apply to surface coating of metal parts or products, large appliances parts or products, metal furniture, and plastic parts or products including automotive, transportation, and business machine, and pleasure crafts, and to the cleaning, storage, and disposal of all organic solvents and waste solvent materials associated with such coating operations.

III. Definitions

A. Adhesive: A substance that is used to bond one surface to another.

B. Aerosol Coating: A mixture of pigments, resins, and liquid and gaseous solvents and propellants packaged in a disposable container for hand-held application.

C. Aerospace Vehicle: Any complete aircraft, helicopter, missile, or space vehicle.

D. Air Dried Coating: Curing or drying a coating by heating the coated object above ambient temperature, but below a maximum of 90°C (194°F).

E. Antifoulant Coating: A coating applied to the underwater portion of a pleasure craft to prevent or reduce the attachment of biological organisms, and registered with the EPA as a pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act (7 United States Code Section 136, et seq).

F. Antifouling Sealer/Tie Coat: A coating applied over Biocidal antifouling coating for the purpose of preventing release of biocides into the environment and/or to promote adhesion between an antifouling and a primer or other antifoulings.

G. APCO: Air Pollution Control Officer of the Eastern Kern Air Pollution Control District.

H. Application Equipment: A device used to apply or prepare a coating material for application.

I. ASTM: American Society for Testing and Materials.

J. Baked Coating: Curing or drying a coating by heating the coated object above ambient temperature to a temperature at, or above 90°C (194°F).

K. Basecoat/Clearcoat: A two-step topcoat system in which a highly pigmented, often metallic, basecoat is followed by a clearcoat, resulting in a finish with high gloss

L. Brush Coating: Manual application of coatings using brushes and rollers.

M. Business Machine: A device that uses electronic or mechanical methods to process information, perform calculations, print or copy information or convert sound into electrical impulses for transmission, and photocopy machines

N. California Air Resources Board (CARB or ARB): Air Resources Board of the California Environmental Protection Agency.

O. Camouflage Coating: A coating applied on military equipment intended to conceal such equipment from detection.

P. Clearcoat: A coating that contains no pigments and is labeled and formulated for application over a color coating or clear coating..

Q. Coating: A material applied onto or impregnated into a substrate for protective, decorative, or functional purposes.

R. Coating of Plastic Parts of Automobiles and Trucks: Coating of any plastic part that is or shall be assembled with other parts to form an automobile or truck.

S. Coating of Plastic Parts of Business Machines: Coating of any plastic part that is or shall be assembled with other parts to form a business machine.

T. Coils: Metal sheets or strips rolled into coils for further industrial or commercial use.

U. Continuous Coating: An enclosed coating system where spray nozzles coat metal parts and products as they are conveyed through the enclosure. Water wash zones control the inlet and outlet of the enclosure and excess coating drains into a recirculation system.

V. Dip Coating: The process in which a substrate is immersed in a solution (or dispersion) containing the coating and then withdrawn.

W. Dissolver: An organic solvent that is added to an adhesive, coating, or ink in order to melt or to liquefy solid particles.

X. Electric Dissipating Coating: A coating that rapidly dissipates a high-voltage electric charge.

Y. Electrodeposition: A dip coating application method where the paint solids are given an electrical charge which is then attracted to a substrate.

Z. Electrostatic Spray Application: Any method of spray application of coatings where an electrostatic attraction is created between the part to be coated and the paint particles.

AA. EMI/RFI Shielding: A coating used on electrical or electronic equipment to provide shielding against electromagnetic interference, radio frequency interference, or static discharge.

BB. Emission Control System: Any combination of capture systems and control devices used to reduce VOC emissions from automotive coating operations.

CC. EPA: The United States Environmental Protection Agency.

DD. Exempt Compounds: As defined in District Rule 102, Definitions, "Exempt Compounds".

EE. Extreme High Gloss Coating: A coating that, achieves at least 95% reflectance on a 60 degree meter when tested by ASTM Method D-523-89.

FF. Extreme Performance Coating: Coating used on surface of metal parts or products, intended, during use, to be exposed to salt water, corrosives, caustics, acids, oxidizing agents, electromagnetic pulse, wind or ocean driven debris, repeated abrasion, mechanical wear, or temperatures consistently in excess of 250°F.:

GG. Flow Coating: A coating application system with no air supplied to the nozzle and where paint flows over the part and the excess coating drains back into a collection system.

HH. Fog Coating: A coating that is applied to a plastic part for the purpose of color matching without masking in a molded-in texture. A fog coat shall be applied to a thickness of more than 0.5 mils of coating solids.

II. Finish Primer/Surfacer: A coating applied with a wet film thickness of less than 10 mils or more prior to the application of a topcoat for purposes of providing corrosion resistance, adhesion of subsequent coatings, or moisture barrier, or promoting a uniform surface necessary for filling in surface imperfections.

JJ. Grams of VOC per Liter of Coating, Less Water and Exempt Compounds: The weight of VOC content per combined volume of VOC and coating solids and can be calculated by the following equation:

$$\text{Grams of VOC per liter of coating, less water and exempt compounds} = \frac{Ws - Ww - Wec}{Vm - Vw - Vec}$$

Where:

Ws	=	weight of volatile compounds (grams)
Ww	=	weight of water (grams)
Wec	=	weight of exempt compounds (grams)
Vm	=	volume of material (liters)
Vw	=	volume of water (liters)
Vec	=	volume of exempt compounds (liters)

KK. Grams of VOC per Liter of Material: The weight of VOC per volume of material and can be calculated by the following equation:

$$\text{Grams of VOC per liter of material} = \frac{Ws - Ww - Wec}{Vm}$$

Where:

Ws = weight of volatile compounds (grams)
Ww = weight of water (grams)
Wec = weight of exempt compounds (grams)
Vm = volume of material (liters)

LL. Heat Resistant Coating: A coating designed during normal use to withstand temperatures of at least 204°C (400°F).

MM. High Build Primer/Surfacer: A coating applied with a wet film thickness of 10 mils or more, prior to the application of a topcoat, for purposes of providing corrosion resistance, adhesion or subsequent coatings, or a moisture barrier, or promoting a uniform surface necessary for filling in surface imperfections.

NN. High Performance Architectural Coating: A coating used to protect architectural subsections meeting requirements of Architectural Aluminum Manufacturers Association publication number AAMA 605.2-1980.

OO. High Temperature Coating: Any coating that is certified to withstand temperatures of at least 538°C (1000°F) for 24 hours.

PP. High Volume, Low Pressure (HVLP): Spray equipment permanently labeled as such and which is designed and operated between 0.1 and 10 pounds per square inch, gauge, (psig) air atomizing pressure measured dynamically at the center of the air cap and at the air horns and with liquid supply pressure less than 50 psig.

QQ. Light-Duty Truck: Any truck, van, sport utility vehicle, or motor vehicle having a manufacturer's gross vehicle weight rating less than 6,001 pounds.

RR. Magnet Wire: Wire used in establishing electromagnetic field in equipment such as transformers, motors, generators, and magnetic tape recorders.

SS. Marine Vessel: Any tugboat, tanker, freighter, passenger ship, barge, or other boat, ship, or watercraft, including both salt water and fresh water vessels.

TT. Mask Coating: A thin film coating applied through a template to coat a small portion of a substrate.

UU. Metal Containers or Closures: The interior or exterior of formed metal cans, drums, pails, or crowns; or flat metal sheets intended to be formed into cans, drums, pails, lids, or crowns.

VV. Metal Furniture: Includes, but is not limited to, the following types of products: household, office, institutional, laboratory, hospital, public building, restaurants, barber and beauty shop, and dental furniture, as well as components of these products. It also includes office and store fixtures, partitions, shelving, lockers, lamps, and lighting fixtures, and wastebaskets

WW. Metallic/Iridescent Coating: Any coating which contains more than 5.0 g/l (0.042 lb/gal) of metal or iridescent particles, as applied, where such particles are visible in the dried film.

XX. Metal Parts and Products: Any components or complete unit fabricated from metal, except those subject to coating requirements of other source-specific Rules.

YY. Military Specification Coating: A coating which has a formulation approved by the United States Military Agency for use on military equipment.

ZZ. Mold Seal Coating: The initial coating applied to a mold to provide a smooth surface which, when coated with a mold release coating, prevents products from sticking to the mold.

AAA. Motor Vehicle: As defined in Rule 102, Definitions.

BBB. Multi-Component Coating: A coating requiring the addition of a separate reactive resin, commonly known as a catalyst or hardener, before application to form an acceptable dry film.

CCC. Non-Absorbent Container: A container made of non-porous material that does not allow the migration of solvents through it.

DDD. Non-Leaking Container: A container without liquid leak.

EEE. Non-Structural Adhesive: An adhesive that bonds non-load carrying aircraft component in non-critical applications.

FFF. Normal Business Hours: Monday through Friday, 8:00 am to 5:00 pm.

GGG. Optical Coating: A coating applied to optical lenses.

HHH. Organic Solvent: The same as “Solvent.”

III. Organic Solvent Cleaning: As defined in Rule 410.3, Organic Solvent Degreasing Operations.

JJJ. Plastic Part: A piece made from a substance that has been formed from resin through the application of pressure or heat or both.

KKK. Pleasure Craft: Marine vessels which are manufactured or operated primarily for recreational purposes, or leased, rented, or chartered to a person or business for recreational purposes. The owner or operator of such vessel shall be responsible for certifying that the intended use is for recreational purposes.

LLL. Pleasure Craft Coating: Any marine coating, except unsaturated polyester resin (fiberglass) coatings, applied by brush, spray, or roller, or other means to a pleasure craft.

MMM. Powder Coating: Coating applied without solvent or other carrier as a dry, finely divided solid, adhering to a substrate as a paint film when melted and fused.

NNN. Pretreatment Coating or Pretreatment Wash Primer: Any coating which contains no more than 25 percent solids by weight, and a minimum of 0.1 percent acid by weight, necessary to provide surface etching, and is applied directly to metal or fiberglass surfaces to provide corrosion resistance and adhesion of subsequent coatings.

OOO. Repair: Recoating portions of previously coated metal parts or products to cover mechanical damage to the coating following normal painting operations.

PPP. Roll Coating: Application of coatings from a paint trough to a flat surface by mechanical series of rollers.

QQQ. Shock-Free Coating: A coating applied to electrical components to protect the user from electric shock. The coating has characteristics of having a low capacitance and high resistance, and being resistance to breaking down under a high voltage.

RRR. Silicone Release: A coating containing silicone resin and having as its primary function the release of food products from metal surfaces such as baking pans.

SSS. Single Pack (1K): A coating that comes as a ready to use product which, after application, will physically dry from the evaporation of solvents.

TTT. Solar Absorbent Coating: A coating having as its primary purpose the absorption of solar radiation.

UUU. Solid Film Lubricant: A very thin coating consisting of a binder system containing as its chief pigment material one (1) or more of the following: molybdenum disulfide, graphite, polytetrafluoroethylene (PTFE) or other solids that act as a dry lubricant between closely-fitting surfaces.

VVV. Solvent: As defined in Rule 410.3, Organic Solvent Degreasing Operations.

WWW. Specialty Coating: A coating necessary due to unusual job performance requirements, including, but not limited to, adhesion promoters, uniform finish blenders elastomeric materials, gloss flatteners, bright metal trim repair, and anti-glare/safety coatings.

XXX. Stencil Coating: A coating that is applied over a stencil to a plastic part at a thickness of 1 mil or less of coating solids. Stencil coat is most frequently letters, numbers, or decorative designs.

YYY. Stripping: The use of solvent to remove material such as cured adhesives, cured inks, cured or dried paint, cured or dried paint residue or temporary protective coating.

ZZZ. Surface Preparation: The removal of contaminants from a surface prior to the application of coatings, inks, or adhesives or before proceeding to the next step of a manufacturing process.

AAAA. Transfer Efficiency: A ratio of the amount of coating solids adhering to the object being coated to the total amount of coating solids used in the application process, expressed as a percentage.

BBBB. Thinner: A solvent that is used to dilute coatings to reduce viscosity, color strength, and solids, or to modify drying conditions.

CCCC. Texture Coating: A coating that is applied to a plastic part which, in its finished form, consists of discrete raised spots of the coating.

DDDD. Topcoat: Any final coating applied to a substrate. Several layers of topcoat maybe applied in some cases.

EEEE. Touch Up Coating: A coating used to cover minor coating imperfections appearing after the main coating operation.

FFFF. Two-Pack System (2K): A Coating which is supplied in two parts and must be mixed in the correct proportions before use in order to cure.

GGGG. Vacuum Metalizing/Physical Vapor Deposition (PVD): A process whereby metal is vaporized and deposited on a substrate in a vacuum chamber

HHHH. Volatile Organic Compound (VOC): As defined in Rule 102, Definitions.

IV. Exemptions

A. Provisions of this rule do not apply to coatings, coating removers (strippers), surface preparation material, and cleanup material specifically subject to the requirements of the following District rules:

1. 410.1A, Architectural Coating Controls;
2. 410.4A, Motor Vehicle and Mobile Equipment Refinishing Operations;
3. 410.7, Graphic Arts;
4. 410.8, Aerospace Assembly and Coating Operations;
5. 410.9, Wood Products Surface Coating Operations;
6. 432, Polyester Resin.

B. Any source in full compliance with provisions of this rule shall be exempt from otherwise applicable portions of Rule 410, Organic Solvents.

C. Requirements of this Rule shall not apply to application of coatings to automobiles, light duty trucks, aircraft, aerospace vehicles, marine vessels, cans, coils, or magnetic wire.

D. Coatings applied using non-refillable aerosol spray containers.

E. Powder Coating operations.

F. VOC limits of Sections V.A (except large appliance parts and products and metal furniture), V.B, V.C, and V.D shall not apply to any stationary source using less than a total volume of 55 gallons of materials per calendar year. All other provision of this Rule, including coating application methods and recordkeeping shall apply.

G. VOC limits of Section V.A. Table 1, solvent cleaning requirements of Section V.G., and application methods listed in V.F. shall not apply to the following metal parts and products coating operations, recommended work practices still apply:

1. Stencil coatings;
2. Safety-indicating coatings;
3. Solid-film lubricants;
4. Electric-insulating and thermal-conducting coatings;
5. Magnetic data storage disk coatings; and
6. Plastic extruded onto metal parts to form a coating.

H. The following metal parts and products coating operations are exempt from application methods listed in Section V.F. but are still subject to VOC requirements listed in Table 1 and recommended work practices:

1. Touch-up coatings;
2. Repair coatings; and
3. Textured finishes.

I. VOC limits of Section V.C. Table 2 and solvent cleaning requirements of Section V.G. shall not apply to the following plastic parts and products coating operations (except for automotive/transportation and business machine plastic parts as specified in Section IV.I.), provided operator complies with coating application methods listed in Section V.F. and storage and disposal requirements in Section V.H.

1. Touch-up and repair coatings;

2. Stencil coatings applied on clear or transparent substrates;

3. Clear or translucent coatings;

4. Coatings applied at a paint manufacturing facility while conducting performance tests on coatings;

5. Any individual coating category used in volumes less than 50 gallons per calendar year, if substitute compliance coatings are not available, and the total usage of all such coatings does not exceed 200 gallons per calendar year, per stationary source;

6. Reflective coatings used on highway cones;

7. Mask coatings that are less than 0.5 millimeter thick (dried) and the area coated is less than 25 square inches;

8. Electro-Magnetic Interference (EMI) Radio Frequency Interference (RFI) shielding coatings;

9. Heparin-bezalkonium chloride (HBAC)-containing coatings applied to medical devices, provided that the total usage of all such coatings does not exceed 100 gallons per calendar year, per stationary source;

J. VOC limits of Section V.C. Table 2 and solvent cleaning requirements of Section V.G. shall not apply to the following automotive/transportation and business machine plastic parts and products coating operations, provided operator complies with coating application methods listed in Section V.F. and storage and disposal requirements in Section V.H.

1. Texture Coatings;
2. Texture Topcoats;
3. Gloss Reducers;
4. Vacuum Metalizing Coatings;
5. Adhesion Primers;
6. Electrostatic Preparation Coatings;
7. Resist Coatings;
8. Stencil Coatings.

K. Coating application methods listed in Section V.F. shall not apply to airbrush operations for plastic parts and products (except for automotive/transportation and business machine plastic parts as specified in Section IV.I) using five (5) gallons or less of coating per calendar year, provided operator complies with applicable VOC content limits in Table 2, storage and disposal requirements in Section V.H., and applicable recordkeeping requirement of Section VI.B.

L. Coating application methods listed in Section V.F. shall not apply to extreme gloss surface coating of pleasure crafts, provided the operator complies with the extreme gloss coating VOC content limit in Table 3 and storage and disposal requirements in Section V.H.

V. Requirements

Sections V.A., V.C., and V.D. apply to any stationary source with total actual VOC emissions from all metal parts and products, plastic parts and products, automotive/transportation and business machine plastic parts and products, or pleasure craft coating operations, including related cleaning activities, before consideration of controls, equal to or greater than 2.7 tons per calendar.

If total actual VOC emissions are less than 2.7 tons per calendar year, before consideration of controls, source shall comply with applicable recordkeeping requirements of Section VI.B. and demonstrate VOC emissions regulated by this Rule are less than 2.7 tons.

A. Metal Parts and Products VOC Content Limits: Except as provided in Subsections V.E. or V.K., no person shall apply a coating to any metal part or product with a VOC regulatory content, as calculated pursuant to Section III.JJ., in excess of the limits expressed in Table 1.

TABLE 1
VOC CONTENT LIMITS FOR METAL PARTS AND PRODUCTS COATINGS
Content expressed in Grams per Liter (Pounds per Gallon)
Less Water and Exempt Compounds

Limits for Miscellaneous Metal Parts and Products, Large Appliance Parts and Products, and Metal Furniture Coatings		
Coating Category	**Baked**	**Air-Dried**
All coatings except listed below	275 g/l (2.3 lb/gal)	340 g/l (2.8 lb/gal)
Camouflage	360 (3.0)	420 (3.5)
Electrical Insulating Varnish	420 (3.5)	420 (3.5)
Etching Filler	420 (3.5)	420 (3.5)
Extreme High Gloss	360 (3.0)	420 (3.5)
Extreme Performance	360 (3.0)	420 (3.5)
General, One Component	275 (2.3)	275 (2.3)
General, Multi-Component	275 (2.3)	340 (2.8)
Heat Resistant	360 (3.0)	420 (3.5)
High Performance Architectural	750 (6.2)	750 (6.2)
High Temperature	420 (3.5)	420 (3.5)
Metallic/Iridescent Coating	420 (3.5)	420 (3.5)
Military Specification	275 (2.3)	340 (2.8)
Mold-Seal	420 (3.5)	420 (3.5)
Pan Backing	420 (3.5)	420 (3.5)
Pretreatment Coating	420 (3.5)	420 (3.5)
Touch-up and Repair Coating	360 (3.0)	420 (3.5)
Silicone Release	420 (3.5)	420 (3.5)
Solar Absorbent	360 (3.0)	420 (3.5)
Solid Film Lubricant	880 (7.3)	880 (7.3)
Vacuum-Metalizing	420 (3.5)	420 (3.5)
Drum Coating, New, Exterior	340 (2.8)	340 (2.8)
Drum Coating, New, Interior	420 (3.5)	420 (3.5)
Drum Coating, Reconditioned, Exterior	420 (3.5)	420 (3.5)
Drum Coating, Reconditioned, Interior	510 (4.2)	510 (4.2)

B. VOC Content Limit for Dip coating of steel joists (SIC 3441), air-dried:

1. 340 g/l (2.8 lbs/gal) for coatings with a viscosity, as applied, of more than 45.6 centistokes at 78°F or an average dry-film thickness of greater than 2.0 mils;

2. 400 g/l (3.32 lbs/gal) for coatings with a viscosity, as applied, of less than or equal to 45.6 centistokes at 78°F and an average dry film thickness of less than or equal to 2.0 mils.

C. Plastic Parts and Products VOC Content Limits: Except as provided Subsections V.E. or V.K., no person shall apply a coating to any plastic part or product with a VOC regulatory content, as calculated pursuant to Section III.JJ., in excess of the limits expressed in Table 2.

TABLE 2
VOC CONTENT LIMITS FOR PLASTIC PARTS AND PRODUCTS COATINGS
VOC Content expressed in Grams per Liter (Pounds per Gallon)
Less Water and Exempt Compounds

Limits for Plastic Parts and Products Coatings (excluding automotive/transportation and business machine plastic parts and products)	
Coating Category	**VOC Limit**
General, One Component	280 g/l (2.3 lb/gal)
General, Multi-Component	420 (3.5)
Electric Dissipating and Shock-Free Coatings	800 (6.7)
Extreme Performance	420 (3.5) Two-Pack System(2K)
Metallic/Iridescent Coating	420 (3.5)
Military Specification	340 (2.8) Single Pack(1K) 420 (3.5) Two-Pack System(2K)
Mold-Seal	760 (6.3)
Multi-Colored Coatings	680 (5.7)
Optical Coatings	800 (6.7)
Vacuum-Metalizing	800 (6.7)
Limits for Automotive/Transportation Plastic Parts and Products Coatings[1]	
Coating Category	**VOC Limit**
I. High Baked Coatings - Interior and Exterior:	
Flexible Primer	540 g/l (4.5 lb/gal)
Non-flexible Primer	420 (3.5)
Basecoat	520 (4.3)
Clearcoat	480 (4.0)
Non-Basecoat/Clearcoat	520 (4.3)

TABLE 2 Continued

Limits for Automotive/Transportation Plastic Parts and Products Coatings[1]	
Coating Category	**VOC Limit**
II. Low Bake/Air Dried Coatings - Exterior Parts:	
Primers	580 (4.8)
Basecoat	600 (5.0)
Clearcoat	540 (4.5)
Non-Basecoat/Clearcoat	600 (5.0)
III. Low Bake/Air Dried Coatings - Interior Parts:	600 (5.0)
IV. Touch-up and Repair Coatings:	620 (5.2)
Limits for Business Machine Plastic Parts and Products Coatings	
Coating Category	**VOC Limit**
Primers	350 (2.9)
Topcoat	350 (2.9)
Texture Coat	350 (2.9)
Fog Coat	260 (2.2)
Touchup and Repair	350 (2.9)

[1]For red, yellow, and black automotive coatings, except touch up and repair coatings, the recommended limit is determined by multiplying the appropriate limit in this table by 1.15.

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D. Pleasure Craft Coating Operations: Except as provided in Subsections V.E. or V.K., no person shall apply a coating to any pleasure craft with a VOC regulatory content, as calculated pursuant to Section III.JJ., in excess of the limits expressed in Table 3.

TABLE 3
VOC CONTENT LIMITS FOR PLEASURE CRAFT COATINGS
VOC Content expressed in Grams per Liter (Pounds per Gallon)
Less Water and Exempt Compounds

Limits for Pleasure Craft Coatings	
Coating Category	**VOC Limit**
All coatings except listed below	420 g/l (3.5 lb/gal)
Extreme High Gloss Topcoat	490 (4.1)
High Gloss Topcoat	420 (3.5)
Pretreatment Wash Primers	780 (6.5)
Finish Primer/Surfacer	420 (3.5)
High Build Primer Surfacer	340 (2.8)
Aluminum Substrate Antifoulant Coating	560 (4.7)
Antifouling Sealer/Tie Coats	420 (3.5)
Other Substrate Antifoulant Coating	330 (2.8)

E. Alternate Emissions Control: In lieu of complying with VOC content limits specified in Tables 1, 2, and 3, an emission control system with a capture efficiency of at least 90% and a control efficiency of at least 90% may be used if it has been approved in writing by the APCO. Any approved emission control system must be maintained and used in proper working condition at all times. Use of a VOC emission control system shall not result in emissions in excess of those that would have been emitted had the operator complied with the provisions of Section V.A, B, C or D.

F. Coating Application Methods: No person shall apply any coating to any metal part or product, large appliance part or product, metal furniture, plastic part or product, automotive/transportation and business machine plastic part or product, or pleasure craft subject to provisions of this Rule unless one of the following application methods is used:

1. Brush, dip, flow, or roll coating conducted in accordance with equipment manufacturer's recommendations,

2. Electrostatic or electrodeposition application conducted in accordance with manufacturer's recommendations,

3. HVLP spray equipment operated in accordance with equipment manufacturer's recommendations,

4. Spray gun: If a spray gun is used, the end user must demonstrate that the gun meets the HVLP definition in Section IV.V in design and use. A satisfactory demonstration must be based on the manufacturer's published technical material on the design of the gun and by a demonstration of the operation of the gun using an air pressure tip gauge from the manufacturer of the gun.

5. Any alternative coating application method which has been demonstrated to achieve at least 65% transfer efficiency or equivalent efficiency of an HVLP and approved, in writing, by APCO.

G. Surface Preparation and Equipment Cleanup Requirements: No person shall conduct surface preparation or equipment cleanup for activities subject to provisions of this Rule unless the following VOC limits are met and methods used:

1. VOC content of surface preparation solvent shall not exceed 25 g/l (0.2 lb/gal), as calculated pursuant to Section III.KK., unless such cleaning operation is performed within the control of an APCO approved VOC emission control system that meets the requirements of Section V.E.

2. Cleaning of Coatings Application Equipment: Solvents used for cleaning of coatings application equipment shall comply with both limits specified below:

   a. Solvent shall have a VOC content of 950 grams or less per liter (7.9 lb/gal) of material; and

   b. Solvent shall have a VOC composite partial pressure of 35 mm Hg or less at 20/C (68/F).

3. Cleaning-Devices and Methods: No person shall perform solvent cleaning operations unless one of the following cleaning devices or methods is used:

   a. Wipe Cleaning;

   b. Spray bottles or containers with a maximum capacity of 16 fluid ounces from which solvents are applied without a propellant induced force;

   c. Cleaning equipment having a closed solvent container during cleaning operations, except when depositing and removing objects to be cleaned, and closed during nonoperation except during maintenance and repair of the cleaning equipment itself;

   d. Remote reservoir cold cleaner operated in conformance with District Rule 410.3, Organic Solvent Degreasing Operations;

   e. System totally enclosing guns, cups, nozzles, bowls, and other parts during washing, rinsing, and draining procedures;

f. Non-atomized solvent flow method collecting cleaning solvent in a container or a collection system closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container; or

g. Solvent flushing method discharging solvent into a closed container, except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container. Discharged solvent from such equipment shall be collected in containers without atomizing into open air. Solvent may be flushed through the system by air or hydraulic pressure, or by pumping.

H. Storage and Disposal Requirements: Regardless of VOC content, all VOC-containing materials used in solvent cleaning operations shall be stored in non-absorbent, vapor-tight containers that are kept closed at all times except when filling or emptying.

I. Prohibition of Sale: No person shall offer for sale or sell within the District any coating if such product is prohibited by any provisions of this Rule. This prohibition shall apply to sale of any coating to be applied at any physical location within the District.

J. Prohibition of Specification: No person shall solicit or require for use or specify application of a coating if such use or application results in a violation of provisions of this Rule. This prohibition shall apply to all written or oral contracts under terms of which any coating subject to provisions of this Rule is to be applied to any metal part or product at any physical location within the District.

K. Sell-Through/Existing Stock of Coatings: A coating manufactured prior to amendment date of this rule, that complied with the VOC Content limit(s) in effect at that time, may be sold, supplied, or offered for sale for 12 months after rule adoption date. Such a coating may be applied at any time, both before and after adoption date, provided manufacture Date-Code and VOC Content is clearly printed on coating container.

VI. Administrative Requirements

A. Labeling Requirements

1. VOC Content: Each container or accompanying data sheet of any coating subject to this Rule shall display maximum VOC content of the coating as applied, and after any thinning as recommended by the manufacturer. VOC content shall be displayed as grams of VOC per liter of coating less water and exempt compounds. VOC content displayed shall be determined using Subsection VII.A. test methods or calculated using product formulation data if EPA approves this as equivalent to Subsection VII.A.

2. Thinning Recommendations: Each container (or accompanying data sheet) of any coating subject to this Rule and manufactured after May 6, 1992 shall display a statement of manufacturer's recommendation regarding thinning of the coating. This requirement shall not apply to thinning of coatings with water.

3. Solvent Compliance Statement Requirements: Manufacturers of any solvent subject to this rule shall indicate on the solvent container, or on a separate product data sheet or material safety data sheet, name of the solvent, manufacturer's name, VOC content, and density of the solvent, as supplied. The VOC content shall be expressed in units of g/l or lb/gal.

B. Record Keeping Requirements

Any operator that uses coatings or solvents subject to this Rule shall maintain and have the following available on site at all times:

1. A current list of all VOC containing products in use that includes any data necessary to evaluate compliance, including but not limited to the following information, as applicable:

   a. Material name and manufacturer's identification,
   b. Application method,
   c. Material type and specific use instructions,
   d. Specific mixing instructions,
   e. VOC actual and VOC regulatory for coatings as applied, or VOC content for solvent.

2. Daily coating and solvent use records, including the following information for each:

   a. Volume of each coating/solvent mix ratio,
   b. VOC content in grams/liter (or pounds/gallon) as applied/used,
   c. Volume of each coating/solvent in liters (or gallons) applied/used.
   d. Type and amount of solvent used for cleanup and surface preparation.

   If purchase records are used to determine the amount of solvents used, then records and manifests of the amounts of solvents disposed of or sent to a recycler must also be maintained and made available to the APCO upon request.

3. Current manufacturer specification sheets, material safety data sheets, technical data sheets, or air quality data sheets, which list the VOC actual for coatings and VOC regulatory for coatings of each ready-to-spray coating (based on the manufacturer's stated mix ratio), and VOC content of each solvent.

4. Purchase records identifying the coating category as listed in Section V, which includes name and volume of coatings and solvents.

5. Alternate Emissions Control Records: Any person using an emission control system shall maintain daily records of key system operating parameters which will demonstrate continuous operation and compliance of the emission control system during periods of VOC emission producing activities. "Key system operating parameters" are those parameters necessary to ensure or document compliance with Section V.E., including, but not limited to, temperatures, pressure drops, and air flow rates.

6. Record Retention: Records required by this Rule shall be retained for a minimum of three years and made available to the APCO upon request.

VII. Test Methods

The following test methods are incorporated by reference herein, and shall be used to test emission sources subject to the provisions of this rule. A source is in violation of this rule if any measurement by any of the listed applicable test methods exceeds any standard of this rule.

A. Acid Content: Acid content of Pre-Treatment Wash Primers shall be conducted and reported in accordance with ASTM D1613-03 "Standard Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products" (October 2003).

B. Analysis of Samples: Samples of VOC as specified in this Rule shall be analyzed by EPA Method 24 as set forth in Appendix A of Title 40 of the Code of Federal Regulations (40 CFR) Part 60, "Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings". Analysis of halogenated exempt compounds shall be conducted using CARB Method 422, "Determination of Volatile Organic Compounds in Emissions from Stationary Sources" (September 12, 1990).

C. Alternative Test Methods: The use of other test methods which are determined to be equivalent or better and approved, in writing, by the APCO, ARB, and EPA may be used in place of the test methods specified in this rule.

D. Control and Capture Efficiency: Capture and control efficiency of emission control systems shall be determined as specified in EPA's "Guidelines for Determining Capture Efficiency," (January 9, 1995) and 40 CFR 51, Appendix M, Methods 204-204F as applicable. Total organic emissions of emission control systems shall be determined using EPA Method 25, 25A or 25B.

E. Determination of Emissions: Emissions of VOC shall be measured by EPA Method 25, 25A, or 25B, as applicable and analysis of halogenated exempt compounds shall be conducted using CARB Method 432, "Determination of Dichloromethane and 1,1,1-Trichloroethane in Paints and Coatings" (September 12, 1998).

F. Exempt Organic Compound Content of Coatings: The exempt organic compound content of coatings or solvents shall be determined using ASTM Method D 6133- 02, Standard Test Method for Acetone, p-Chlorobenzotrifluoride, Methyl Acetate, or t-Butyl Acetate Content of Solventborne and Waterborne Paints, Coatings, Resins, and Raw Materials by Direct Injection into a Chromatograph. Exempt organic compound content, other than as determined above, shall be determined by using CARB Method 422; CARB Method 432; or South Coast AQMD Method 303-91, "Determination of Exempt Compounds" (August 1996).

G. HVLP Equivalency: Spray Equipment HVLP equivalency shall be determined by using South Coast Air Quality Management District's "Guidelines for Demonstrating Equivalency with District Approved Transfer Efficient Spray Guns" (September 26, 2002).

H. Metallic Content: The metallic content of a coating shall be determined by South Coast Air Quality Management District Test Method 318-95, "Determination of Weight Percent Elemental Metal in Coatings by X-Ray" (July 1996).

I. Transfer Efficiency: Spray equipment transfer efficiency shall be determined by using South Coast AQMD Method "Spray Equipment Transfer Efficiency Test Procedure for Equipment User" May 24, 1989.

J. VOC Composite Partial Pressures: VOC composite partial pressures shall be determined using either manufacturer's information regarding formulation or using ASTM methods E169-04 Standard Practices for General Techniques of Ultraviolet-Visible Quantitative Analysis or E260-96, Standard Practice for Packed Column Gas Chromatography for determination of mole fractions and then summing products of each VOC component's vapor pressure and its mole fraction. For materials containing no non-VOC components, VOC composite partial pressure can be measured directly by ASTM Method D2879-10, Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope.

K. VOC Emissions from Spray Gun Cleaning Systems: VOC emissions from spray gun cleaning systems shall be made using South Coast AQMD "General Test Method for Determining Solvent Losses from Spray Gun Cleaning Systems" (October 3, 1989).

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APPENDIX B:

AMENDED RULE 410.4

METAL, PLASTIC, AND PLEASURE CRAFT

PARTS AND PRODUCTS COATING OPERATIONS

STRIKEOUT UNDERLINE VERSION

RULE 410.4 ~~Surface Coating of~~ **Metal, Plastic, and Pleasure Craft Parts and Products Coating Operations** - Adopted 6/26/79, Amended 4/11/91, 7/12/93, 4/6/95, 3/7/96, 3/13/14

I. Purpose

The purpose of this rule is to limit volatile organic compound (VOC) emissions from the coating of metal parts and products, large appliances parts and products, metal furniture, plastic parts and products, automotive/transportation and business machine plastic parts and products, and pleasure crafts, and from cleaning, storage, and disposal of organic solvent solvents and waste solvent materials associated with such coating operations.

II. Applicability

Provisions of this Rule are enforceable upon amendment date and shall apply to surface coating of metal parts or products,~~.~~ large appliances parts or products, metal furniture, and plastic parts or products including automotive, transportation, and business machine, and pleasure crafts, and to the cleaning, storage, and disposal of all organic solvents and waste solvent materials associated with such coating operations.

III. Definitions

A. Adhesive: A substance that is used to bond one surface to another.

B. Aerosol Coating: A mixture of pigments, resins, and liquid and gaseous solvents and propellants packaged in a disposable container for hand-held application.

~~A~~C. Aerospace Vehicle: ~~–~~Any complete aircraft, helicopter, missile, or space vehicle.

~~B~~D. Air Dried Coating: ~~-~~ ~~curing~~ Curing or drying a coating by heating the coated object above ambient temperature, but below a maximum of 90°~~/~~C (194°~~/~~F).

E. Antifoulant Coating: A coating applied to the underwater portion of a pleasure craft to prevent or reduce the attachment of biological organisms, and registered with the EPA as a pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act (7 United States Code Section 136, et seq).

F. Antifouling Sealer/Tie Coat: A coating applied over Biocidal antifouling coating for the purpose of preventing release of biocides into the environment and/or to promote adhesion between an antifouling and a primer or other antifoulings.

G. APCO: Air Pollution Control Officer of the Eastern Kern Air Pollution Control District.

H. Application Equipment: A device used to apply or prepare a coating material for application.

I. ASTM: American Society for Testing and Materials.

~~C~~J. Baked Coating: ~~– curing~~ Curing or drying a coating by heating the coated object above ambient temperature to a temperature at, or above 90°~~/~~C (194°~~/~~F).

K. Basecoat/Clearcoat: A two-step topcoat system in which a highly pigmented, often metallic, basecoat is followed by a clearcoat, resulting in a finish with high gloss

~~D~~L. Brush Coating: ~~– manually~~ Manual application of coatings using brushes and rollers.
~~applying a coating to metal parts or products using a brush or roller.~~

M. Business Machine: A device that uses electronic or mechanical methods to process information, perform calculations, print or copy information or convert sound into electrical impulses for transmission, ~~including devices listed in standard industrial classification numbers 3572, 3573, 3574, 3579, and 3661~~ and photocopy machines~~, a subcategory of standard industrial classification number 3861.~~

N. California Air Resources Board (CARB or ARB): Air Resources Board of the California Environmental Protection Agency.

~~E~~O. Camouflage Coating: ~~–~~A coating applied on military equipment intended to conceal such equipment from detection.

P. Clearcoat: A coating that contains no pigments and is labeled and formulated for application over a color coating or clear coating..

~~F~~Q. Coating: ~~–~~A material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. ~~material applied to a metal part or product and intended to provide decorative or protective properties.~~

R. Coating of Plastic Parts of Automobiles and Trucks: Coating of any plastic part that is or shall be assembled with other parts to form an automobile or truck.

S. Coating of Plastic Parts of Business Machines: Coating of any plastic part that is or shall be assembled with other parts to form a business machine.

~~G~~T. Coils: ~~-~~ ~~metal~~ Metal sheets or strips rolled into coils for further industrial or commercial use.

~~H~~U. Continuous Coating: ~~– spraying a~~ An enclosed coating system where spray nozzles coat~~onto~~ metal parts and products as they are conveyed through ~~an~~ the enclosure. ~~equipped with water~~ Water wash zones control~~ling overspray at~~ the inlet and outlet ~~and~~ of the enclosure ~~with~~ and excess coating ~~draining~~ drains into a recirculation system.

~~I~~V. Dip Coating: ~~–~~The process in which a substrate is immersed in a solution (or dispersion) containing the coating and then withdrawn.
~~applying a coating to metal parts or products by immersing the part in a solution (or dispersion) containing the coating material, and then withdrawing the part.~~

W. Dissolver: An organic solvent that is added to an adhesive, coating, or ink in order to melt or to liquefy solid particles.

X. Electric Dissipating Coating: A coating that rapidly dissipates a high-voltage electric charge.

~~J~~Y. Electrodeposition: ~~- applying~~ A dip coating application method where the paint solids are given an electrical charge which is then attracted to a substrate. ~~an electrically-charged dip coating onto an object to be coated.~~

~~K~~Z. Electrostatic Spray Application: ~~- spraying~~ Any method of spray application of coatings where an electrostatic attraction is created between the part to be coated and the paint particles.~~an electrically-charged coating onto an object.~~

AA. EMI/RFI Shielding: A coating used on electrical or electronic equipment to provide shielding against electromagnetic interference, radio frequency interference, or static discharge.

BB. Emission Control System: Any combination of capture systems and control devices used to reduce VOC emissions from automotive coating operations.

CC. EPA: The United States Environmental Protection Agency.

DD. ~~L.~~ Exempt Compounds: ~~-~~ As defined in District Rule 102, Definitions, "Exempt Compounds".~~compounds identified as exempt under the definition of volatile organic compounds, Rule 102, Subsection L.~~

EE. Extreme High Gloss Coating: A coating which, achieves at least 95% reflectance on a 60 degree ~~gloss~~ meter when tested by ASTM Method D-523-89.

FF. ~~M.~~ Extreme Performance Coating: ~~- c~~Coating used on surface of metal parts or products, intended, during use, to be exposed to salt water, corrosives, caustics, acids, oxidizing agents, electromagnetic pulse, wind or ocean driven debris, repeated abrasion, mechanical wear, or temperatures consistently in excess of 250°F.~~any of the following~~:

~~1. Industrial-grade detergents, cleaners, or abrasive scouring agents,~~

~~2. Unprotected shipboard conditions, or~~

~~3. Corrosive environmental conditions.~~

GG. ~~N.~~ Flow Coating: A coating application system with no air supplied to the nozzle and where paint flows over the part and the excess coating drains back into a collection system.~~Flow Coating - applying a coating to metal parts or products by flowing liquid over the part and draining excess coating into a collection system.~~

HH. Fog Coating: A coating that is applied to a plastic part for the purpose of color matching without masking in a molded-in texture. A fog coat shall be applied to a thickness of more than 0.5 mils of coating solids.

II. Finish Primer/Surfacer: A coating applied with a wet film thickness of less than 10 mils or more prior to the application of a topcoat for purposes of providing corrosion resistance, adhesion of subsequent coatings, or moisture barrier, or promoting a uniform surface necessary for filling in surface imperfections.

JJ. ~~O.~~ Grams of VOC per Liter of Coating, Less Water and Exempt Compounds: The weight of VOC content per combined volume of VOC and coating solids and can be calculated by the following equation:

$$\text{Grams of VOC per liter of coating, less water and exempt compounds} = \frac{Ws - Ww - Wec}{Vm - Vw - Vec}$$

Where:

Ws = weight of volatile compounds (grams)
Ww = weight of water (grams)
Wec = weight of exempt compounds (grams)
Vm = volume of material (liters)
Vw = volume of water (liters)
Vec = volume of exempt compounds (liters)

KK. ~~P~~. Grams of VOC per Liter of Material: The weight of VOC per volume of material and can be calculated by the following equation:

$$\text{Grams of VOC per liter of material} = \frac{Ws - Ww - Wec}{Vm}$$

Where:

Ws = weight of volatile compounds (grams)
Ww = weight of water (grams)
Wec = weight of exempt compounds (grams)
Vm = volume of material (liters)

LL. ~~Q~~. Heat Resistant Coating: ~~–~~A coating designed during normal use to withstand temperatures of at least 204°~~/~~C (400°~~/~~F).

MM. High Build Primer/Surfacer: A coating applied with a wet film thickness of 10 mils or more, prior to the application of a topcoat, for purposes of providing corrosion resistance, adhesion or subsequent coatings, or a moisture barrier, or promoting a uniform surface necessary for filling in surface imperfections.

~~R. High Gloss Coating: A coating achieving at least 85% reflectance on a 60/ meter when tested by ASTM Method D-523/89.~~

NN. ~~S.~~ High Performance Architectural Coating: ~~–~~A coating used to protect architectural subsections meeting requirements of Architectural Aluminum Manufacturers Association publication number AAMA 605.2-1980.

OO. ~~T.~~ High Temperature Coating: ~~–~~Any coating ~~designed during normal use~~that is certified to withstand temperatures of at least 538°~~/~~C (1000°~~/~~F) for 24 hours.

PP. ~~U.~~ High Volume, Low Pressure (HVLP): Spray equipment permanently labeled as such and which is designed and operated between 0.1 and 10 pounds per square inch, gauge, (psig) air atomizing pressure measured dynamically at the center of the air cap and at the air horns and with liquid supply pressure less than 50 psig.

~~Spray - applying coating to metal parts or products using a gun operating between 0.1 and 10.0 psig air pressure and with liquid supply pressure less than 50 psig.~~

QQ. ~~V.~~ Light-Duty Truck: Any truck, van, sport utility vehicle, or motor vehicle ~~designed to transport light loads of property with gross vehicle weight rating of 8,500 pounds or less. - truck~~ having a manufacturer's gross vehicle weight rating ~~of under~~ less than 6,001 pounds.

RR. ~~W.~~ Magnet Wire: ~~–~~W~~w~~ire used in establishing electromagnetic field in equipment such as transformers, motors, generators, and magnetic tape recorders.

SS. ~~X.~~ Marine Vessel: ~~-~~ Any tugboat, tanker, freighter, passenger ship, barge, or other boat, ship, or watercraft, including both salt water and fresh water vessels.

TT. Mask Coating: A thin film coating applied through a template to coat a small portion of a substrate.

UU. ~~Y.~~ Metal Containers or Closures: ~~–~~The interior or exterior of formed metal cans, drums, pails, or crowns; or flat metal sheets intended to be formed into cans, drums, pails, lids, or crowns.

VV. Metal Furniture: Includes, but is not limited to, the following types of products: household, office, institutional, laboratory, hospital, public building, restaurants, barber and beauty shop, and dental furniture, as well as components of these products. It also includes office and store fixtures, partitions, shelving, lockers, lamps, and lighting fixtures, and wastebaskets

WW. Metallic/Iridescent Coating: Any coating which contains more than 5.0 g/l (0.042 lb/gal) of metal or iridescent particles, as applied, where such particles are visible in the dried film.

XX. ~~Z.~~ Metal Parts and Products: ~~-~~ ~~e~~Any components or complete unit~~s~~ fabricated from metal, except those subject to coating requirements of other source-specific Rules.

YY. Military Specification Coating: A coating which has a formulation approved by the United States Military Agency for use on military equipment.

ZZ. Mold Seal Coating: The initial coating applied to a mold to provide a smooth surface which, when coated with a mold release coating, prevents products from sticking to the mold.

AAA. Motor Vehicle: As defined in Rule 102, Definitions.

BBB. Multi-Component Coating: A coating requiring the addition of a separate reactive resin, commonly known as a catalyst or hardener, before application to form an acceptable dry film.

CCC. Non-Absorbent Container: A container made of non-porous material that does not allow the migration of solvents through it.

DDD. Non-Leaking Container: A container without liquid leak.

EEE. Non-Structural Adhesive: An adhesive that bonds non-load carrying aircraft component in non-critical applications.

FFF. Normal Business Hours: Monday through Friday, 8:00 am to 5:00 pm.

GGG. Optical Coating: A coating applied to optical lenses.

HHH. Organic Solvent: The same as "Solvent."

III. Organic Solvent Cleaning: As defined in Rule 410.3, Organic Solvent Degreasing Operations.

~~. Optical Coating: A coating applied to optical lenses.~~

JJJ. Plastic Part: A piece made from a substance that has been formed from resin through the application of pressure or heat or both.

KKK. Pleasure Craft: Marine vessels which are manufactured or operated primarily for recreational purposes, or leased, rented, or chartered to a person or business for recreational purposes. The owner or operator of such vessel shall be responsible for certifying that the intended use is for recreational purposes.

LLL. Pleasure Craft Coating: Any marine coating, except unsaturated polyester resin (fiberglass) coatings, applied by brush, spray, or roller, or other means to a pleasure craft.

MMM. Powder Coating: ~~-~~ Coating applied without solvent or other carrier as a dry, finely divided solid, adhering to a substrate as a paint film when melted and fused.

NNN. Pretreatment Coating or Pretreatment Wash Primer: Any coating which contains no more than 25 percent solids by weight, and a minimum of 0.1 percent acid by weight, necessary to provide surface etching, and is applied directly to ~~bare~~ metal or fiberglass surfaces to provide corrosion resistance and adhesion of subsequent coatings.

OOO. Repair: ~~recoating~~ Recoating portions of previously coated metal parts or products to cover mechanical damage to the coating following normal painting operations.

PPP. Roll Coating: Application of coatings from a paint trough to a flat surface by mechanical series of rollers.~~Roll Coating - applying a coating to metal parts or products from a paint trough by a mechanical series of rollers.~~

QQQ. Shock-Free Coating: A coating applied to electrical components to protect the user from electric shock. The coating has characteristics of having a low capacitance and high resistance, and being resistance to breaking down under a high voltage.

RRR. Silicone Release: - A coating containing silicone resin and having as its primary function the release of food products from metal surfaces such as baking pans.

SSS. Single Pack (1K): A coating that comes as a ready to use product which, after application, will physically dry from the evaporation of solvents.

TTT. Solar Absorbent Coating: - A coating having as its primary purpose the absorption of solar radiation..

UUU. Solid Film Lubricant: A very thin coating consisting of a binder system containing as its chief pigment material one (1) or more of the following: molybdenum disulfide, graphite, polytetrafluoroethylene (PTFE) or other solids that act as a dry lubricant between closely-fitting surfaces.

VVV. Solvent: As defined in Rule 410.3, Organic Solvent Degreasing Operations.

WWW. Specialty Coating: A- coating necessary due to unusual job performance requirements, including, but not limited to, adhesion promoters, uniform finish blenders elastomeric materials, gloss flatteners, bright metal trim repair, and anti-glare/safety coatings.

XXX. Stencil Coating: A coating that is applied over a stencil to a plastic part at a thickness of 1 mil or less of coating solids. Stencil coat is most frequently letters, numbers, or decorative designs.

YYY. Stripping: The use of solvent to remove material such as cured adhesives, cured inks, cured or dried paint, cured or dried paint residue or temporary protective coating.

ZZZ. Surface Preparation: The removal of contaminants from a surface prior to the application of coatings, inks, or adhesives or before proceeding to the next step of a manufacturing process.

AAAA. Transfer Efficiency: A ratio of the amount of coating solids adhering to the object being coated to the total amount of coating solids used in the application process, expressed as a percentage.

BBBB. Thinner: A solvent that is used to dilute coatings to reduce viscosity, color strength, and solids, or to modify drying conditions.

CCCC. Texture Coating: A coating that is applied to a plastic part which, in its finished form, consists of discrete raised spots of the coating.

DDDD. Topcoat: Any final coating applied to a substrate. Several layers of topcoat maybe applied in some cases.

EEEE. Touch Up Coating: ~~-~~A coating used to cover minor coating imperfections appearing after the main coating operation.~~applied by brush, airbrush, detail HVLP spray equipment or hand-held, non-refillable aerosol cans to repair minor surface damage and imperfections, after main coating process, and not exceeding nine square feet per unit.~~

FFFF. Two-Pack System (2K): A Coating which is supplied in two parts and must be mixed in the correct proportions before use in order to cure.

GGGG. Vacuum Metalizing/Physical Vapor Deposition (PVD): A process whereby metal is vaporized and deposited on a substrate in a vacuum chamber

HHHH. Volatile Organic Compound (VOC): ~~–~~As defined in Rule 102, Definitions.~~any compound containing at least one atom of carbon except for compounds exempted by Rule 102, Subsection II.L.~~

~~H~~IV. Exemptions

A. Provisions of this rule do not apply to coatings, coating removers (strippers), surface preparation material, and cleanup material specifically subject to the requirements of the following District rules:

1. 410.1A, Architectural Coating Controls;

2. 410.4A, Motor Vehicle and Mobile Equipment Refinishing Operations;

3. 410.7, Graphic Arts;

4. 410.8, Aerospace Assembly and Coating Operations;

5. 410.9, Wood Products Surface Coating Operations;

6. 432, Polyester Resin.

~~C~~B. Any source in full compliance with provisions of this rule shall be exempt from otherwise applicable portions of Rule 410, ~~(~~Organic Solvents~~)~~.

~~B. Requirements of Subsection IV.C. (Applications Equipment Requirements) of this Rule shall not apply to touch-up, repair, or stenciling of identification numbers and letters.~~

~~D~~C. Requirements of this Rule shall not apply to application of coatings to automobiles, light duty trucks, aircraft, aerospace vehicles, marine vessels, cans, coils, or magnetic wire~~ or to powder coatings~~.

D. Coatings applied using non-refillable aerosol spray containers.

E. Powder Coating operations.

~~A~~F. ~~Requirements of this Rule~~VOC limits of Sections V.A (except large appliance parts and products and metal furniture), V.B, V.C, and V.D shall not apply to any stationary source using less than a total volume of 55 gallons of materials per calendar year. All other provision of this Rule, including coating application methods and recordkeeping shall apply. ~~, except for Subsection V.B. (Record keeping) shall not apply to any combination of coatings, provided total allowed facility VOC emissions from use of all coatings does not exceed 15 pounds in any one day. Once a facility exceeds this emissions threshold, it shall become subject to requirements of this Rule.~~

G. VOC limits of Section V.A. Table 1, solvent cleaning requirements of Section V.G., and application methods listed in V.F. shall not apply to the following metal parts and products coating operations, recommended work practices still apply:

1. Stencil coatings;

2. Safety-indicating coatings;

3. Solid-film lubricants;

4. Electric-insulating and thermal-conducting coatings;

5. Magnetic data storage disk coatings; and

6. Plastic extruded onto metal parts to form a coating.

H. The following metal parts and products coating operations are exempt from application methods listed in Section V.F. but are still subject to VOC requirements listed in Table 1 and recommended work practices:

1. Touch-up coatings;

2. Repair coatings; and

3. Textured finishes.

I. VOC limits of Section V.C. Table 2 and solvent cleaning requirements of Section V.G. shall not apply to the following plastic parts and products coating operations (except for automotive/transportation and business machine plastic parts as specified in Section IV.I.), provided operator complies with coating application methods listed in Section V.F. and storage and disposal requirements in Section V.H.

1. Touch-up and repair coatings;

2. Stencil coatings applied on clear or transparent substrates;

3. Clear or translucent coatings;

4. Coatings applied at a paint manufacturing facility while conducting performance tests on coatings;

5. Any individual coating category used in volumes less than 50 gallons per calendar year, if substitute compliance coatings are not available, and the total usage of all such coatings does not exceed 200 gallons per calendar year, per stationary source;

6. Reflective coatings used on highway cones;

7. Mask coatings that are less than 0.5 millimeter thick (dried) and the area coated is less than 25 square inches;

8. Electro-Magnetic Interference (EMI) Radio Frequency Interference (RFI) shielding coatings;

9. Heparin-bezalkonium chloride (HBAC)-containing coatings applied to medical devices, provided that the total usage of all such coatings does not exceed 100 gallons per calendar year, per stationary source;

J. VOC limits of Section V.C. Table 2 and solvent cleaning requirements of Section V.G. shall not apply to the following automotive/transportation and business machine plastic parts and products coating operations, provided operator complies with coating application methods listed in Section V.F. and storage and disposal requirements in Section V.H.

1. Texture Coatings;

2. Texture Topcoats;

3. Gloss Reducers;

4. Vacuum Metalizing Coatings;

5. Adhesion Primers;

6. Electrostatic Preparation Coatings;

7. Resist Coatings;

8. Stencil Coatings.

K. Coating application methods listed in Section V.F. shall not apply to airbrush operations for plastic parts and products (except for automotive/transportation and business machine plastic parts as specified in Section IV.I) using five (5) gallons or less of coating per calendar year, provided operator complies with applicable VOC content limits in Table 2, storage and disposal requirements in Section V.H., and applicable recordkeeping requirement of Section VI.B.

L. Coating application methods listed in Section V.F. shall not apply to extreme gloss surface coating of pleasure crafts, provided the operator complies with the extreme

gloss coating VOC content limit in Table 3 and storage and disposal requirements in Section V.H.

~~E. Requirements of this Rule shall not apply to an operation subject to requirements of Rule 410.4A (Motor Vehicle and Mobile Equipment Refinishing Operations).~~

~~I~~V. Requirements

Sections V.A., V.C., and V.D. apply to any stationary source with total actual VOC emissions from all metal parts and products, plastic parts and products, automotive/transportation and business machine plastic parts and products, or pleasure craft coating operations, including related cleaning activities, before consideration of controls, equal to or greater than 2.7 tons per calendar.

If total actual VOC emissions are less than 2.7 tons per calendar year, before consideration of controls, source shall comply with applicable recordkeeping requirements of Section VI.B. and demonstrate VOC emissions regulated by this Rule are less than 2.7 tons.

A. ~~-~~Metal Parts and Products VOC Content Limits: Except as provided in Subsections V.E. or V.K., no person shall apply a coating to any metal part or product with a VOC regulatory content, as calculated pursuant to Section III.JJ., in excess of the limits expressed in Table 1.

~~VOC Content Limits: Except as provided by Subsection IV.B., no person shall apply to any metal part or product any coating with a VOC content in excess of the following limits as applied:~~

TABLE 1
VOC CONTENT LIMITS FOR METAL PARTS AND PRODUCTS COATINGS
VOC Content expressed in(Grams ~~of VOC~~ per Liter (Pounds per Gallon)~~Of Coating,~~ Less Water and ~~Less~~ Exempt Compounds~~)~~

Limits for Miscellaneous Metal Parts and Products, Large Appliance Parts and Products, and Metal Furniture Coatings		
Coating Category	**Baked**	**Air-Dried**
All coatings except listed below	275 g/l (2.3 lb/gal)	340 g/l (2.8 lb/gal)
Camouflage	360 (3.0)	420 (3.5)
Electrical Insulating Varnish	420 (3.5)	420 (3.5)
Etching Filler	420 (3.5)	420 (3.5)
Extreme High Gloss	360 (3.0)	420 (3.5)
Extreme Performance	360 (3.0)	420 (3.5)
General, One Component	275 (2.3)	275 (2.3)
General, Multi-Component	275 (2.3)	340 (2.8)
Heat Resistant	360 (3.0)	420 (3.5)
High Performance Architectural	750 (6.2)	750 (6.2)
High Temperature	420 (3.5)	420 (3.5)

Metallic/Iridescent Coating	420 (3.5)	420 (3.5)
Military Specification	275 (2.3)	340 (2.8)
Mold-Seal	420 (3.5)	420 (3.5)
Pan Backing	420 (3.5)	420 (3.5)
Pretreatment Coating	420 (3.5)	420 (3.5)
Touch-up and Repair Coating	360 (3.0)	420 (3.5)
Silicone Release	420 (3.5)	420 (3.5)
Solar Absorbent	360 (3.0)	420 (3.5)
Solid Film Lubricant	880 (7.3)	880 (7.3)
Vacuum-Metalizing	420 (3.5)	420 (3.5)
Drum Coating, New, Exterior	340 (2.8)	340 (2.8)
Drum Coating, New, Interior	420 (3.5)	420 (3.5)
Drum Coating, Reconditioned, Exterior	420 (3.5)	420 (3.5)
Drum Coating, Reconditioned, Interior	510 (4.2)	510 (4.2)

~~Coating~~	~~Baked~~	~~Air-Dried~~
~~All coatings except those below:~~	~~275 g/l (2.3 lb/gal)~~	~~340 g/l (2.8 lb/gal)~~
~~Camouflage~~	~~360 (3.0)~~	~~420 (3.5)~~
~~Extreme Performance~~	~~360 (3.0)~~	~~420 (3.5)~~
~~Heat Resistant~~	~~360 (3.0)~~	~~420 (3.5)~~
~~High Gloss~~	~~360 (3.0)~~	~~420 (3.5)~~
~~High Performance Architectural~~	~~420 (3.5)~~	~~420 (3.5)~~
~~High Temperature~~	~~420 (3.5)~~	~~420 (3.5)~~
~~Metallic Topcoat~~	~~420 (3.5)~~	~~420 (3.5)~~
~~Pretreatment Wash Primer~~	~~275 (2.3)~~	~~340 (2.8)~~
~~Silicone Release~~	~~420 (3.5)~~	~~420 (3.5)~~
~~Solar Absorbent~~	~~360 (3.0)~~	~~420 (3.5)~~

B. VOC Content Limit for Dip coating of steel joists (SIC 3441), air-dried:

1. 340 g/l (2.8 lbs/gal) for coatings with a viscosity, as applied, of more than 45.6 centistokes at 78°F or an average dry-film thickness of greater than 2.0 mils;

2. 400 g/l (3.32 lbs/gal) for coatings with a viscosity, as applied, of less than or equal to 45.6 centistokes at 78°F and an average dry film thickness of less than or equal to 2.0 mils.

C. Plastic Parts and Products VOC Content Limits: Except as provided Subsections V.E. or V.K., no person shall apply a coating to any plastic part or product with a VOC regulatory content, as calculated pursuant to Section III.JJ., in excess of the limits expressed in Table 2.

TABLE 2
VOC CONTENT LIMITS FOR PLASTIC PARTS AND PRODUCTS COATINGS
VOC Content expressed in Grams per Liter (Pounds per Gallon)
Less Water and Exempt Compounds

Limits for Plastic Parts and Products Coatings (excluding automotive/transportation and business machine plastic parts and products)	
Coating Category	**VOC Limit**
General, One Component	280 g/l (2.3 lb/gal)
General, Multi-Component	420 (3.5)
Electric Dissipating and Shock-Free Coatings	800 (6.7)
Extreme Performance	420 (3.5) Two-Pack System(2K)
Metallic/Iridescent Coating	420 (3.5)
Military Specification	340 (2.8) Single Pack(1K) 420 (3.5) Two-Pack System(2K)
Mold-Seal	760 (6.3)
Multi-Colored Coatings	680 (5.7)
Optical Coatings	800 (6.7)
Vacuum-Metalizing	800 (6.7)
Limits for Automotive/Transportation Plastic Parts and Products Coatings[1]	
Coating Category	**VOC Limit**
I. High Baked Coatings - Interior and Exterior:	
Flexible Primer	540 g/l (4.5 lb/gal)
Non-flexible Primer	420 (3.5)
Basecoat	520 (4.3)
Clearcoat	480 (4.0)
Non-Basecoat/Clearcoat	520 (4.3)
II. Low Bake/Air Dried Coatings - Exterior Parts:	

Primers	580 (4.8)
Basecoat	600 (5.0)
Clearcoat	540 (4.5)
Non-Basecoat/Clearcoat	600 (5.0)
III. Low Bake/Air Dried Coatings - Interior Parts:	600 (5.0)
IV. Touch-up and Repair Coatings:	620 (5.2)
Limits for Business Machine Plastic Parts and Products Coatings	
Coating Category	**VOC Limit**
Primers	350 (2.9)
Topcoat	350 (2.9)
Texture Coat	350 (2.9)
Fog Coat	260 (2.2)
Touchup and Repair	350 (2.9)
[1]For red, yellow, and black automotive coatings, except touch up and repair coatings, the recommended limit is determined by multiplying the appropriate limit in this table by 1.15.	

D. Pleasure Craft Coating Operations: Except as provided in Subsections V.E. or V.K., no person shall apply a coating to any pleasure craft with a VOC regulatory content, as calculated pursuant to Section III.JJ., in excess of the limits expressed in Table 3.

TABLE 3
VOC CONTENT LIMITS FOR PLEASURE CRAFT COATINGS
VOC Content expressed in Grams per Liter (Pounds per Gallon)
Less Water and Exempt Compounds

Coating Category	**VOC Limit**
All coatings except listed below	420 g/l (3.5 lb/gal)
Extreme High Gloss Topcoat	490 (4.1)
High Gloss Topcoat	420 (3.5)
Pretreatment Wash Primers	780 (6.5)
Finish Primer/Surfacer	420 (3.5)
High Build Primer Surfacer	340 (2.8)
Aluminum Substrate Antifoulant Coating	560 (4.7)
Antifouling Sealer/Tie Coats	420 (3.5)
Other Substrate Antifoulant Coating	330 (2.8)

~~B~~E. Alternate Emissions Control: In lieu of complying with VOC content limits specified in ~~Subsection IV.A.~~Tables 1, 2, and 3, ~~air pollution~~an emission control ~~equipment~~ system with a capture efficiency of at least ~~85~~90% and a control ~~device~~ efficiency of at least 90% may be used if it has been approved in writing by the APCO. Any approved emission control system must be maintained and used in proper working condition at all times. Use of a VOC emission control system shall not result in emissions in excess of those that would have been emitted had the operator complied with the provisions of Section V.A, B, C or D.

~~C~~F. Coating Application Methods~~Equipment Requirements~~: No person shall apply~~coat~~ any coating to any metal part or product, large appliance part or product, metal furniture, plastic part or product, automotive/transportation and business machine plastic part or product, or pleasure craft subject to provisions of this Rule unless one of the following application methods is used:

1. Brush, dip, flow, or roll coating conducted in accordance with equipment manufacturer's recommendations,

2. Electrostatic or electrodeposition application conducted in accordance with manufacturer's recommendations,

3. ~~High Volume Low Pressure (~~HVLP~~)~~ spray equipment operated in accordance with equipment manufacturer's recommendations,

4. Spray gun: If a spray gun is used, the end user must demonstrate that the gun meets the HVLP definition in Section IV.V in design and use. A satisfactory demonstration must be based on the manufacturer's published technical material on the design of the gun and by a demonstration of the operation of the gun using an air pressure tip gauge from the manufacturer of the gun.

~~4~~5. ~~Other~~ Any alternative coating application method which has been demonstrated to achieve at least 65% transfer efficiency or equivalent efficiency of an HVLP and approved, in writing, by APCO.~~, for example, flow or continuous coating.~~

~~D~~G. Surface Preparation and Equipment Cleanup Requirements: No person shall conduct surface preparation or equipment cleanup for activities subject to provisions of this Rule unless the following VOC limits are met and methods ~~are~~ used:

1. VOC content of surface preparation solvent shall not exceed 25 g/l (0.2 lb/gal), as calculated pursuant to Section III.KK., unless such cleaning operation is performed within the control of an APCO approved VOC emission control system that meets the requirements of Section V.E.

~~1. Surface Cleaning: No material shall be used containing VOC in excess of 200 grams per liter (1.7 lb/gal) of material to remove dirt, oils, or other contaminants prior to application of surface coatings or adhesives.~~

~~2. Stripping: No material shall be used containing VOC in excess of 200 grams per liter (1.7 lb/gal) of material to strip any coating.~~

~~3~~2. Cleaning of Coatings Application Equipment: Solvents used for cleaning of coatings application equipment shall comply with both limits specified below:

a. Solvent shall have a VOC content of 950 grams or less per liter (7.9 lb/gal) of material; and

b. Solvent shall have a VOC composite partial pressure of 35 mm Hg or less at 20/C (68/F).

~~4. Cleaning of Polyester Resin Application Equipment: Solvents used for cleaning polyester resin application equipment shall comply with one of the limits specified below:~~

~~a. Solvent shall have a VOC content of 200 grams or less per liter (1.7 lb/gal); or~~

~~b. Solvent shall have a VOC content of 1100 grams or less per liter (9.2 lb/gal) and a VOC composite partial pressure of 1.0 mm Hg or less at 20/C (68/F).~~

~~5~~3. Cleaning-Devices and Methods: No person shall perform solvent cleaning operations unless one of the following cleaning devices or methods is used:

a. Wipe Cleaning;

b. Spray bottles or containers with a maximum capacity of 16 fluid ounces from which solvents are applied without a propellant induced force;

c. Cleaning equipment having a closed solvent container during cleaning operations, except when depositing and removing objects to be cleaned, and closed during nonoperation except during maintenance and repair of the cleaning equipment itself;

d. Remote reservoir cold cleaner operated in conformance with District Rule 410.3, Organic Solvent Degreasing Operations;

e. System totally enclosing guns, cups, nozzles, bowls, and other parts during washing, rinsing, and draining procedures;

f. Non-atomized solvent flow method collecting cleaning solvent in a container or a collection system closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container; or

g. Solvent flushing method discharging solvent into a closed container, except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container. Discharged solvent from such equipment shall be collected in containers without atomizing into open air. Solvent may be flushed through the system by air or hydraulic pressure, or by pumping.

~~E~~H. Storage and Disposal Requirements: Regardless of VOC content, all VOC-containing materials used in solvent cleaning operations shall be stored in non-absorbent, vapor-tight containers that are kept closed at all times except when filling or emptying.

~~F~~I. Prohibition of Sale: No person shall offer for sale or sell within the District any coating if such product is prohibited by any provisions of this Rule. This prohibition shall apply to sale of any coating to be applied at any physical location within the District.

~~G~~J. Prohibition of Specification: No person shall solicit or require for use or specify application of a coating ~~on metal parts and products~~ if such use or application results in a violation of provisions of this Rule. This prohibition shall apply to all written or oral contracts under terms of which any coating subject to provisions of this Rule is to be applied to any metal part or product at any physical location within the District.

K. Sell-Through/Existing Stock of Coatings: A coating manufactured prior to amendment date of this rule, that complied with the VOC Content limit(s) in effect at that time, may be sold, supplied, or offered for sale for 12 months after rule adoption date. Such a coating may be applied at any time, both before and after adoption date, provided manufacture Date-Code and VOC Content is clearly printed on coating container.

VI. Administrative Requirements

A. Labeling Requirements

1. VOC Content: Each container ~~(~~or accompanying data sheet~~)~~ of any coating subject to this Rule ~~and manufactured after May 6, 1992~~ shall display maximum VOC content of the coating as applied, ~~including coating components,~~ and after any thinning as recommended by the manufacturer. VOC content shall be displayed as grams of VOC per liter of coating less water and exempt compounds. VOC content displayed shall be determined using Subsection VII.A. test methods or calculated using product formulation data if ~~U.S.~~ EPA approves this as equivalent to Subsection VII.A.

2. Thinning Recommendations: Each container (or accompanying data sheet) of any coating subject to this Rule and manufactured after May 6, 1992 shall display a statement of manufacturer's recommendation regarding thinning of the coating. This requirement shall not apply to thinning of coatings with water.

3. Solvent Compliance Statement Requirements: Manufacturers of any solvent subject to this rule shall indicate on the solvent container, or on a separate product data sheet or material safety data sheet, name of the solvent, manufacturer's name, VOC content, and density of the solvent, as supplied. The VOC content shall be expressed in units of g/l or lb/gal.

B. Record Keeping Requirements

Any ~~person~~ operator that uses coatings or solvents subject to ~~Section IV. or exempt by Subsection III.A.~~ this Rule, shall maintain and have the following available on site at all times:~~during an inspection:~~

1. A current list of all VOC containing products in use ~~containing all~~that includes any data necessary to evaluate compliance, including but not limited to the following information, as applicable:

    a. Material name and manufacturer's identification,

    b. Application method,

    c. Material type and specific use instructions,

    d. Specific mixing instructions,

    e. ~~Maximum~~ VOC actual and VOC regulatory for ~~content of~~ coatings as applied, or VOC content for solvent. ~~including thinning solvents, hardeners, etc., excluding water and exempt compounds, and~~

    ~~f. Coating composition and density.~~

2. Daily coating and solvent use records, including the following information for each:

    a. Volume ~~used~~ of each ~~component~~ coating/solvent ~~and~~ mix ratio,

    b. VOC content in grams/liter (or pounds/gallon) as applied/used,

    c. Volume of each coating/solvent in liters (or gallons) applied/used.

    d. Type and amount of solvent used for cleanup and surface preparation.

    If purchase records are used to determine the amount of solvents used, then records and manifests of the amounts of solvents disposed of or sent to a recycler must also be maintained and made available to the APCO upon request.

3. Current manufacturer specification sheets, material safety data sheets, technical data sheets, or air quality data sheets, which list the VOC actual for coatings and VOC regulatory for coatings of each ready-to-spray coating (based on the manufacturer's stated mix ratio), and VOC content of each solvent.

4. Purchase records identifying the coating category as listed in Section V, which includes name and volume of coatings and solvents.

5. Alternate Emissions Control Records: Any person using an emission control system shall maintain daily records of key system operating parameters which will demonstrate continuous operation and compliance of the emission control system during periods of VOC emission producing activities. "Key system

operating parameters" are those parameters necessary to ensure or document compliance with Section V.E., including, but not limited to, temperatures, pressure drops, and air flow rates.

6. Record Retention: Records required by this Rule shall be retained for a minimum of three years and made available to the APCO upon request.

~~3. Capture and control equipment operating records, if applicable, including:~~

~~a. Periods of operation corresponding to use records kept for Subsection V.B.2. showing control equipment was used as necessary,~~

~~b. Key system operating parameters showing operation as required to comply with this Rule and as intended by manufacturer,~~

~~c. Date performed, and description of all control system maintenance.~~

~~Facilities exempt by Subsection III.A. may maintain records on an extended basis provided such records show emissions are less than 15 pounds for the entire extended period.~~

~~All records shall be retained and made available for inspection by the Control Officer for at least three years.~~

VII. Test Methods

The following test methods are incorporated by reference herein, and shall be used to test emission sources subject to the provisions of this rule. A source is in violation of this rule if any measurement by any of the listed applicable test methods exceeds any standard of this rule.

~~E~~A. ~~Measurement of~~ Acid Content: ~~–~~Acid content of Pre-Treatment Wash Primers shall be conducted and reported in accordance with ASTM D1613-~~85~~ 03 "Standard Test Method for Acidity in Volatile Solvents and Chemical Intermediates ~~used~~ Used in Paint, Varnish, Lacquer, and Related Products" (October 2003).

~~A~~B. Analysis of Samples: ~~–~~Samples of VOC as specified in this Rule shall be analyzed by ~~U.S.~~ EPA Method 24 as set forth in Appendix A of Title 40 of the Code of Federal Regulations (40 CFR) Part 60, "Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings".~~and analysis~~ Analysis of halogenated exempt compounds shall be conducted using CARB Method ~~432~~422, "Determination of Volatile Organic Compounds in Emissions from Stationary Sources" (September 12, 1990).~~, or ASTM D-4457-85 and be consistent with provisions set forth in the Federal Register (FR. Vol. 56, No. 52, March 18, 1991).~~

C. Alternative Test Methods: The use of other test methods which are determined to be equivalent or better and approved, in writing, by the APCO, ARB, and EPA may be used in place of the test methods specified in this rule.

~~C~~D. ~~Determination of~~ Control and Capture Efficiency: ~~– Where add-on control equipment is utilized, capture efficiency shall be determined in accordance with 40 CFR 52.741.~~ Capture and control efficiency of emission control systems shall be determined as specified in EPA's "Guidelines for Determining Capture Efficiency," (January 9, 1995) and 40 CFR 51, Appendix M, Methods 204-204F as applicable. Total organic emissions of emission control systems shall be determined using EPA Method 25, 25A or 25B.

~~B~~E. Determination of Emissions: –Emissions of VOC shall be measured by ~~U.S.~~ EPA Method 25, 25A, or 25B, as applicable and analysis of halogenated exempt compounds shall be conducted using CARB Method 432, "Determination of Dichloromethane and 1,1,1- Trichloroethane in Paints and Coatings" (September 12, 1998).~~.~~

F. Exempt Organic Compound Content of Coatings: The exempt organic compound content of coatings or solvents shall be determined using ASTM Method D 6133- 02, Standard Test Method for Acetone, p-Chlorobenzotrifluoride, Methyl Acetate, or t-Butyl Acetate Content of Solventborne and Waterborne Paints, Coatings, Resins, and Raw Materials by Direct Injection into a Chromatograph. Exempt organic compound content, other than as determined above, shall be determined by using CARB Method 422; CARB Method 432; or South Coast AQMD Method 303-91, "Determination of Exempt Compounds" (August 1996).

G. HVLP Equivalency: Spray Equipment HVLP equivalency shall be determined by using South Coast Air Quality Management District's "Guidelines for Demonstrating Equivalency with District Approved Transfer Efficient Spray Guns" (September 26, 2002).

~~D~~H. ~~Quantification of~~ Metallic Content: ~~/Iridescent Topcoat - Quantification of coating as a~~ The metallic content of a coating~~/iridescent topcoat~~ shall be determined by South Coast Air Quality Management District "Test Method ~~311~~318-~~91~~95, "~~Analysis~~ Determination of Weight Percent Elemental Metal~~s~~ in ~~Metallic~~ Coatings by X-Ray" (July 1996).~~Spectrographic Method".~~

~~F~~I. ~~Demonstration of~~ Transfer Efficiency: –~~Spray equipment t~~Transfer efficiency shall be ~~demonstrated~~ determined by using South Coast ~~Air Quality Management District~~AQMD Method "Spray Equipment Transfer Efficiency Test Procedure for Equipment User" May 24, 1989.

~~G~~J. ~~Determination of~~ VOC Composite Partial Pressures: –VOC composite partial pressures shall be determined using either manufacturer's information regarding formulation or using ASTM methods ~~E168-92,~~ E169-~~93~~04 Standard Practices for General Techniques of Ultraviolet-Visible Quantitative Analysis~~,~~ or E260-~~91~~ 96, Standard Practice for Packed Column Gas Chromatography for determination of mole fractions and then summing products of each VOC component's vapor pressure and its mole fraction. For materials containing no non-VOC components, VOC composite partial pressure can be measured directly by ASTM Method D2879-~~86~~10, Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope.

~~H~~K. ~~Determination of~~ VOC Emissions ~~From~~ from Spray Gun Cleaning Systems: ~~–~~ VOC emissions from spray gun cleaning systems shall be made using South Coast AQMD~~Air Quality Management District~~ "General Test Method for Determining Solvent Losses from Spray Gun Cleaning Systems" (October 3, 1989).

~~**VII. Compliance Schedule**~~

~~A. Any person becoming subject to requirements of this Rule by loss of exemption shall comply with the following increments of progress:~~

~~1. Within 6 months from date exemption is lost, submit a complete application for an Authority to construct control equipment, if necessary; and~~

~~2. Within 12 months from date exemption is lost, be in full compliance with requirements of this Rule.~~

~~B. Any new proposed surface coating of metal parts or products operation not exempt by Section III, shall demonstrate its ability to comply with requirements of Rule prior to issuance of Authority to Construct.~~

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APPENDIX C

AMENDED RULE 410.4

METAL, PLASTIC, AND PLEASURE CRAFT

PARTS AND PRODUCTS COATING OPERATIONS

RESPONSE TO COMMENTS

On November 6, 2013 the District held a public rule development workshop at the Mojave Veteran's Building in Mojave, CA to present proposed revisions of Rule 410.4, Metal, Plastic, and Pleasure Craft Parts and Products Coating Operations. The District submitted copies of the proposed revision to the ARB and EPA in October, 2013 for an initial 30-day review.

Upon completion of review EPA offered comments and suggested changes to District staff regarding the proposed revision of Rule 410.4. ARB did not provide comments or suggested changes and stated they would wait to review the rule upon submission of the final draft.

Industry representatives present at the 11/6/2013 workshop asked various questions regarding the proposed amendments and submitted written comments within 30-days following the workshop. Appendix C addresses comments, questions, and suggested changes regarding amended Rule 410.4.

Appendix C is separated into two sections based on EPA comments and suggested changes and industry/public comments and questions.

I. EPA COMMENTS

The following changes were made to the 10/17/2013 proposed revision of Rule 410.4 in response to EPA comments.

Section III, Definitions

1. EPA commented: *K: The classification numbers indicated could not be verified. Please consider removing this information.*

   District corrected this issue.

2. EPA commented: *Extreme High Gloss Coating: Please verify the reflectance %. SCAQMD uses 75% and the Illinois Administrative Code makes a distinction for metal parts (75%) and pleasure craft (95%).*

   District did not change this subsection, the CTG and SJVAPCD Rule 4603 use 95%

3. EPA commented: *Extreme Performance Coating: Consider adding "and repeated abrasion and mechanical wear." at the end of this definition (after "in excess of 250oF.")*

   District corrected this issue.

4. EPA commented: *JJ and NN: correct degree symbols.*

   District corrected this issue.

5. EPA commented: *LL: Revise format of ASTM test method to ASTM D523-89.*

   District deleted High Gloss definition because it is not used in rule, Extreme High Gloss is used.

6. EPA commented: *The EPA defines a "Light-Duty Truck as weighing between 3750 and 5750 pounds. 8500 lbs seems excessive for this category.*

   District went back to original weight of 6001.

7. EPA commented: *LLL: Ventura APCD Rule 74.12 definition specifies a VOC requirement for "Powder Coating" which would strengthen your definition.*

   District added Powder Coating to exemptions list. See Section IV.E.

8. EPA commented: *FFFF: Touch Up Coating: The limit of nine square feet is an addition to the SJVUAPCD's definition. This seems excessive for touch-up.*

   District revised definition and eliminated nine square feet. Due to other changes Touch Up Coating was moved to EEEE.

Section V, Requirements

1. EPA commented: *General: It will improve enforceability if each of these tables have an effective date.*

   District added a 12-Month sell-through provision (Subsection V.K.) and Requirement Sections V.A, C, and D have added language that points to V.K.

2. EPA commented: *Table 1: Consider lowering the limits for the following:*

   All Coatings except those listed below: SCAQMD allows only 275 for the air-dried coating of this category.

   District did not change, kept SJVAPCD VOC limit.

3. *EPA commented: Table 1: Extreme High Gloss: SCAQMD allows only 340 for the baked and 360 for the air-dried coating of this category.*

   District did not change, kept SJVAPCD and CTG VOC limit.

4. EPA commented: *Table 1: Metallic/Iridescent Coating: Both SJVUAPCD and SCAQMD have a limit of 360 for the baked coating of this category.*

   District changed VOC limit per suggestion.

5. EPA commented: *Table 1 General: Consider adding the other categories listed in EPA's CTG with applicable limits.*

   District added all except Architectural and Multi Component because they would conflict with District Rule 410.1A, Architectural Coating Controls.

6. EPA commented: *E: Consider increasing the capture efficiency to 90% as SJVAPCD's rule stipulates. Also, consider adding the following in this paragraph: "The use of a VOC emission control system shall not result in emissions in excess of those that would have been emitted had the operator complied with the provisions of section V- subsections A,B, C and D.*

   District revised per suggestion.

Section VI, Test Methods

1. EPA commented: *B: The CARB Test Method 432 does not appear appropriate. We recommend CARB Method 422 and add the title: Determination of Volatile Organic Compounds in Emissions from Stationary Sources.*

   District revised per suggestion.

2. EPA commented: *D: Correct the EPA methods from 204-204f to 204-204F.*

   District revised per suggestion.

3. EPA commented: *E: Since this is the first reference of CARB Method 432, add the title here (Determination of Dichloromethane and 1,1,1-Trichloroethane in Paints and Coatings) and date (optional) here. The title may be removed from subsequent references to this method in section F.*

   District revised per suggestion.

4. EPA commented: *F: The correct version approved by EPA for method 422 is September 12, 1990 and for SCAQMD method 303-91 is August 1996.*

   District revised per suggestion.

5. EPA commented: *J: ASTM E168 is not an EPA approved test method. Per the Little Blue Book, all ASTM references should include their titles and an EPA approved version date. For E260, the 1996 version is approved and for D2879, the 2010 version is approved.*

   District revised per suggestion.

6. EPA commented: *K: The SCAQMD test method referred to needs a date (October 3, 1989).*

   District revised per suggestion.

Staff Report

1. EPA commented: *Section VI changes: SCAQMD Rule 1171 is Solvent Cleaning Operations and this rule does not discuss automotive coatings as stated.*

   District revised this section, see staff report.

2. EPA commented: *Section VIII changes: The revision to "Storage and Disposal Requirements" on page 6 is incorrect.*

   District revised this section, see staff report.

II. INDUSTRY/PUBLIC COMMENTS

The following comments were made by industry representatives in response to the proposed revision presented at the 11/6/2013 workshop.

American Coatings Association
American Coatings Association (ACA) submitted the following written comments regarding Rule 410.4 on 12/6/2013.

Section III, Definitions

1. ACA commented: *There is no definition for ANTIFOULANT COATING. We suggest the following, which originates from the CTG: “Means any coating applied to the underwater portion of a pleasure craft to prevent or reduce the attachment of biological organisms, and registered with the United States Environmental Protection Agency (EPA) as a pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act (7 United States Code Section 136).”*

   District revised per suggestion.

2. ACA commented: *Revised definition for the category of PRETREATMENT WASH PRIMER.*

   The current definition of Pretreatment Wash Primer would restrict the development of alternative products which would be considerably less toxic to humans and the environment than those used currently. Products which meet the current definition for this are formulated to contain known carcinogens such as zinc chromate (CAS 13530-65-9) and zinc tetroxy chromate (CAS 37300-23-5) due to the excellent anti-corrosive properties of these materials.

   In most cases the approach taken in the CTG is to define the control category in terms of the product attribute. For example, the definition of a High Gloss Topcoat refers specifically to the performance attribute of the product – the gloss result. However, in the case of the "Pretreatment Wash Primer" category, the approach has been to define the category both in terms of the formulation parameters (acid content and solids content) and the performance attribute of the product (surface etching). By taking this approach, South Coast and EPA has very much tied industry to the current, well established but very toxic 4 zinc-based etch primers. This definition requires amending to allow for the introduction of safer, alternative etch systems which are not based on zinc tetroxy chromate.

   Industry would like a modification made to the definition so that it reads as follows: "PRETREATMENT WASH PRIMER means a coating which contains no more than 25 percent solids, by weight, and at least 0.1 percent acids, by weight; is used to provide surface etching; and is applied directly to fibreglass and metal surfaces to provide corrosion resistance and adhesion of subsequent coatings"

   The 'percent solids' value must be raised from 12 to 25 to allow for an increased quantity of safer (non-carcinogenic) replacement pigment which is required for equivalent coating performance. These replacement formulations require a reduced level of acid to perform adequately therefore it is also necessary to reduce the deminimus value associated to 'percent acids' from 0.5 to 0.1.

   District revised per suggestion, it is reasonable to reduce a known carcinogen.

3. ACA commented: *Revised definition for the category of EXTREME HIGH GLOSS TOPCOAT*

   Application of topcoats is undertaken in a variety of environmental conditions that can have an effect on the final gloss level of the product at the point of application. To manage this variation it is suggested that the gloss level stated in the definition of the Extreme High Gloss Topcoats category be lowered slightly to read; "Extreme high gloss coating means any coating which achieves greater than 90 percent reflectance on a 60° meter when tested by ASTM Method D 523-89"

   District revised to match CTG and AVAQMD Rule 1106.1.

4. ACA commented: *New Categories –Antifouling Sealer/Tie Coat: South Coast Rule 1106.1 is out of date and there are more recent requirements for an additional category to reflect pleasure craft coatings of the modern day which are more environmentally friendly and/or compliant with International law. A new category is required as a result of the International Maritime Organization Antifouling Systems convention (IMO AFS) and should be added to the categories taken from Rule 1106.1. This convention was ratified in 2007 and houses a list of substances banned from use in antifoulings in Annex 1. Tri Butyl Tin (TBT) is the first addition to Annex 1 and the use of this biocide in antifoulings on the hulls of any marine vessels entering the waters of countries which are signatories to the convention is controlled according to the requirements of Annex 1 of the AFS. A specialised coating type is required to seal in old TBT containing antifoulings and to promote adhesion of biocide-free, non-stick foul release coatings when applied to vessels. The use of biocide-free coatings brings significant environmental benefits.*

   The category should be named 'Antifouling Sealer/Tie Coat' with a maximum VOC content of 420 g/L. Antifouling Sealer Coats and Tie Coats have been introduced into the market largely to facilitate compliance with Annex 1 of the IMO-Antifouling Systems Convention (2001).

   Antifouling Sealer/Tie Coats must contain a VOC up to 420 g/L in order to facilitate adequate penetration into an underlying paint film for maximum adhesion. They also contain a high degree of polymeric material (hence need a higher VOC content to maintain an acceptable application viscosity) so the coating can form a flexible yet complete barrier over an underlying paint film. An appropriate definition for this type of coating would be…"a coating applied over Biocidal antifouling coating for the purpose of preventing release of biocides into the environment and/or to promote adhesion between an antifouling and a primer or other antifoulings."

District revised per suggestion.

Section IV, Exemptions

1. ACA commented: *Exemption: Consistent with the CTG on page 30, ACA suggests adding the following exemptions for metal coatings. For metal parts coatings, we are recommending that only the recommended work practices, but not the recommended VOC limits and application methods, apply to the following types of coatings and coating operations:*
   - Stencil coatings;
   - Safety-indicating coatings;
   - Solid-film lubricants;
   - Magnetic data storage disk coatings; and
   - lastic extruded onto metal parts to form a coating.

   District revised per suggestion, exemptions are consistent with the CTG.

2. ACA commented: *Powder Coatings: Consistent with the CTG on page 30, ACA suggests exempting powder coatings from the VOC limits and application methods since powder coatings are an inherently low-VOC alternative to many liquid coatings.*

   District revised per suggestion, exemptions are consistent with the CTG.

3. ACA commented: *Section IV Exemptions: ACA suggests separating section 410.7 for Graphic Arts with section 410.8 for Aerospace Assembly and Coatings Operations.*

   District corrected this issue.

4. ACA commented: *Electrical Insulating Limit: Consistent with the CTG, ACA suggests a 3.5 lb/gal limit for baked coatings.*

   District revised per suggestion.

5. ACA commented: *Solid Film Lubricant: Consistent with the CTG, ACA suggests exempting Solid Film Lubricants from the VOC limits (see comment 6 above)*

   District revised per suggestion.

6. ACA commented: *Request Small Container Exemption: Many industrial and commercial coatings VOC regulations include a small container exemption confined to not exceed a litre or a quart. They also often include an annual limitation on the amount used. Architectural and industrial maintenance rules also contain such exemptions.*

   The purpose behind these exemptions is to allow for small repairs and touches ups to existing coatings that if done in a timely manner can often avoid larger paint jobs later. In the commercial or industrial setting, the small container exemptions allows minor repairs at the end of the painting line to avoid having to completely recoat the object of product. Thus the higher VOC materials actually reduce overall VOC emissions by allowing such repairs and touch ups to avoid complete overall or redo paint jobs.

   District: Touch-up operations already have specific exemptions under Section IV. The District sees no reason to revise.

Section V, Requirements

1. ACA commented: *For consistency with the Surface Coating Control Technique Guidelines (CTG), ACA suggests inserting the following language as Section V(A)(1):*

   “If total actual VOC emissions from all metal parts and products, plastic parts and products, automotive/transportation and business machine plastic parts and

products, and pleasure craft coating operations, including related cleaning activities, at a stationary source, before consideration of controls are less than 2.7 tons of VOC per calendar, operator shall comply with the applicable recordkeeping requirements of Section VI.B. and demonstrate VOC emissions from all coating operations and related cleaning activities are less than 2.7 tons of VOC per calendar year."

District added a new paragraph at the beginning of Section V and Sections V.C and V.D were removed.

2. ACA commented: *Section V(C): 2.7 tons of VOC per calendar [please add "year"].*

   District revised per suggestion.

3. ACA commented: *Compliance Date: ACA requests an extended deadline to give the industry at least one year from rule adoption to rule implementation to allow manufacturers time to reformulate products, lock out products, and notify customers.*

   District added sell-through provision, see Section V.K.

4. ACA commented: *Miscellaneous: Section V.D.1 and V.D.2 – add the word "year" after "VOC calendar."*

   District: this information was moved to the top of Section V.

Table 1

1. ACA commented: *Drum Coatings: Consistent with the CTG, ACA suggests adding the following drum coatings to Table 1:*
   - Drum Coating, New, Exterior 2.8 lb/gal (Baked), 2.8 lb/gal (Air Dried)
   - Drum Coating, New, Interior 3.5 lb/gal (Baked), 3.5 lb/gal (Air Dried)
   - Drum Coating, Reconditioned, Exterior 3.5 lb/gal (Baked), 3.5 lb/gal (Air Dried)
   - Drum Coating, Reconditioned, Interior 4.2 lb/gal (Baked), 4.2 lb/gal (Air Dried)

   District: this is consistent with the CTG, revised per suggestion.

Table 2

1. ACA commented: *Table 2 – nonflexible primer: This should read 3.5, not (4.03.5).*

   District corrected this issue.

2. ACA commented: *Table 2: Please add the following footnote from the CTG: "For red, yellow, and black automotive coatings, except touch up and repair coatings, the recommended limit is determined by multiplying the appropriate limit in this table by 1.15."*

   District revised per suggestion.

3. ACA commented: *Motor Vehicle: Consistent with the EPA CTG, ACA suggests Eastern Kern add the Table 6 limits on page 35 for motor vehicle materials – Motor vehicle cavity wax through Motor vehicle lubricating wax/compound.*

   District these categories are covered in Rule 410.4A, Motor Vehicle and Mobile Equipment Refinishing Operations all other motor vehicle categories from Table 6 located on page 35 of the CTG were added to the Table of Standards in amended Rule 410.4A.

Table 3

1. ACA commented: *VOC Limit Revisions: To maintain the visual appearance and performance that the customer has come to expect and also considering the lack of industry consultation when EPA adopted the CTG in 2008, we recommend the following revisions to the VOC limits for three categories:*
   1. Revise the VOC Limit for Extreme High Gloss Topcoat to 600g/L
   2. Revise the VOC Limit for Finish Primer/Surfacer to 600g/L
   3. Revise the VOC Limit for Other Substrate Antifoulant Coating to 400g/L

   District: VOC limits are consstent with SJVAPCD and AVAQMD Rules and will not be raised.

Section VI, Administrative Requirements

1. ACA commented: *Record Retention: To give manufacturers adequate time to gather requested information, ACA recommends the following revision:*

   "Record Retention: Records required by this Rule shall be retained for a minimum of three years and made available to the APCO, 90 days after request."

   District did not change, "available upon request" is common language used throughout District Rules and Permits to Operate.

Edwards Air Force Base

Edwards Air force Base (Edwards) submitted the following written comments regarding Rule 410.4 on 12/6/2013.

Section III, Definitions

1. Edwards commented: *D. Additions are in red underlined font and deletions are in red strikeout font. “Air Dried Coating: Curing or drying a coating by heating the coated object above ambient temperature, but below a maximum of 90°/C (194°/F).*

   District corrected this issue.

2. Edwards commented: *H. Additions are in red underlined font and deletions are in red strikeout font. “Baked Coating: Curing or drying a coating by heating the coated object above ambient temperature, but below a maximum of 90°/C (194°/F).*

   District corrected this issue.

3. Edwards commented: *For consistency, please correct the text so that temperature is indicated in °C or °F.*

   District: All temperatures are listed in both C and F.

Section V, Requirements

1. Edwards commented: *Section V. (Requirements). Remove bullet points 1 and 2 in subsections V.C and V.D. and create a separate subsection for these two bullets to state:*

   i. Total actual VOC emissions from all metal parts and products, plastic parts and products, automotive transportation and business machine plastic parts and products, and pleasure craft coating operations, including related cleaning activities at a stationary source, before consideration of controls are equal to or greater than 2.7 tons of VOC per calendar year.

   ii. If total actual VOC emissions from all metal parts and products, plastic parts and products, automotive transportation and business machine plastic parts and products, and pleasure craft coating operations, including related cleaning activities, at a stationary source, before consideration of controls are less than 2.7 tons of VOC per calendar year, operator shall comply with the applicable recordkeeping requirements of Section VI.B. and demonstrate VOC emissions from all coating operations and related cleaning activities are less than 2.7 tons of VOC per calendar year.

   District: These two subsections were deleted and a new paragraph was added at the beginning of Section V.

2. Edwards commented: *There is no specific effective date of the VOC Limits. We request Eastern Kern Air Pollution Control District (EKAPCD) add an effective date as this allows for planning.*

   District: Sell-through provision was added (Section V.K.) and “Date of adoption” was added to Section II.

3. Edwards commented: *We request EKAPCD revise the sell-through date to 12 months after effective date of the rule.*

   District: Sell-through provision was added (Section V.K.).

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