SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

PRELIMINARY DRAFT STAFF REPORT
(Public Workshop Version)

Proposed Amended Rule 1106 - Marine and Pleasure Craft Coatings, and

Proposed Rescinding of Rule 1106.1 - Pleasure Craft Coating Operations

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Deputy Executive Officer
Planning, Rule Development, and Area Sources
Philip M. Fine, Ph.D.

Assistant Deputy Executive Officer
Planning, Rule Development, and Area Sources
Sarah L. Rees, Ph.D.

Manager
Planning, Rule Development, and Area Sources
David De Boer

AUTHOR:	Charlene Nguyen	Assistant Air Quality Specialist
	Don Hopps	Program Supervisor
CONTRIBUTORS:	Shah Dabirian	Program Supervisor
	Brad Parrack	Principal Air Quality Chemist
	Barbara Radlein	Program Supervisor
	William Senga	AQ Inspector II
	Isabelle Shine	AQ Inspector II
	Tracy Tang	Air Quality Specialist
REVIEWED BY:	Stacey Pruitt	Senior Deputy District Counsel

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VACANT
Supervisor
County of Orange

EXECUTIVE OFFICER:

WAYNE NASTRI

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Rule 1106 - Marine Coating Operations and Rule 1106.1 - Pleasure Craft Coating Operations are source specific rules that were adopted to reduce emissions of Volatile Organic Compounds (VOCs), stratospheric ozone depleting compounds, and global warming compounds that result from marine coatings applied to boats; ships; vessels, and their appurtenances; buoys; oil drilling rigs; and pleasure craft that are intended for the marine environment including their parts and components as defined in Rule 1106.1.

The proposal is two-fold: 1. The proposed amendment to Rule 1106 - Marine Coating Operations and 2. The proposed rescinding of Rule 1106.1 - Pleasure Craft Coating Operations. Proposed Amended Rule (PAR) 1106, Marine and Pleasure Craft Coatings, is a source specific rule that will continue to regulate the marine coating industry, but will now also apply to pleasure craft marine coatings by incorporating the requirements of Rule 1106.1 – Pleasure Craft Coating Operations. The air quality objective of these proposed actions is to combine the requirements for marine and pleasure craft coating operations into one rule; align VOCs content limits with United States Environmental Protection Agency (U.S. EPA) Control Techniques Guidelines: align with other California air districts; and promote consistency with all SCAQMD Regulation XI VOC rules. The proposed rule amendment would also accomplish the following:

- Reduce the VOC content limits for certain categories of coatings, including pretreatment wash primers, antenna, repair and maintenance thermoplastic, inorganic zinc, and specialty marking coatings
- Add VOC content limits for new categories of coatings, including marine aluminum antifoulant, mist, nonskid and organic zinc coatings and marine deck primer sealant and require the use of the most restrictive VOC content limit
- Prohibit the possession and sale of non-compliant coatings and establish requirements for transfer efficiency, labeling, and recordkeeping
- Moving definitions specific to Rule 1106.1 into Proposed Amended Rule 1106.

This staff proposal is administrative in nature, and staff analysis concludes that the VOC content adjustment to the coating categories noted above will not adversely affect coating manufacturers by way of reformulation, or affect current work practices currently used in the industry.

The proposed administrative amendment is not expected to yield any additional VOC reductions or increases. Since this industry already has compliant products available that already meet the VOC limits in this proposal, no reformulations of marine or pleasure craft coatings are expected.

RULE 1106 – MARINE AND PLEASURE CRAFT COATINGS

CHAPTER 1: BACKGROUND ON PROPOSED AMENDED RULE 1106

- Introduction
- Regulatory History
- Affected Facilities
- Process Description

INTRODUCTION

Rule 1106 - Marine Coating Operations and Rule 1106.1 - Pleasure Craft Coating Operations are both source specific rules that were adopted to reduce emissions of Volatile Organic Compounds (VOCs), stratospheric ozone depleting compounds and global warming compounds from marine coatings applied to boats, ships, vessels, and their appurtenances, buoys, oil drilling rigs and for pleasure craft, including parts and components intended for the marine environment, as defined in Rule 1106.1. The proposed amendment is two-fold. First, Rule 1106 is proposed to subsume the requirements of Rule 1106.1, and second, Rule 1106.1 is proposed to be rescinded, while revising VOC content limits for pretreatment wash primers, antenna, repair and maintenance thermoplastic, inorganic zinc, and specialty marking coatings, in order to align limits with U.S. EPA Control Techniques Guidelines and other APCDs/AQMDs. The proposed amendment also adds new categories for marine aluminum antifoulant, mist, nonskid and organic zinc coatings and marine deck primer sealant, and requires the use of the most restrictive VOC content limit. The proposed amendment would also prohibit possession and sale of non-compliant coatings and establish requirements for transfer efficiency, labeling, and recordkeeping.

REGULATORY HISTORY

Rule 1106 was adopted on November 4, 1988 and has been subsequently amended seven times. The most recent amendment was on January 13, 1995 which incorporated corrective action items in efforts to resolve deficiencies as determined by U.S. EPA. The corrective action items in that amendment included language and an equation for control device equivalency, an applicability statement, test methods that were required to be specified, language regarding multiple test methods with the addition of the most recent test method, an updated definition for aerosol coatings and exempt compounds, and a permanent exemption for aerosol containers.

Rule 1106.1 was adopted on May 1, 1992 and has been subsequently amended three times. The most recent amendment was on February 12, 1999. The May 1, 1992 adoption removed Pleasure Craft Coating Operations from existing Rule 1106 - Marine Coating Operations. Many of the existing coating categories in Rule 1106 at that time were not representative of the pleasure craft coating industry. Consequently, the SCAQMD adopted Rule 1106.1 with the intent of identifying the special categories of coatings applied on pleasure craft.

In 2015, the SCAQMD conducted rulemaking efforts to amend Rule 1106 and 1106.1, similar to the current process being conducted for the two rules. At the time, the SCAQMD proposed to subsume the requirements of Rule 1106.1 into Rule 1106, rescind Rule 1106.1, align VOC content limits for pretreatment wash primers, antenna, repair and maintenance thermoplastic, inorganic zinc, and specialty marking coatings with U.S. EPA Control Techniques Guidelines and other APCDs/AQMDs, add new categories for marine aluminum antifoulant, mist, nonskid and organic zinc coatings and marine deck primer sealant, require the use of the most restrictive VOC content limit, and make clarification and consistency updates. On October 2, 2015, the Governing Board decided to not adopt the proposed amendments and to not certify the Final Environmental Assessment associated with the amendment proposals.

AFFECTED INDUSTRIES

Rule 1106 is applicable to all coating operations of boats, ships, and their appurtenances, and to buoys and oil drilling rigs intended for the marine environment. Coating operations of vessels which are manufactured or operated primarily for recreational purposes are subject to the requirements of Rule 1106.1.

Rule 1106.1 is applicable to all coating operations of pleasure craft, or their parts and components, for the purpose of refinishing, repairing, modification, or manufacturing such craft.as defined in Rule 1106.1 paragraph (b)(10). This rule also applies to establishments engaged in activities described in the United States Office of Management and Budget's 1987 Standard Industrial Classification Manual, under Standard Industrial Classification (SIC) codes 3732 - Boat Building and Repairing and 4493 - Marinas. Pleasure Craft Coatings which are subject to the requirements of Rule 1106.1 are not subject to the requirements of current Rule 1106.

Shipyards, Boatyards and Marinas:

Staff visited numerous shipyards, boatyards and marinas to gather information on what type of work the facilities were doing and what type of coatings they were using. Table 1-1 below shows the shipyards, boatyards and marinas that were visited by SCAQMD staff and Table 1-2 shows the large scale ships that were visited. The majority of the operators in the marine coating and pleasure craft coating industry are non-permitted facilities and are not typically inspected by SCAQMD inspectors. Staff visited several facilities and found many cases of non-compliance with both Rules 1106 and 1106.1 VOC limit standards. Staff also found that the most common maintenance operation at the shipyards, boatyards and marinas is the application of antifoulant coatings (these types of coatings are explained in the following section - Process Description).

TABLE 1-1: SHIPYARDS, BOATYARDS AND MARINAS VISITED BY SCAQMD STAFF

SHIPYARD	CITY	COUNTY
Al Larson Boat Shop	Terminal Island	Los Angeles
Cabrillo Boat Shop **(O/B)**	Long Beach	Los Angeles
Colonial Yacht Anchorage **(O/B)**	Wilmington	Los Angeles
Gambol Industries	Long Beach	Los Angeles
King Harbor Marine Center	Redondo Beach	Los Angeles
Marina Shipyard	Long Beach	Los Angeles
Seamark Marine	Marina del Rey	Los Angeles
The Boatyard	Marina del Rey	Los Angeles
Wilmington Marine Service Boatyard **(O/B)**	Wilmington	Los Angeles
Windward Yacht & Repair Center	Marina del Rey	Los Angeles
Balboa Boat Yard of California	Newport Beach	Orange
Basin Marine	Newport Beach	Orange
Newport Harbor Shipyard	Newport Beach	Orange
Dana Point Shipyard	Dana Point	Orange

Larson's Shipyard	Newport Beach	Orange
South Coast Shipyard	Newport Beach	Orange
Sunset Aquatic Shipyard	Huntington Beach	Orange

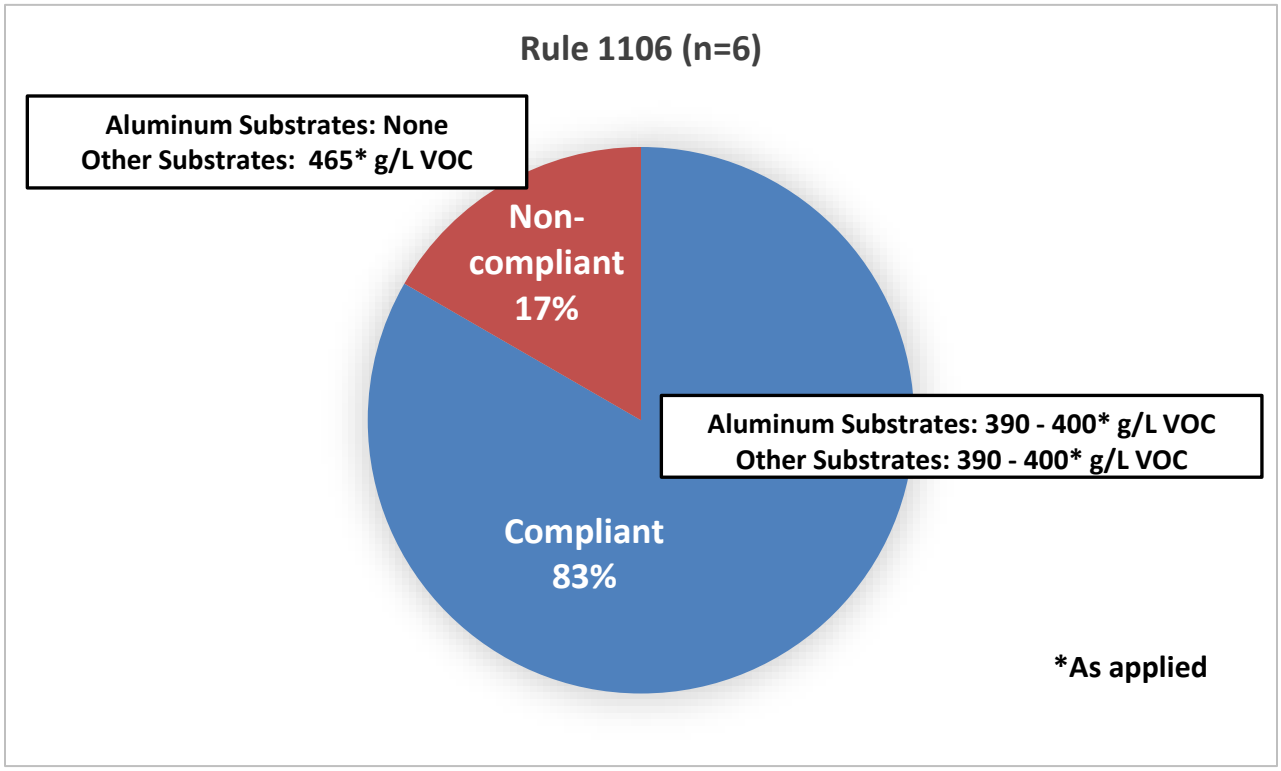
(O/B) Out of Business

TABLE 1-2: LARGE SCALE SHIPS VISITED BY SCAQMD STAFF

SHIP	CITY	COUNTY
Queen Mary	Long Beach	Los Angeles
U.S.S. Iowa	San Pedro	Los Angeles
S.S. Lane Victory	San Pedro	Los Angeles

Staff found that the shipyards, boatyards and marinas perform both mechanical repair and coating services. The mechanical repair services typically include engine work, drive unit work and any other non-coating type work. Coating operations include both top side and bottom side coating operations. Topside coatings are used from the waterline of the vessel up and bottom side coatings are typically for use underwater. Staff found that a small number of shipyards, boatyards and marinas offer topside coating services. The shipyards, boatyards and marinas that do not offer topside coating services, default this type work to contractors who perform the topside coating operations at the site. The majority of the shipyards, boatyards and marinas offer bottom side coating services which is the application or reapplication of antifoulant coatings. Staff confirmed that antifoulant coatings are used for vessels that remain in the water after use that are subject to marine animal and vegetation fouling hence, the owner of a vessel needs an antifoulant coating on the bottom of the vessel to prevent marine and vegetative growth. The average recoat operation for antifoulant coatings is typically every two years, and it takes two coats of antifoulant, rolled on, with a third coat applied at the waterline level. Staff found that the application of antifoulant coatings is the main operation for many of the shipyards, boatyards and marinas. As shown in Figure 1-1 – 1-2, many shipyards, boatyards and marinas were using antifoulant coatings and a lesser number were using topside and other category of coatings (e.g. primers) in excess of the VOC limit standards and were not aware they were exceeding rule VOC limits due to their unfamiliarity with the rule requirements. At several of these facilities, staff observed high VOC reducers and thinners that were being added to compliant antifoulant and topside coatings, which would result in these coatings to be applied in excess of the VOC limit standards. Staff also found that several suppliers to the shipyards, boatyards and marinas and consumers were selling non-compliant coating products.

FIGURE 1-1: ANTIFOULANT COATINGS SUBJECT TO EXISTING RULE 1106 AND 1106.1 VOC LIMITS USED AT SHIPYARDS, BOATYARDS AND MARINAS VISITED BY SCAQMD STAFF



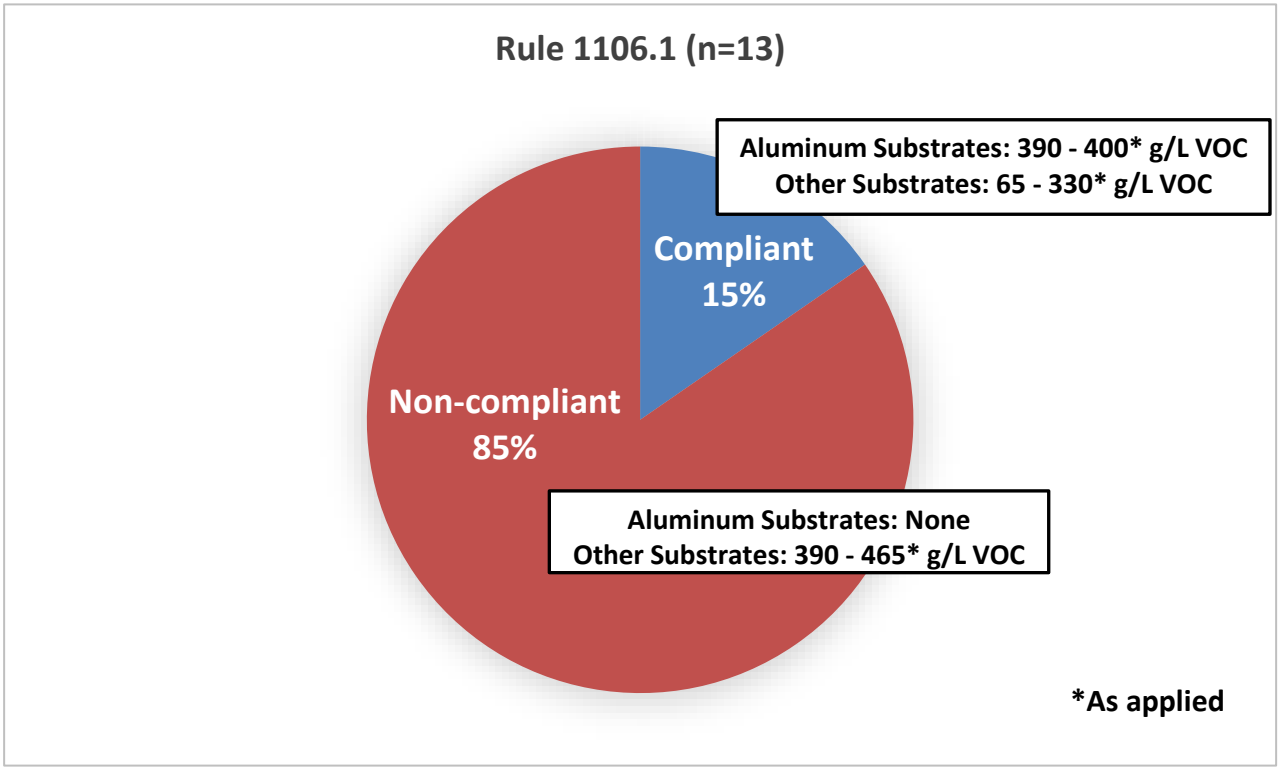
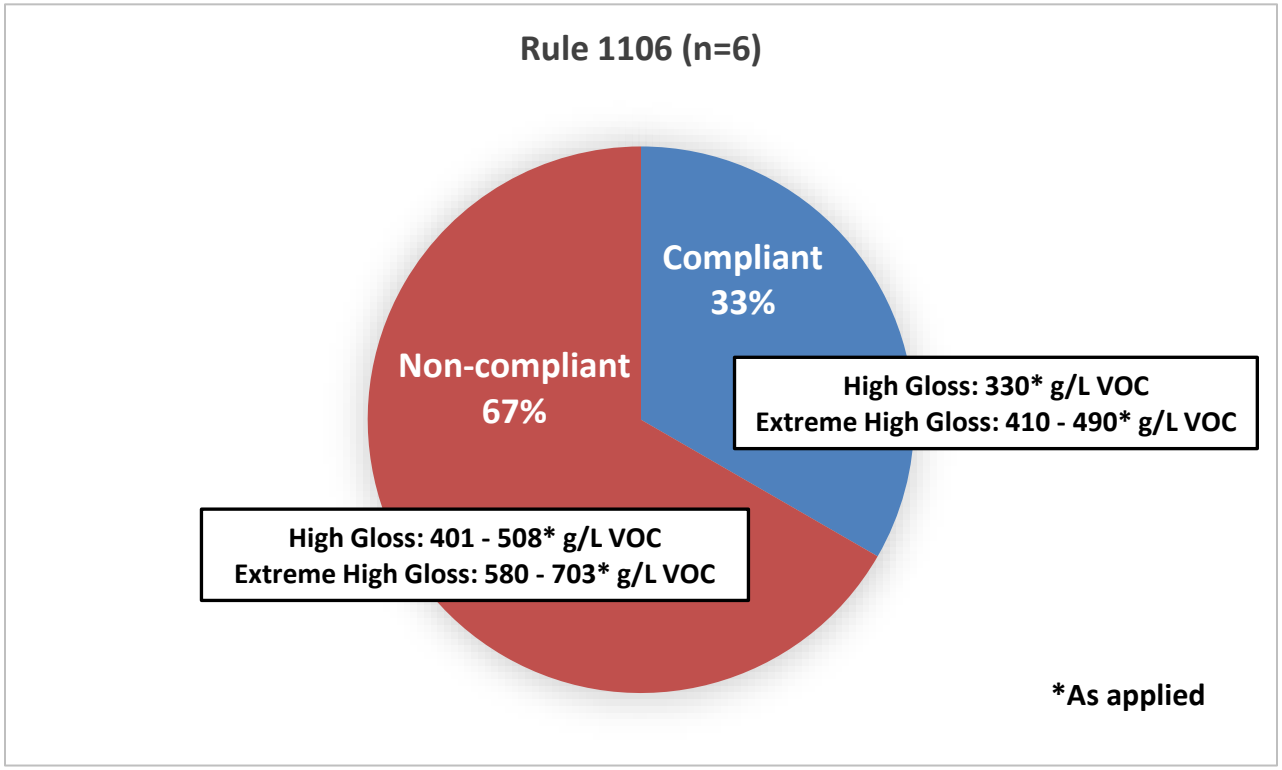


FIGURE 1-2: TOPSIDE COATINGS SUBJECT TO EXISTING RULE 1106 AND 1106.1 VOC LIMITS USED AT SHIPYARDS, BOATYARDS AND MARINAS VISITED BY SCAQMD STAFF



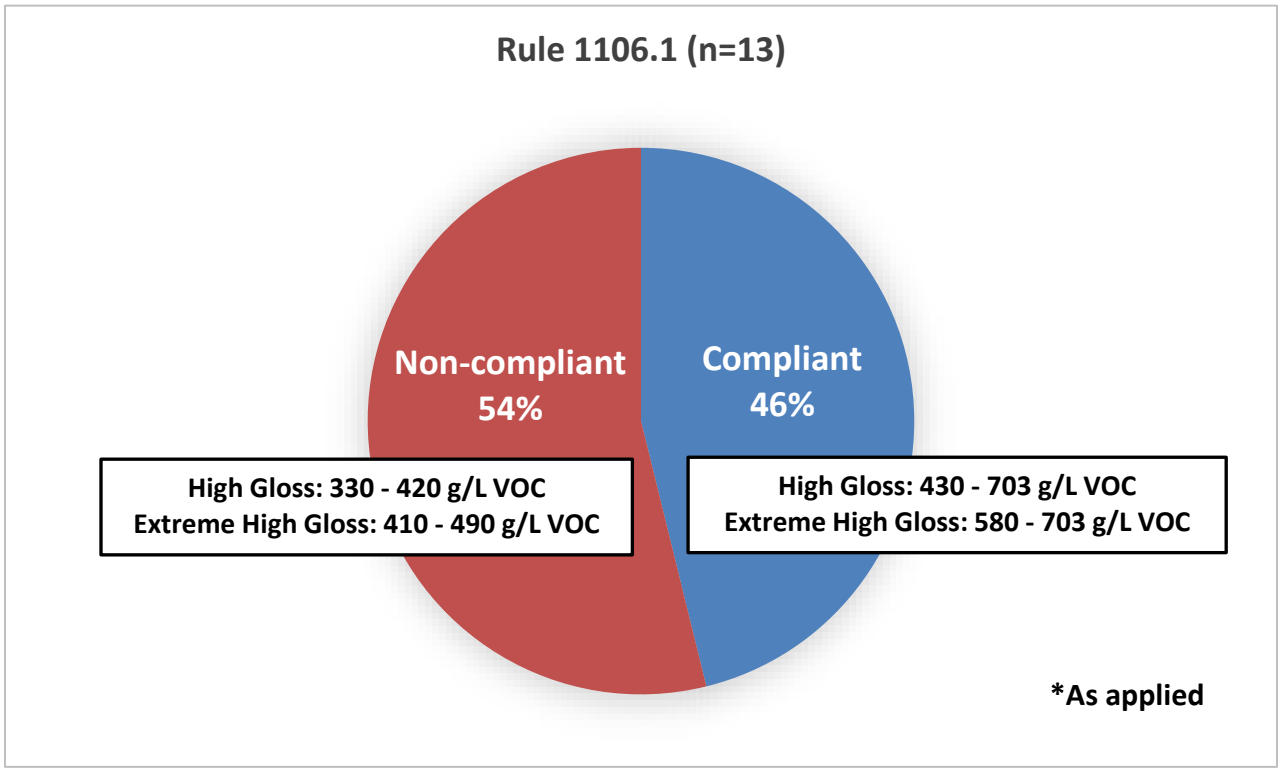
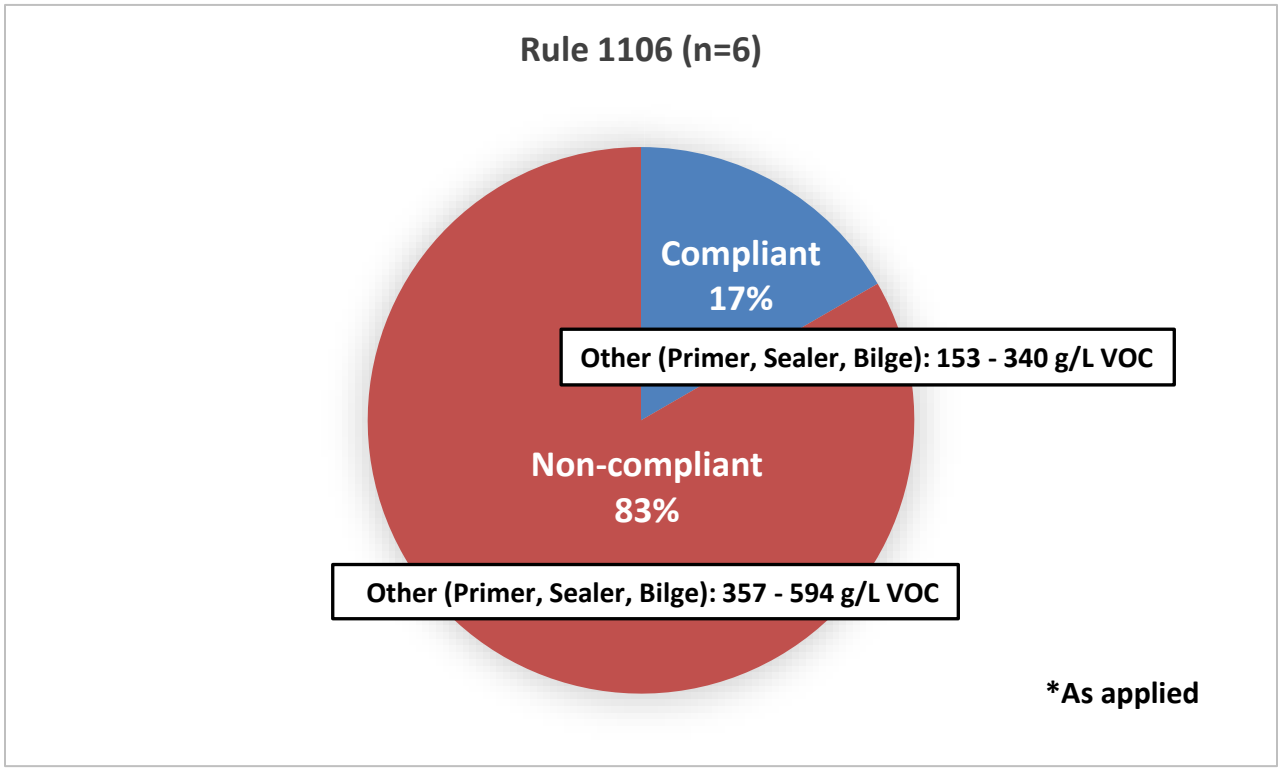
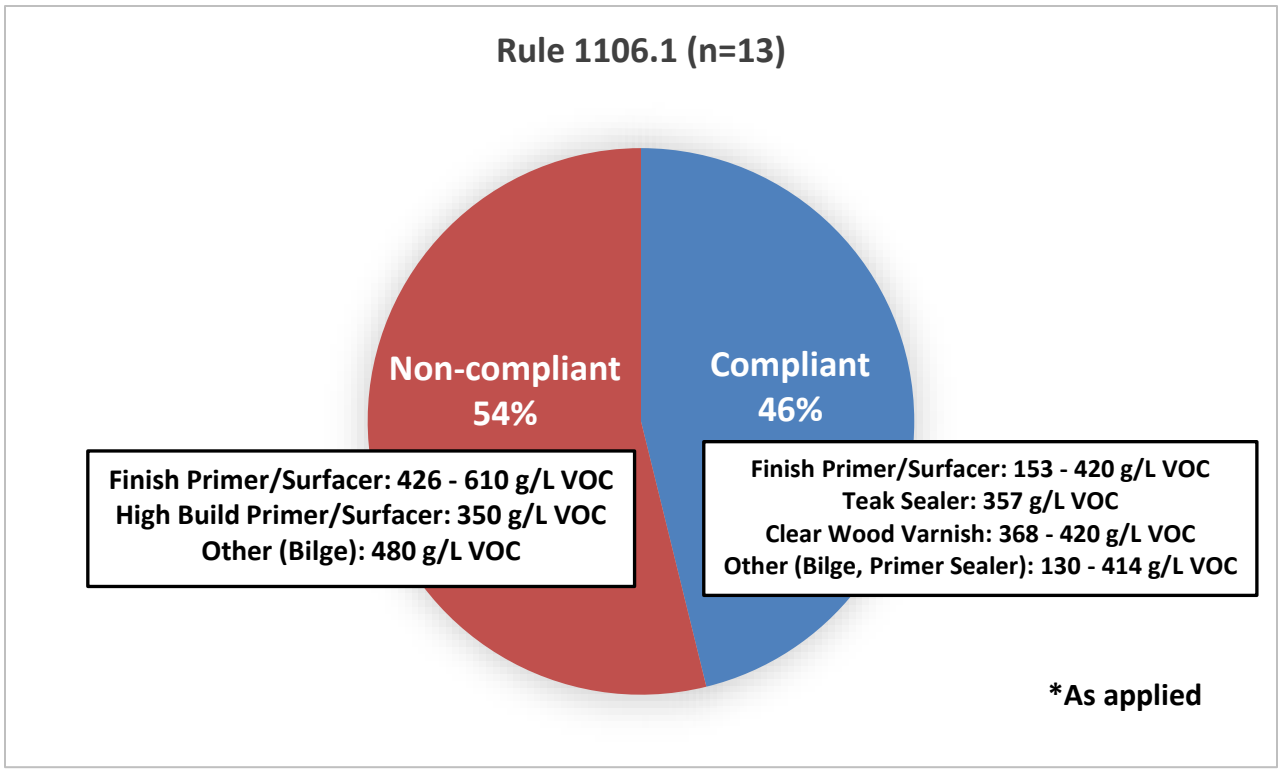


FIGURE 1-3: OTHER COATINGS SUBJECT TO EXISTING RULE 1106 AND 1106.1 VOC LIMITS USED AT SHIPYARDS, BOATYARDS AND MARINAS VISITED BY SCAQMD STAFF





Staff visited the three ships shown in Table 1-2 and learned that none of the ships use an antifoulant coating. The Queen Mary is a stationary museum and there are no plans to move the ship in the future. This ship was repainted during 2017 to 2018. The U.S.S. Iowa is also a museum but can move under its own power. The ship was repainted a few years ago in northern California before it arrived in the Long Beach Harbor. The S.S. Lane Victory is an active ship and goes to sea for tours on occasion. All of these ships may need to use coatings for touch-up purposes from time to time, and these operations are conducted using paint brush or roller only; none of them use spray operations.

Staff believes that Proposed Amended Rule 1106 will provide enhanced clarity and compliance with the VOC limits through reporting similar to SCAQMD Rule 1113 - Architectural Coatings. Staff intends to clarify the use of a higher VOC content limit for antifoulant for aluminum substrates and eliminate any confusion that such product could be used on any non-aluminum substrate. Staff believes the amendment could potentially provide emission reductions through enhanced clarity and compliance.

PROCESS DESCRIPTION

Coatings for Ships, Yachts, Boats

Water going vessels, commonly referred to as ships, yachts, and boats have coatings specifically designed for the two main portions of a boat; top side and bottom side. With the boat at rest, anything above the water line is considered top side and anything below the water line is considered bottom side.

Top Side

The top side of the ship, yacht or boat is the visual portion of the boat from the water-line up. These coatings not only have to perform well in protecting the substrate in a marine environment but also have aesthetic purposes. The substrates can include wood of various types, fiberglass and composites, steel, stainless steel, aluminum, brass and bronze. These coatings can be applied by hand application, usually with a paint brush or roller, or by atomized spray equipment. There are several categories which are included in Rules 1106 and 1106.1 such as varnish, antenna coatings, pre-treatment wash primers, etc.

Bottom Side

A boat that is docked or moored in both fresh water and sea water is susceptible to what the marine industry calls fouling. Fouling is typically broken down into hard growth such as barnacles, mussels, shipworms and soft growth such as marine plant growth like algae and grass which would if unabated, would continue to grow and cause excessive drag on the boat during operation and could also cause severe damage to the hull substrate via corrosion to steel and aluminum hulls and shipworms boring into wooden hulls. The fouling also poses a potential threat to the environment through transporting harmful marine organisms to other waterways. The solution to fouling is an antifoulant coating, which is used to inhibit the growth of foulant from adhering to the bottom of

the boat. There are two different categories for antifoulant coatings, a hard bottom paint and an ablative bottom paint.

Hard Bottom Paint

Hard Bottom Paint is an epoxy type paint formulated with copper, organotin compounds (an organic compound with one or more tin atoms in its molecules) and other biocides and pesticides to control marine growth from adhering to the hull. The copper is used to deter hard growth such as mussels and barnacles, and biocides and pesticides are used to control soft growth such as algae and other marine organisms like ship worms. Most hard bottom paints control marine growth by biocide and pesticide release which are released slowly from the pores of the paint while in water. Other types of hard bottom paint include Teflon® and silicone which make the coating surface too slick for marine growth to adhere to. This type coating is typically used for boats that spend long periods of time at rest in the water.

Ablative Bottom Paint

Ablative bottom paint is specially formulated to be a somewhat sacrificial coating designed to be slowly worn away during boat operation. For the marine environment, ablation is simply a wear away type coating where the coating continuously wears off at a slow rate during operation thus exposing a new layer with fresh antifoulant compounds. An analogy of this would be washing your hands with a bar of soap where the soap continues to erode during each washing operation yet remains effective in subsequent washings.

There have been environmental concerns with the use of copper in these bottom paints and the toxic effects it has on marine life. The Port of San Diego continues to investigate how much copper can be reduced from copper-based antifoulant coatings, and has until 2022 to reduce copper pollution in the San Diego Bay by 76%. Washington State signed a new bill that may phase in a ban on copper antifoulant coatings on recreational vessels beginning in January 2021. On October 2013, California Governor Edmund G. Brown Jr. signed into law Assembly Bill AB425 (Atkins) "Pesticides: copper-based antifouling paint: leach rate determination: mitigation measure recommendations." The assembly bill required: "No later than February 1, 2014, the Department of Pesticide Regulation (DPR) shall determine a leach rate for copper-based antifouling paint used on recreational vessels and make recommendations for appropriate mitigation measures that may be implemented to address the protection of aquatic environments from the effects of exposure to that paint if it is registered as a pesticide." As a result 3 CCR § 6190 Copper-Based Antifouling Paints and Coatings, became effective on January 1, 2018 requiring that " Each applicant to register a copper-based antifouling paint or coating shall submit the daily mean copper release rate for the product using the International Organization for Standardization (ISO) method 10890:2010, "Paints and varnishes - Modelling of biocide release rate from antifouling paints by mass-balance calculation," hereby incorporated by reference, and supporting data used for the calculation." The following requirements were also included:

(1) Effective July 1, 2018, no copper-based antifouling paint or coating shall be registered that exceeds the adjusted daily mean copper release rate of 9.5 micrograms per square centimeter per day, as determined by the Director pursuant to (b) of this section.

(2) Effective July 1, 2018, any currently registered copper-based antifouling paint or coating that exceeds the adjusted daily mean copper release rate of 9.5 micrograms per square centimeter per day, as determined by the Director pursuant to (b) of this section, will be subject to cancellation pursuant to Food and Agricultural Code section 12825.

Transfer Efficiency Requirements

Proposed Amended Rule 1106 incorporates similar transfer efficiency requirements found in Rule 1151 - Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations for application of a marine or pleasure craft coating. The transfer efficiency requirement for spray application is the use of electrostatic, HVLP (High Volume, Low Pressure) spray equipment, and other spray guns that meet the HVLP definition of paragraph (b)(18) in design and use. A demonstration must be based on the manufacturer's published technical material on the design of the spray gun and by demonstration of the operation of the spray gun using an air pressure tip gauge from the manufacturer of the spray gun [See clause (d)(9)(A)(v)].

Brush and roller coatings are applied directly from the paint brush bristles or the roller to the substrate and have a very high coating to substrate transfer efficiency. Dip coatings are simply a container filled with paint where an object is dipped into the coating which also provides a very high coating to substrate transfer efficiency. Brush, roller and dip coating processes are proposed to be included as compliant transfer efficiency processes as specified in clause (d)(9)(A)(iii) of the transfer efficiency requirements in order to be to be consistent with the Coating Application Methods provision in the state Suggested Control Measure.

In addition, Proposed Amended Rule 1106 provides two test methods for spray guns that do not meet the HVLP definition in design but can be used to determine if such spray guns can meet the transfer efficiency requirements under SCAQMD method "Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989" and SCAQMD "Guidelines for Demonstrating Equivalency With District Approved Transfer Efficiency Spray Gun September 26, 2002" [See paragraph (h)(6)]. Any spray gun used in the SCAQMD jurisdiction must meet the criteria for these test methods to qualify as a compliant transfer efficient spray gun for use in the SCAQMD jurisdiction.

HVLP spray equipment utilizes very low air pressure (i.e., less than 10 psi) to atomize the coating material and propel the atomized droplets at a low velocity and high volume to the surface being coated, meeting the high transfer efficiency requirement. Though, the majority of pleasure craft coatings are applied by hand, there are operations where spray applications are used for primers, topcoats, and some bottom paints required for racing boats.

Transfer Efficiency and Special Plural Type Application Equipment

Coatings with a viscosity greater than 650 centipoise have poor flow characteristics and will be exempted from the transfer efficiency requirements. To spray such thick fluids, plural type application equipment or very high pressure (greater than 1,000 psi) spraying equipment using heated elements to push the product are necessary. Without the proposed exemption, shops forced to use HVLP equipment would otherwise have to thin the high solids coatings with VOC solvents to allow them to be sprayed, thus eliminating the benefit of the low-VOC high solids coatings.

Coatings with VOC Content of Less than 10 g/L

Near-zero VOC coating technologies are increasingly being developed and are currently available for use in a multitude of industries, including graphic arts operations, architectural and industrial maintenance coatings, and marine coating operations. To incentivize users to choose lower VOC coatings, staff proposes to provide an exemption for marine or pleasure craft coatings that have a VOC content of no more than 10 g/L or its equivalent, less water and less exempt compounds, as applied, from the requirements of Proposed Amended Rule 1106.

Touch-up Coatings

Staff visited several facilities conducting marine and pleasure craft coating operations and found many operators believed the touch-up exemption meant any touch-up operation. The definition for a touch-up coating does not allow for maintenance and repair "touch-up" coatings because it is only intended for minor imperfections or minor mechanical damage incurred after the main coating operation. The touch-up exemption in the current rule (Rule 1106) provides an exemption from the VOC content limits for touch-up coatings and defines them as any coating used to cover minor imperfections prior to shipment appearing after the main coating operation. Many operators indicated to staff that they did not consider the definition for touch-up coating, just the exemption. Staff has remedied this scenario by adding additional language to paragraph (j)(3) which will direct the reader to read the definition for a touch-up coating.

Department of Defense Specified Coatings for Submarines

Staff determined Pre-treatment Wash Primers and Special Marking Coatings that are intended to be used on submerged vessel (submarine) components require the use of these coatings per military specifications (Mil-Specs) and currently meet the VOC limits in Rule 1106 - Marine Coating Operations. However, these coatings will not meet the new aligned VOC limits in Proposed Amended Rule 1106, which seeks to align these VOC limits with other APCDs/AQMDs. Staff proposes to craft an exemption for this type of no more than 12 gallons per calendar year, of all products combined, for this type operation and will require that the products used will have to be in compliance with the U.S. EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) for Shipbuilding and Ship Repair (Surface Coating) as provided in Part 63 of the Federal Register. The proposed exemption is shown in paragraph (J)(6) in Proposed Amended Rule 1106.

Conclusion:

The majority of the operators in the marine and pleasure craft coating industry are non-permitted facilities, and are not typically inspected by SCAQMD inspectors. Staff visited several facilities and found many instances of VOC limit non-compliance with both Rules 1106 and 1106.1. Staff also found that the most common maintenance operation at the boatyards is the application of antifoulant coatings. Many shipyards were using antifoulant coatings in excess of the VOC limit standards and were just not aware of it. In addition, staff also found that several suppliers to the shipyards and consumers were selling non-compliant coating products. Staff intends to clarify a higher VOC content limit for antifoulant for aluminum substrate hulls and eliminate any confusion that such product could be used on non-aluminum substrate vessel hulls. Staff believes the amendment could potentially provide an emission reduction through enhanced clarity and compliance.

RULE 1106 – MARINE AND PLEASURE CRAFT COATINGS

CHAPTER 2: SUMMARY OF PROPOSED AMENDED RULE 1106

- OVERVIEW: RESCIND RULE 1106.1 AND SUBSUME THE REQUIREMENTS OF RULE 1106.1 INTO PROPOSED AMENDED RULE 1106
- PROPOSED RESCINDING OF RULE 1106.1
- PROPOSED NEW DEFINITIONS TO BE ADDED TO RULE 1106
- PROPOSED REVISIONS TO EXISTING RULE LANGUAGE

OVERVIEW: RESCIND RULE 1106.1 AND SUBSUME THE REQUIREMENTS OF RULE 1106.1 INTO PROPOSED AMENDED RULE 1106

Staff believes that Rule 1106 - Marine Coating Operations and Rule 1106.1 - Pleasure Craft Coating Operations can be combined into one rule rather than two separate rules. This would be consistent with other APCD and AQMD agencies in California who regulate both marine and pleasure craft operations under one rule. Staff further believes that combining these two rules will provide the regulated community a better understanding of which category, marine or pleasure craft, their operation will fall under, and which VOC content would be appropriate for their particular coating operation. Staff is proposing to rescind Rule 1106.1 - Pleasure Craft Coating Operations and subsume the requirements of Rule 1106.1 into Proposed Amended Rule 1106 - Marine and Pleasure Craft Coatings.

PROPOSED RESCINDING OF RULE 1106.1

On May 1, 1992, Rule 1106.1 was adopted as a companion rule to Rule 1106. Rule 1106.1 is applicable to all coating operations of pleasure craft, as defined in paragraph (b)(10) of the rule, or their parts and components, for the purpose of refinishing, repairing, modification, or manufacturing such craft. Staff proposes to rescind Rule 1106.1 and subsume its contents into Proposed Amended Rule 1106. Staff believes that Rule 1106 and Rule 1106.1 should be consolidated into one rule to avoid confusion for end-users of marine products who may not know which rule applies to their application. The other air districts in California, except for one, already have one rule for marine and pleasure craft coating operations. The VOC limits for Proposed Amended Rule 1106 are not impacted, other than to conform to the United States Environmental Protection Agency (U.S. EPA) Control Techniques Guidelines for Ship Building and Ship Repair Operations (Surface Coating) and other California air district rules already in place.

PROPOSED AMENDMENT TO RULE 1106

Rule 1106.1 is proposed to be rescinded and Proposed Amended Rule 1106 will subsume the requirements of Rule 1106.1 - Pleasure Craft Coating Operations, while also revising VOC content limits for pretreatment wash primers, antenna, repair and maintenance thermoplastic, inorganic zinc, and specialty marking coatings in order to align limits with U.S. EPA Control Techniques Guidelines and other California APCD's/AQMD's, and adding new categories for marine aluminum antifoulant, mist, nonskid and organic zinc coatings and marine deck primer sealants. The proposed amendment also prohibits possession and sale of non-compliant coatings and establishes requirements for transfer efficiency, labeling, recordkeeping and reporting.

PROPOSED REVISIONS TO EXISTING RULE LANGUAGE

Additionally, staff proposes to add a provision stating the purpose of Proposed Amended Rule 1106 to provide additional clarity on the purpose of the rule and to be consistent with other Regulation XI coatings rules, make minor revisions to the applicability subdivision, make

revisions and add new definitions to the definitions subdivision, add two tables of standards that will contain VOC limits, and include clarifications and editorial corrections to the entire rule as necessary.

Subdivision (a) Purpose

Staff proposes to include a "Purpose" subdivision in Proposed Amended Rule 1106 to provide clarity on the purpose of the rule and to make this rule consistent with other VOC Regulation XI rules that already include a purpose subdivision as follows:
"The purpose of this rule is to reduce emissions of Volatile Organic Compounds (VOC) and stratospheric ozone depleting and global warming compounds from Marine and Pleasure Craft Coatings."

Subdivision (b) Applicability

Staff proposes to subsume Rule 1106.1 into Rule 1106. The applicability subdivision will not only include the existing Marine Coatings applicability, with revisions, but will also include the Pleasure Craft Coatings applicability language. Staff proposes to write the applicability subdivision in two sections, Marine Coatings and Pleasure Craft Coatings to facilitate quick and easy identification of the two operations. The proposed rule language is as follows:
"This rule applies to:"

"(1) MARINE COATINGS:
~~This rule applies to~~ Which ~~means all~~ are coatings ~~operations of~~ intended for boats, ships, and vessels, and their appurtenances, including but not limited to structures such as piers, docks, ~~and to~~ buoys and oil drilling rigs, intended for the exposure to either a marine or fresh water environment.~~Coating operations of vessels which are manufactured or operated primarily for recreational purposes are subject to the requirements of Rule 1106.1 - Pleasure Craft Coating Operations.~~"

"(2) PLEASURE CRAFT COATINGS:
Which are coatings intended for purposes of refinishing, repairing, modifying, or manufacturing of pleasure craft, as defined in paragraph (c)(30) of this rule, and their parts and components."

Subdivision (c) Definitions

Proposed New Definitions to Be Added to Proposed Amended Rule 1106

The following new definitions are proposed to address pleasure craft coating operations, transfer efficiency provisions, and make reference to Rule 1171 consistent with other SCAQMD rules. Staff added Mist Coatings, Nonskid Coatings and Solvent-Based Organic Zinc Coatings categories to be consistent with the U.S. EPA Control Techniques Guidelines (CTG) for Shipbuilding and Ship Repair Operations (Surface Coating). Staff also added a definition for Solvent-Based Inorganic Zinc Coatings since it was missing from the current version of Rule 1106 - Marine Coatings Operations even though it is a listed coating under Paragraph (c)(1)

"VOC Content of Marine Coatings", and to be consistent with the U.S. EPA CTG. Staff also proposes to add the definition Marine Deck Sealant Primer to be consistent with other local AQMD/APCD definitions. Finally, staff proposes to add a new definition to the rule to define "Energy Curable Coatings" to provide clarity to energy curable marine and pleasure craft coating materials. To define "Energy Curable Coatings," staff proposes to include a reference to ASTM D7767-11 "Standard Test Method to Measure Volatiles from Radiation Curable Monomers, Oligomers, and Blends and Thin Coatings Made from Them," but not add it as a test method for determination of VOC content in subdivision (h) for Test Methods. ASTM D7767-11 was developed as a tool for manufacturers to determine the VOC content of thin-film energy curable products. It allows the manufacturer to measure the VOCs in a product by combining the reactive components (e.g. the monomers and photoinitiators). The pigments and additives are excluded so the product can be tested at a thick enough film in order to accurately measure the weight loss. If the pigments and additives were included, they could potentially interfere with the curing step. For enforcement purposes, which relies on the fully formulated product to be tested, the SCAQMD laboratory determined that this method is not appropriate. A third party laboratory cannot independently perform this analysis and have the confidence that the results accurately reflect the composition of the sample. If SCAQMD compliance staff collected a sample of a thin-film energy curable product, the manufacturer would need to supply the raw materials and a photoinitiator in order to accurately perform the method. As such, the data could not be relied upon or verified as accurate to confirm compliance with VOC limit standards.

"(6) CLEAR WOOD COATINGS are clear and semi-transparent topcoats applied to wood substrates to provide a transparent or translucent film."

"(7) DISTRIBUTOR means any person to whom a product is sold or supplied for the purposes of resale or distribution in commerce, except that manufacturers, retailers, and consumers are not distributors."

"(9) ENERGY CURABLE COATINGS are single-component reactive products that cure upon exposure to visible-light, ultra-violet light or to an electron beam. The VOC content of thin film energy curable marine and pleasure craft coatings may be determined by manufacturers using ASTM test method 7767-11 "standard test method to measure volatiles from radiation curable acrylate monomers, oligomers, and blends and thin coatings made from them."

"(12) FINISH PRIMER/SURFACER is any coating applied with a wet film thickness of less than 10 mils (one mil = 0.001 of an inch) and is applied prior to the application of a Marine or Pleasure Craft Coating for the purpose of providing corrosion resistance, adhesion for subsequent coatings, a moisture barrier, or promotes a uniform surface necessary for filling in surface imperfections."

"(14) GRAMS OF VOC PER LITER OF MATERIAL, (ACTUAL VOC), is the weight of VOC per volume of material and shall be calculated by the following equation:

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

Where: W_s = weight of volatile compounds in grams
W_w = weight of water in grams
W_{es} = weight of exempt compounds in grams
V_m = volume of material in liters"

"(18) HIGH BUILD PRIMER/SURFACER is any coating applied with a wet film thickness of 10 mils or more (one mil = 0.001 of an inch) prior to the application of a topcoat for purposes of providing corrosion resistance, adhesion of subsequent coatings, a moisture barrier, or promoting a uniform surface necessary for filling in surface imperfections."

"(19) HIGH-VOLUME, LOW-PRESSURE (HVLP) means spray application equipment designed to atomize 100 percent by air pressure only and is 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."

"(20) INORGANIC ZINC COATING is a coating that contains 960 grams per liter or more elemental zinc incorporated into an inorganic silicate binder that is applied to steel to provide galvanic corrosion resistance."

"(22) LOW-SOLIDS COATINGS are coatings containing one pound or less of solids per gallon of material."

"(24) MARINE DECK SEALANT PRIMER is any sealant primer intended by the manufacturer to be applied to wooden marine decks. A sealant primer is any product intended by the manufacturer to be applied to a substrate, prior to the application of a sealant, to enhance the bonding surface."

"(26) MIST COATING is any low viscosity, thin film, epoxy coating applied to an inorganic zinc primer that penetrates the porous zinc primer and allows the occluded air to escape through the film prior to curing."

"(28) NONSKID COATING means any coating applied to the horizontal surface of a marine vessel for the specific purpose of providing slip resistance for personnel."

"(29) ORGANIC ZINC COATING is a coating that contains 960 grams per liter or more elemental zinc incorporated into an organic silicate binder that is applied to steel to provide galvanic corrosion resistance."

"(30) PLEASURE CRAFT are marine or fresh water vessels that are less than 20 meters in length and are manufactured or operated primarily for recreational purposes, or are leased, rented, or chartered to a person or business for recreational purposes. Vessels operated in amusement theme parks in a fresh water environment solely for the purpose of an amusement park attraction shall be considered pleasure craft vessels regardless of their length. The owner or operator of a pleasure craft vessel shall be responsible for certifying that the intended use is for recreational purposes."

"(31) PLEASURE CRAFT COATING is any marine coating, except unsaturated polyester resin (fiberglass) coatings, applied by brush, spray, roller, or other means to a pleasure craft."

"(32) PRETREATMENT WASH PRIMER is a coating that contains a minimum of 1/2 percent acid, by weight; applied directly to bare metal surfaces to provide necessary surface etching."

"(35) SEALER is a coating applied to bare wood to seal surface pores to prevent subsequent coatings from being absorbed into the wood."

"(39) TEAK PRIMER is a coating applied to teak wood or previously oiled teak wood decks in order to improve the adhesion of a seam sealer."

"(40) TOPCOAT is any final coating applied to the interior or exterior of a marine or pleasure craft."

"(42) TRANSFER EFFICIENCY means the amount of coating solids adhering to the object being coated divided by the total amount of coating solids sprayed; expressed as a percentage."

"(44) VARNISHES are clear or pigmented wood topcoats formulated with various resins to dry by chemical reaction."

Staff proposes to make the following revisions to the existing definitions in Rule 1106 to clarify the intent of the definition and make the definitions consistent with other Regulation XI coating rules and the U.S. CTG.

"(1) AEROSOL COATING PRODUCT ~~is~~ means a pressurized coating product containing pigments, ~~or~~ resins, and/or other coating solids that ~~is dispensed~~ dispenses product

ingredients by means of a propellant, and is packaged in a disposable aerosol container ~~can~~ for hand-held application."

"(2) AIR DRIED COATING is any coating that is formulated by the manufacturer to be cured at a temperature below 90 °~~o~~C (194 °~~o~~F)."

"(3) ANTENNA COATING is any coating applied to equipment and associated structural appurtenances ~~which~~ that are used to receive or transmit electromagnetic signals.

"(4) ~~ANTIFOULING~~ ANTIFOULANT COATING is any coating applied to the underwater portion of ~~a~~ boats, ships, and vessels, ~~vessel~~ or pleasure craft to prevent or reduce the attachment of biological organisms~~. An Antifoulant coating~~ and shall be registered with the ~~Environmental Protection Agency as a pesticide~~ United States Environmental Protection Agency ("U.S. EPA") as a pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act (7 United States Code Section 136). "

"(5) BAKED COATING is any coating that is formulated by the manufacturer to be cured at a temperature at or above 90 °~~o~~C (194 °~~o~~F)."

"(~~6~~8) ELASTOMERIC ADHESIVE is any adhesive containing natural or synthetic rubber." (This definition is simply renumbered)

"(~~7~~10) EXEMPT COMPOUNDS ~~are any of the following compounds:~~ (See Rule 102 - Definition of Terms).

~~(A) Group I (General)~~

~~trifluoromethane (HFC-23)~~

~~pentafluoroethane (HFC-125)~~

~~1,1,2,2-tetrafluoroethane (HFC-134)~~

~~tetrafluoroethane (HFC-134a)~~

~~1,1,1-trifluoroethane (HFC-143a)~~

~~1,1-difluoroethane (HFC-152a)~~

~~chlorodifluoromethane (HCFC-22)~~

~~dichlorotrifluoroethane (HCFC-123)~~

~~2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124)~~

~~dichlorofluoroethane (HCFC-141b)~~

~~chlorodifluoroethane (HCFC-142b)~~

~~cyclic, branched, or linear, completely fluorinated alkanes~~

~~cyclic, branched, or linear, completely fluorinated ethers with no unsaturations~~

~~cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations~~

~~sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine~~

~~(B) Group II~~

~~Methylene chloride~~

~~1,1,1-trichloroethane (methyl chloroform)~~

~~trichlorotrifluoroethane (CFC-113)~~

~~dichlorodifluoromethane (CFC-12)~~

~~trichlorofluoromethane (CFC-11)~~

~~dichlorotetrafluoroethane (CFC-114)~~

~~chloropentafluoroethane (CFC-115)~~

~~The use of Group II compounds and/or carbon tetrachloride may be restricted in the future because they are toxic, potentially toxic, upper-atmosphere ozone depleters, or cause other environmental impacts. By January 1, 1996, production of chlorofluorocarbons (CFC), 1,1,1,-trichloroethane (methyl chloroform), and carbon tetrachloride will be phased out in accordance with the Code of Federal Regulation Title 40, Part 82 (December 10, 1993).~~"

"(~~8~~11) EXTREME HIGH GLOSS COATING is any coating ~~which~~ that achieves at least 95 percent reflectance on a 60° ~~o~~ meter when tested by ASTM Test Method D-523-14 ~~-~~ "Standard Test Method for Specular Gloss".

"(~~9~~13) GRAMS OF VOC PER LITER OF COATING, LESS WATER AND LESS EXEMPT COMPOUNDS, (REGULATORY VOC), is the weight of VOC per combined volume of VOC and coating solids and can be calculated by the following equation:

Grams of VOC per Liter of Coating,

Less Water and Less Exempt Compounds = $\frac{W_s - W_w - W_{es}}{V_m - V_w - V_{es}}$

Where: W_s = weight of volatile compounds in grams
W_w = weight of water in grams
W_{es} = weight of exempt compounds in grams
V_m = volume of material in liters
V_w = volume of water in liters
V_{es} = volume of exempt compounds in liters"

"(~~10~~15) HEAT RESISTANT COATING is any coating ~~which~~ that during normal use must withstand temperatures of at least 204 °~~o~~C (400 °~~o~~F)."

"(~~11~~16) HIGH GLOSS COATING is any coating ~~which~~ that achieves at least 85 percent reflectance on a 60° ~~o~~ meter when tested by ASTM Method D-523-14 ~~–~~ "Standard Test Method for Specular Gloss".

"(~~12~~17) HIGH TEMPERATURE COATING is any coating that during normal use ~~which~~ must withstand temperatures of at least 426 °~~o~~C (800 °~~o~~F)."

"(~~13~~21) LOW ACTIVATION INTERIOR COATING is any coating used on interior surfaces aboard ~~ships,~~ boats, ships, and vessels, to minimize the activation of pigments on painted surfaces within a radiation environment."

"(~~14~~23) MARINE COATING is any coating, except unsaturated polyester resin (fiberglass) coatings, containing volatile organic materials and applied by any means to ~~ships,~~ boats, ships, and vessels, and their appurtenances, and structures such as piers, ~~and~~ docks, ~~to~~ buoys and oil drilling rigs, intended for the exposure to either a marine or fresh water environment."

"(~~15~~25) METALLIC HEAT RESISTANT COATING is any coating ~~which~~ that contains more than 5 grams of metal particles per liter of coating as applied and which must withstand temperatures over 80 °~~o~~C (~~175~~176 °~~o~~F)."

"(~~16~~27) NAVIGATIONAL AIDS COATING is any coating that is applied to ~~are~~ buoys or other Coast Guard waterway markers that are recoated aboard ship at their usage site and immediately returned to the water."

"(~~18~~33) REPAIR AND MAINTENANCE THERMOPLASTIC COATING is any resin-bearing coating, such as vinyl, chlorinated rubber, or bituminous coatings, in ~~which~~ that the resin becomes pliable with the application of heat, and is used to recoat portions of a previously coated substrate ~~which~~ that has sustained damage to the coating following ~~normal~~ the initial coating ~~operations~~."

"(~~19~~34) SEALANT FOR WIRE-SPRAYED ALUMINUM is any coating of up to one mil (one mil = 0.001 of an inch) in thickness of an epoxy material ~~which~~ that is reduced for application with an equal part of an appropriate solvent (naphtha, or ethylene glycol monoethyl ether)."

"(~~20~~36) SOLVENT CLEANING ~~OPERATION~~ is ~~the removal of loosely held uncured adhesives, uncured inks, uncured coatings, and contaminants from parts, products, tools, machinery, equipment, and general work areas. Contaminants include, but are~~

~~not limited to, dirt, soil, and grease. In a cleaning process which consists of a series of cleaning methods, each distinct method shall constitute a separate solvent cleaning operation~~ as defined in Rule 1171 - Solvent Cleaning Operations."

"(~~21~~37) SPECIAL MARKING COATING is any coating used for items such as flight decks, ~~ships'~~ vessel identification numbers and other demarcations for safety~~/~~ or identification ~~applications~~."

"(~~22~~38) TACK COAT is an epoxy coating of up to two mils ~~(0.002 inch)~~ (one mil = 0.001 of an inch) thick applied to an existing epoxy coating. The existing epoxy coating must have aged beyond the time limit specified by the manufacturer for application of the next coat."

"(~~23~~41) TOUCH-UP COATING is any coating ~~operation~~ applied incidental to the main coating process but necessary ~~used~~ to cover minor imperfections ~~prior to shipment appearing after the main coating operation~~ or minor mechanical damage incurred prior to intended use."

"(~~24~~43) UNDERSEA WEAPONS SYSTEM COATING is any coating applied to any or all components of a weapons system intended for exposure to a marine environment and ~~that is~~ intended to be launched or fired ~~underwater~~ undersea."

"(~~25~~45) VOLATILE ORGANIC COMPOUND (VOC) is ~~any volatile compound which contains the element carbon, excluding methane, carbon dioxide, carbon monoxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and exempt compounds~~ as defined in Rule 102 - Definition of Terms."

"(~~26~~46) WIRE-SPRAYED ALUMINUM is any molten multi-aluminum coating applied to a steel substrate using oxygen fueled combustion spray ~~methods~~ equipment."

Subdivision (d) Requirements

Paragraph (d)(1)

Staff proposes to amend Paragraph (d)(1) to enhance the clarity of the Paragraph and to introduce Table of Standards I for Marine Coatings. The edits are as follows:

"Except as otherwise provided in this rule, a person shall not apply a marine coating within the SCAQMD jurisdiction with a VOC content in excess of the following limits shown in the Table of Standards I, expressed as grams of VOC per liter of coating, as applied, less water and less exempt solvents:"

VOC Limit Compliance Table

The current version of Rule 1106 - Marine Coating Operations, contains a list of coating categories and their corresponding VOC content limits. This list is spread over two pages and because there are no line separations between the coating categories, determining the VOC limits for each of the coating categories may be difficult as one traces their finger from the coating category on the left side of the page to the VOC limits on the right side of the page. Staff proposes to create an easier to read Table of Standards I that will contain this list of coating categories and their corresponding VOC content limits in a much easier to read tabular format. Table of Standards I will contain just the coating categories and VOC limits for Marine Coatings (Pleasure Craft Coating VOC limits will be in a subsequent table, Table of Standards II).

There are currently five coating categories in Table of Standards I that have VOC content limits in excess of other California APCDs/AQMDs and one coating category that is not in alignment with the U.S. EPA CTG. Staff proposes to update these five coating categories and make their VOC content limits consistent with the other local APCDs/AQMDs and the U.S. EPA CTG as shown in Table 2-3:

TABLE 2-3: FIVE COATING CATEGORIES IN RULE 1106 THAT NEED TO BE ADJUSTED FOR CONSISTENCY WITH THE U.S. EPA AND LOCAL APCDS/AQMDS

	SCAQMD RULE 1106		U.S. EPA CTG	BAAQMD	SDAPCD	VCAPCD
COATING CATEGORY	Current Limit (g/L)	Proposed Limit (g/L)	Current Limit (g/L)	Current Limit (g/L)	Current Limit (g/L)	Current Limit (g/L)
Antenna Coating	530	340	530	--	340	340
Pre-Treatment Wash Primer	780	420	780	420	420	780
Repair & Maintenance Thermoplastic Coating	550	340	550	340	550	340
Inorganic Zinc Coating	650	340	340	340	340	340
Special Marking Coating	490	420	490	490	420	420

The current version of Rule 1106 has an exemption for antifoulant coatings that are applied on aluminum substrates. The current version of Rule 1106.1 does not have an exemption for antifoulant coatings that are applied to aluminum substrates but instead has a 560 g/L VOC content limit. The Ventura County APCD has a 560 g/L VOC content limit for antifoulant coatings and no exemptions for aluminum substrates. Staff research found several antifoulant coatings that can be used on aluminum substrates can be used on commercial vessels and the U.S. Coast Guard fleet and still meet the 560 g/L VOC content limit. Therefore, staff is proposing to eliminate the aluminum substrate exemption and incorporate a 560 g/L VOC

content limit for antifoulant coatings that are applied to aluminum substrates in Table of Standards I.

Staff proposes to add three additional coating categories to Table of Standards I that are included in the U.S. EPA CTG (Table 2-4):

TABLE 2-4: THREE COATING CATEGORIES TO BE ADDED TO PROPOSED AMENDED RULE 1106 FOR CONSISTENCY WITH THE U.S. EPA AND LOCAL APCDS/AQMDS

	SCAQMD RULE 1106		U.S. EPA CTG	BAAQMD	SDAPCD	VCAPCD
COATING CATEGORY	Current Limit (g/L)	Proposed Limit (g/L)	Current Limit (g/L)	Current Limit (g/L)	Current Limit (g/L)	Current Limit (g/L)
Mist Coating	--	610	610	--	610	--
Nonskid Coating	--	340	340	--	--	--
Organic Zinc Coating	--	340	360	--	340	--

Table 2-5 shows the Table of Standards I for Proposed Amended Rule 1106 with the revised VOC limits for the five categories discussed above and the three additional coating categories added. The "General Coating" category in the current Rule 1106 is proposed to be renamed as "Any Other Coating Type" to be consistent with other Regulation XI rules and will include coating categories that are not listed in Table of Standards I such as bilge coatings and propeller coatings.

TABLE 2-5: PROPOSED TABLE OF STANDARDS FOR MARINE COATINGS:

TABLE OF STANDARDS I

MARINE COATING CATEGORIES	VOC LIMITS Less water and exempt compounds Grams per Liter (g/L)	
	BAKED CURRENT LIMIT	AIR DRIED CURRENT LIMIT
Antenna Coating		340
Antifoulant Coatings:		
Aluminum Substrate		560
Other Substrate		400
Elastomeric Adhesives (with 15%, by Weight, Natural or Synthetic Rubber)		730
Inorganic Zinc Coating		340
Low Activation Interior Coating		420
Mist Coating		610

Navigational Aids Coating		340
Nonskid Coating		340
Organic Zinc Coating		340
Pre-Treatment Wash Primer	420	420
Repair and Maintenance Thermoplastic Coating		340
Sealant for Wire-Sprayed Aluminum		610
Special Marking Coating		420
Specialty Coatings:		420
Heat Resistant Coating	360	420
Metallic Heat Resistant Coating		530
High Temperature Coating		500
Tack Coating		610
Topcoats:		
Extreme High Gloss Coatings	420	490
High Gloss Coatings	275	340
Underwater Weapons Systems Coating	275	340
Any Other Coating Type	275	340

Paragraph (d)(2)

Staff proposes to add a new paragraph to Proposed Amended Rule 1106 to include the pleasure craft coating categories and VOC limits. The current version of Rule 1106.1 - Pleasure Craft Coating Operations, contains a list of coating categories and their corresponding VOC content limits. Similar to the VOC categories and VOC limits in the current version of Rule 1106, in this list it may be difficult to locate the proper VOC content limit for a coating category because there are no line separations between the coating categories and determining the VOC limits for each of the coating categories may be difficult as one traces their finger from the coating category on the left side of the page to the VOC limits on the right side of the page. Staff proposes to subsume Rule 1106.1 into PAR1106 and proposes to create an easier to read Table of Standards II that will contain this list of coating categories and the corresponding VOC content limits in a much easier to read tabular format. Table of Standards II will contain just the coating categories and VOC limits for Pleasure Craft Coatings. Table of Standards II contains all the original coating categories and VOC content limits that are currently shown in Rule 1106.1 but the list will be arranged in alphabetical order. There is only one addition to Table of Standards II and that is the inclusion of the Marine Deck Sealant Primer along with the corresponding 760 g/L VOC content limit. This coating category has been added to be consistent with another local APCD that also has a pleasure craft coating rule. Finally, the "Others" category in the current Rule 1106.1 is proposed to be renamed as "Any Other Coating Type" to be consistent with other Regulation XI rules and will include coating categories that are not listed in Table of Standards I such as bilge coatings and propeller coatings.

"(2) VOC Content of Pleasure Craft Coatings

Except as otherwise provided in this rule, a person shall not apply a pleasure craft coating within the SCAQMD jurisdiction with a VOC content in excess of the following limits

shown in the Table of Standards II, expressed as grams of VOC per liter of coating, as applied, less water and less exempt solvents:"

TABLE 2-6 - PROPOSED TABLE OF STANDARDS FOR PLEASURE CRAFT COATINGS:

TABLE OF STANDARDS II

VOC LIMITS Less water and exempt compounds Grams per Liter (g/L)	
PLEASURE CRAFT COATING CATEGORIES	Current Limit
Antifoulant Coatings:	
Aluminum Substrate	560
Other Substrates	330
Clear Wood Finishes:	
Sealers	550
Varnishes	490
Primer Coatings:	
Finish Primer/Surfacer	420
High Build Primer Surfacer	340
Marine Deck Sealant Primer	760
Pretreatment Wash Primer	780
Teak Primer	775
Topcoats:	
Extreme High Gloss Coating	490
High Gloss Coating	420
Any Other Coating Type	420

Staff will also add a low-solids coating category for both marine and pleasure craft coatings. Low-solids marine and pleasure craft coatings will be limited to 120 grams per liter of VOC and will be classified as a low-solids coating if they have at least one pound of solids per gallon. Staff will add the following table to the proposed amended rule:

"(3) VOC Content of Low-Solids Coatings

Except as otherwise provided in this rule, a person shall not apply a marine coating or a pleasure craft coating within the SCAQMD jurisdiction with a VOC content in excess of the following limit shown in the Table of Standards III, expressed as grams of VOC per material of coating, as applied:"

TABLE 2-7: PROPOSED TABLE FOR LOW-SOLIDS COATINGS:

TABLE OF STANDARDS III

VOC LIMIT – MARINE & PLEASURE CRAFT COATINGS Grams per liter of material VOC	
COATING CATEGORY	CURRENT LIMIT
Low-Solids Coating	120

Paragraph (d)(4) - Most Restrictive VOC Limit

Staff proposes to include a provision in Proposed Amended Rule 1106 to address the most restrictive VOC limit. This provision is included in the other Regulation XI VOC rules and is now being proposed to be included in Proposed Amended Rule 1106 for consistency and to enhance enforceability of VOC limits.

"(4) Most Restrictive VOC Limit

If any representation or information on the container of any coating subject to this rule, or any label or sticker affixed to the container, or in any sales, advertising, or technical literature that indicates that the coating meets the definition of, is recommended for use or is suitable for use for more than one of the marine coating categories listed in paragraph (d)(1) or the pleasure craft coating categories listed in paragraph (d)(2), or the low-solids coating category listed in paragraph (d)(3), then the lowest VOC content limit shall apply."

Paragraph (d)(5) - Approved Emission Control System

Staff proposes the following updates to the existing rule language to enhance clarity and consistency with other Regulation IX coating rules and renumber the paragraph.

"(~~2~~5) Approved Emission Control System

~~(A) Approved Emission Control System~~

~~Owners and/or operators may comply with the provisions of paragraphs (c)(1) by using an emission control system, which has been approved in writing by the Executive Officer, for reducing VOC emissions. The control system must achieve a minimum capture efficiency using USEPA, ARB, and District methods specified in subparagraph (c)(4)(A) and a destruction efficiency of at least 85 percent by weight, and,~~

~~(B) The approved system shall reduce the VOC emissions, when using non-compliant coatings, to an equivalent or greater level that would be achieved by the provisions in paragraph (c)(1)~~A person may comply with the provisions of paragraphs (d)(1), (d)(2) or (d)(3), by using an approved emission control system, consisting of a

collection and control device, provided such emission control system is approved pursuant to Rule 203 - Permit to Operate, in writing, by the Executive Officer for reducing emissions of VOC. The Executive Officer shall not approve such an emission control system unless the VOC emissions resulting from the use of non-compliant coatings will be reduced to a level equivalent to or lower than the limits specified in paragraphs (d)(1), (d)(2) or (d)(3), as applicable. The required efficiency of an emission control system at which an equivalent or greater level of VOC reduction will be achieved shall be calculated by the following equation:

$$C.E. = \left[1 - \left\{ \frac{(VOC_{LWc})}{(VOC_{LWn,Max})} \times \frac{1 - (VOC_{LWn,Max}/D_{n,Max})}{1 - (VOC_{LWc}/D_c)} \right\} \right] \times 100\%$$

Where: C.E. = Control Efficiency, expressed as a percentage

VOC_{LWc} = VOC Limit of Rule 1106, less water and less exempt compounds, pursuant to subdivision (d).

$VOC_{LWn,Max}$ = Maximum VOC content of non-compliant coating used in conjunction with a control device, less water and less exempt compounds.

$D_{n,Max}$ = Density of solvent, reducer, or thinner contained in the non-compliant coating, containing the maximum VOC content of the multi-component coating.

D_c = Density of corresponding solvent, reducer, or thinner used in the compliant coating system = 880 g/L."

Paragraph (d)(6) - Alternative Emission Control Plan

Staff proposes the following updates to the existing rule language to enhance clarity and renumber the paragraph.

"(~~3~~6) Alternative Emission Control Plan

~~Owners and/or operators may achieve compliance with the requirements~~A person may comply with the provisions of paragraphs (d)(1), (d)(2) and (d)(3)~~paragraph (c)(1)~~ by means of an Alternative Emission Control Plan, pursuant to Rule 108 - Alternative Emissions Control Plans."

Paragraph (d)(7) - Exempt Compounds

Staff proposes the following updates to the existing rule language to maintain consistency with other Regulation XI coating rules and renumber the paragraph.

"(7) Exempt Compounds

A person shall not manufacture, sell, offer for sale, distribute for use in the SCAQMD jurisdiction, or apply any marine or pleasure craft coating which contains any Group II Exempt Compounds listed in Rule 102 - Definition of Terms, in quantities greater than 0.1 percent by weight. Cyclic, branched, or linear, completely methylated siloxanes (VMS) are not subject to this provision."

Paragraph (d)(8) - Carcinogenic Materials

Staff proposes the following updates to the existing rule language to maintain consistency with other Regulation XI coating rules and renumber the paragraph.

"(8) Carcinogenic Materials

A person shall not manufacture, sell, offer for sale, distribute for use in the SCAQMD jurisdiction, or apply any marine or pleasure craft coating which contains cadmium, nickel, lead or hexavalent chromium that was introduced as a pigment or as an agent to impart any property or characteristic to the marine or pleasure craft coatings during manufacturing, distribution, or use of the applicable marine or pleasure craft coatings."

Paragraph (d)(9) – Application Equipment Transfer Efficiency

Staff proposes to add new language for transfer efficiency to align this rule with other Regulation IX coating rules and renumber the paragraph.

"(9) Application Equipment Transfer Efficiency

(A) A person shall not apply any marine coating or pleasure craft coating unless one of the following methods of coating transfer is used:

(i) electrostatic application, or

(ii) high-volume, low-pressure (HVLP) spray, or

(iii) brush, dip, or roller, or

(iv) Spray gun application, provided the owner or operator demonstrates that the spray gun meets the HVLP definition in paragraph (c)(19) in design and use. A satisfactory demonstration must be based on the manufacturer's published technical material on the design of the spray gun and by a demonstration of the operation of the spray gun using an air pressure tip gauge from the manufacturer of the spray gun.

(v) Any such other marine or pleasure craft coating application methods as demonstrated, in accordance with the provisions of paragraph (h)(6), to be

capable of achieving equivalent or better transfer efficiency than the marine or pleasure craft coating application method listed in clause (d)(9)(A)(ii), provided written approval is obtained from the Executive Officer prior to use.

(B) A person shall not apply any marine coating or pleasure craft coating by any of the methods listed in subparagraph (d)(9)(A) unless such coating is applied with properly operating equipment, operated according to procedures recommended by the manufacturer and in compliance with applicable permit conditions, if any."

Paragraph (d)(10) - Solvent Cleaning, Storage and Disposal of VOC-containing Materials

Staff proposes the following updates to the existing rule language in efforts to make this rule consistent with other Regulation XI coating rules and renumber the paragraph.

(~~4~~10) Solvent Cleaning ~~Operations,~~ Storage and Disposal of VOC-containing Materials

~~All solvent~~Solvent cleaning ~~operations~~ of application equipment, parts, products, tools, machinery, equipment, general work areas, and the storage and disposal of VOC-containing materials used in solvent cleaning ~~operations~~ activities shall be carried out pursuant to SCAQMD Rule 1171 - Solvent Cleaning Operations.

~~(5) RecordkeepNotwithstanding the provisions of subdivision (g), records shall be maintained pursuant to Rule 109.~~"

Subdivision (e) - Prohibition of Possession, Specification and Sale

Staff is proposing to include prohibition of possession and sale in the existing provision for Prohibition of Specification to be consistent with Rule 1151 - Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations. Staff found non-compliant marine and pleasure craft coatings on the shelves in the boatyards, shipyards and marinas that were visited. In addition, staff found multiple non-compliant marine and pleasure craft coatings offered for sale at many marine stores in the SCAQMD jurisdiction. Staff proposes the following rule language to prohibit possession and sales of non-compliant marine and pleasure craft coating products subject to Rule 1106.

~~"(d) Prohibition of Specification~~

~~(1) A person shall not solicit or require any other person to use, in the district, any coating or combination of coatings to be applied to any marine vessel or marine component subject to the provisions of this rule that does not meet the limits~~

~~requirements of this rule or of an Alternate Emission Control Plan approved pursuant to the provisions of paragraph (e)(3) of this rule.~~

~~(2) The requirements of paragraph (d)(1) shall apply to all written or oral agreements executed or entered into after November 4, 1988.~~"

"(e) Prohibition of Possession, Specification and Sale

(1) For the purpose of this rule, no person shall store at a worksite any marine coating or pleasure craft coating subject to this rule within the SCAQMD jurisdiction that is not in compliance with the requirements shown in the Tables of Standards of paragraphs (d)(1), (d)(2), and (d)(3) unless one or more of the following conditions apply:

(A) The marine or pleasure craft coating is for use at a facility that utilizes an approved emission control device pursuant to paragraph (d)(5) and the coating meets the limits specified in permit conditions.

(B) The marine or pleasure craft coating is for use at a facility that operates in compliance with an approved Alternative Emissions Control Plan pursuant to paragraph (d)(6), and the marine or pleasure craft coating is specified in the plan.

(2) For the purpose of this rule, no person shall solicit from, specify, or require any other person to use in the SCAQMD jurisdiction any marine or pleasure craft coating that does not meet the:

(A) Applicable VOC limits required by paragraph (d)(1), (d)(2) or (d)(3) for the specific application unless:

(i) The marine or pleasure craft coating is located at a facility that utilizes an approved emission control device pursuant to paragraph (d)(5), and the marine or pleasure craft coating meets the limits specified in permit conditions; or,

(ii) The marine or pleasure craft coating is located at a facility that operates in compliance with an approved Alternative Emissions Control Plan pursuant to paragraph (d)(6), and the marine or pleasure craft coating is specified in the plan.

(B) The requirements of paragraphs (d)(7) and (d)(8).

A person subject to this rule can meet the requirement in subparagraph (e)(3)(A) by choosing either clause (e)(3)(A)(i) or (e)(3)(A)(ii). However, a person shall meet the requirement in subclause (e)(3)(A)(iii) regardless of which option is chosen.

(3) For the purpose of this rule, no person shall supply, sell, offer for sale, market, blend, package, repackage or distribute any marine or pleasure craft coating for use within the SCAQMD jurisdiction subject to the provisions in this rule that does not meet the:

(A) Applicable VOC limits required by paragraphs (d)(1), (d)(2) and (d)(3) for the specific application, unless:

(i) The marine or pleasure craft coating is for use at a facility that utilizes an approved emission control device pursuant to paragraph (d)(5), and the coating meets the limits specified in permit conditions; or,

(ii) The marine or pleasure craft coating is for use at a facility that operates in accordance with an approved Alternative Emissions Control Plan pursuant to paragraph (d)(6), and the marine or pleasure craft coating is specified in the plan; and,

(B) The requirements of paragraphs (d)(7) and (d)(8).

(4) For the purpose of this rule, no person shall solicit from, specify, require, offer for sale, sell, or distribute to any other person for use in the District any marine or pleasure craft coating application equipment that does not meet the requirements of subparagraph (d)(9)(A).

(5) For the purpose of this rule, no person shall offer for sale, sell, supply, market, offer for sale or distribute an HVLP spray gun for use within the SCAQMD unless said person provides accurate information to the spray gun recipient. Such accurate information shall include the maximum inlet air pressure to the spray gun that would result in a maximum air pressure of 10 pounds per square inch gauge (psig) air pressure measured dynamically at the center of the air cap and at the air horns based on the manufacturer's published technical material on the design of the spray application equipment and by a demonstration of the operation of the spray application equipment using an air pressure tip gauge from the manufacturer of the gun. The information shall either be permanently marked on the gun, or provided on the company's letterhead or in the form of technical literature that clearly identifies the spray gun manufacturer, the seller, or the distributor.

(6) Paragraphs (d)(1), (d)(2) and (d)(3) shall not apply to marine coatings or pleasure craft coatings that are sold, offered for sale, or solicited, for shipment or use outside of the SCAQMD jurisdiction, or for shipment to other manufacturers for repackaging provided such coatings are sold, offered for sale, or solicited, for shipment or use outside the SCAQMD jurisdiction.

Subdivision (f) - Recordkeeping Requirements for Marine and Pleasure Craft Coatings

Staff proposes to add new language for Recordkeeping for VOC Emissions and Recordkeeping Requirements for Emission Control System to align this rule with other Regulation IX coating rules.

"(f) Recordkeeping Requirements

(1) Recordkeeping for VOC Emissions

Records of marine coating usage and pleasure craft coating usage, as applicable, shall be maintained pursuant to SCAQMD Rule 109 - Recordkeeping for Volatile Organic Compound Emissions, and shall be made available to the Executive Officer upon request. The records shall also include the following information:

(A) Material name and manufacturer;

(B) Application method;

(C) Marine coating and pleasure craft coating categories, as applicable, and mix ratio specific to the coating;

(D) Regulatory VOC, for the marine coating and pleasure craft coating, as applicable;

(E) Documentation such as manufacturer specification sheets, material safety data sheets, technical data sheets, or any other air quality data sheets that indicate the material is intended for use as a marine coating, pleasure craft coating or solvent, as applicable;

(F) Current manufacturer specification sheets, material safety data sheets, technical data sheets, or air quality data sheets, that list the actual VOC and regulatory VOC, for each marine coating and pleasure craft coating, as applicable and,

(2) Recordkeeping Requirements for Emission Control System

Any person using an emission control system shall maintain daily records of key system operating parameters that 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 subparagraph (h)(7)(A), including, but not limited to, temperatures, pressure drops, and air flow rates."

Subdivision (g) - Administrative Requirements for Marine and Pleasure Craft Coating Manufacturers

Staff proposes to add new language for Labeling Requirements, and align this rule with the requirements shown in other Regulation XI coating rules. Labeling of marine and pleasure craft coating and coating component containers is not a new requirement and has been required since December 5, 1986 per Rule 443.1 – Labeling of Materials Containing Organic Solvents, which states, "A person shall not sell or offer for sale for use in the District, in containers of 0.94 liter (one quart) capacity or larger, any volatile organic compound (VOC) or material containing VOC manufactured after July 1, 1987, unless the maximum VOC expressed in grams of VOC per liter of material and in grams of VOC per liter of coating less water and less exempt solvent is clearly and correctly indicated on or supplied with the container." Nearly all of the marine and pleasure craft coatings that staff observed at the shipyards, boatyards, and marinas had the VOC content labelled on the containers.

"(g) Administrative Requirements for Marine Coating Manufacturers

(1) Labeling Requirements

(A) The manufacturer of marine coatings and pleasure craft coatings or marine coating and pleasure craft coating components shall include on all containers the regulatory VOC content (in grams of VOC per liter of coating, less water and exempt compounds)."

Paragraph (h)(1), (h)(2) and (h)(3) - Test Methods

Staff proposes the following updates to the existing rule language.

"(~~e~~h) Test Methods

(1) Determination of VOC Content:

The VOC content of coatings, subject to the provisions of this rule shall be determined by the following methods:

(A) ~~United States Environmental Protection Agency (~~U.S. EPA~~)~~ Reference Test Method 24 (Determination of Volatile Matter Content, Water Content, Volume Solids and Weight Solids of Surface Coatings, Code of Federal Regulations, Title 40, Part 60, Appendix A~~,~~). The exempt compounds' content shall be determined by SCAQMD Laboratory Test Method 303 (Determination of Exempt Compounds) contained in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples" manual~~;~~ or,

(B) SCAQMD Method 304 [Determination of Volatile Organic Compounds (VOCs) in Various Materials] contained in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples" manual~~.~~; or,

(C) SCAQMD Method 313 [Determination of Volatile Organic Compounds VOC by Gas Chromatography-Mass Spectrometry] in the SCAQMD's "Laboratory Methods of Analysis for Enforcement Samples" manual.

(2) VOC content determined to exceed the limits established by this rule through the use of any of the above-referenced test methods shall constitute a violation of this rule.

(~~C~~3) Exempt Perfluorocarbon Compounds

The following classes of compounds:

C~~c~~yclic, branched, or linear, completely fluorinated alkanes;

C~~c~~yclic, branched, or linear, completely fluorinated ethers with no unsaturations;

Ccyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and

S~~s~~ulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine,

~~will~~ shall be analyzed as exempt compounds for compliance with subdivision (~~e~~d), only ~~when~~ at such time as manufacturers specify which individual compounds are used in the ~~coating~~ formulation of the coatings subject to this rule. In addition, prior to any such analysis, the manufacturers shall also identify the test methods approved by the U.S. EPA, California Air Resources Board (CARB), and the SCAQMD ~~approved test methods~~ that will be used to quantify the amount of each exempt compound."

Paragraph (h)(~~2~~4) - Determination of Metal Content

Staff proposes the following updates to the existing rule language as follows:

"(~~2~~4) Determination of ~~Metal Content~~Iridescent Particles in Metallic/Iridescent Coatings

The metal and silicon content in metallic/iridescent coatings subject to the provisions of this rule shall be determined by the SCAQMD Method 311 (Determination ~~Analysis~~ of Percent Metal in Metallic Coatings by Spectrographic Method) contained in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples" manual."

Paragraph (h)(~~3~~5) - Determination of Acid Content

Staff proposes the following updates to the existing rule language as follows:

"(~~3~~5) Determination of Acid Content in Marine and Pleasure Craft Coatings

The acid content of any coating subject to the provisions of this rule shall be determined by ASTM D-1613-85 06 (2012) (Standard Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint., , Varnish, Lacquer, and Related Products) contained in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples" manual."

Paragraph (h)(6) – Determination of Transfer Efficiency of Application Equipment

Staff proposes to add new language for transfer efficiency test methods to align this rule with other Regulation IX coating rules as follows:

"(6) Determination of Transfer Efficiency of Application Equipment

The transfer efficiency of alternative marine coating and pleasure craft coating application methods, as defined by clause (d)(9)(A)(v), shall be determined in accordance with the SCAQMD method "Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989," and SCAQMD "Guidelines for Demonstrating Equivalency With District Approved Transfer Efficiency Spray Gun September 26, 2002".

Paragraph (h)(47) - Determination of Efficiency of Emission Control System

Staff proposes to update the language in paragraph (h)(4) to make it consistent with other Regulation XI coating rules as follows:

"(47) Determination of Efficiency of Emission Control System

(A) The efficiency of the collection device of the emission control system as specified in paragraph (c)(2) (d)(5) shall be determined by the USEPA methods specified cited in 55 Federal Register 26865 (June 29, 1990), or any other method approved by the USEPA, the California Air Resources Board, and the SCAQMD below.:

(i) U.S. EPA method cited in 55 Federal Register (FR) 26865, June 29, 1990; or

(ii) SCAQMD's "Protocol for Determination of Volatile Organic Compounds (VOC) Capture Efficiency"; or

(iii) Any other method approved by the U.S. EPA, CARB, and the District Executive Officer.

(B) The efficiency of the control device of the emission control system as specified in paragraph (ed)(25) and the VOC content in the control device exhaust gases, measured and calculated as carbon, shall be determined by U.S. EPA Test Methods 25, 25A, or SCAQMD Method 25.1 (Determination of Total Gaseous Non-Methane Organic Emissions as Carbon) as applicable. U.S. EPA Test Method 18, or CARB Method 422 shall be used to determine emissions of exempt compounds."

Paragraph (h)(~~5~~8) - Multiple Test Methods - and paragraph (h)(9)

Staff proposes to relabel the following paragraphs to make the language consistent will the rule.

"(~~5~~8) Multiple Test Methods

When more than one test method or set of test methods are specified for any testing, a violation of any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of the rule.

(~~6~~9) All test methods referenced in this section shall be the most recently approved version."

Subdivision (i) - Rule 442 Applicability

Staff proposes to add new rule language to include usage of solvents and make this rule consistent with other Regulation XI rules. The new rule language will be under subdivision (i) and will replace the exemptions subdivision (i). The new rule language is as follows:

"(~~f~~i) Rule 442 Applicability

Any ~~*marine coating operation*~~Marine Coating or Pleasure Craft Coating or any facility ~~which~~ that is exempt pursuant to subdivision (j) from all or a portion of the VOC limits of subdivision (d) ~~this rule~~ shall comply with the provisions of Rule 442 - Usage of Solvents."

Subdivision (j) - Exemptions:

Staff proposes minor corrections and three new exemptions to subdivision (j) addressing coatings with viscosities greater than 650 centipoise, coatings that have a VOC content of no more than 10 g/L or its equivalent, less water and less exempt compounds, as applied, and coatings that are intended for vessels that submerge to at least 500 feet below the surface of the water. Subdivision (j) is numbered as subdivision (i) in the current rule. Paragraphs (j)(1), (j)(2) and (j)(3) are editorial corrections. The language in paragraph (i)(3) of the current rule can be removed as the date January 1, 1992 has long since passed. The language in paragraph (i)(4) of the current rule can also be removed since the VOC content limit for aluminum hulls is now shown in the Table of Standards I and II.

"(~~g~~j) Exemptions:

The provisions of this rule shall not apply to:

(1) Marine or pleasure craft coatings that have a VOC content of no more than 10 g/L or its equivalent, less water and less exempt compounds, as applied.

(~~1~~2) ~~marine~~Marine coatings applied to interior surfaces of potable water containers.

(~~2~~3) ~~touch~~Touch-up coatings, as defined by paragraph (c)(41) of this rule.

~~(3) marine coatings purchased before January 1, 1992, in containers of one quart or less and applied to pleasure craft.~~

~~(4) antifoulant coatings applied to aluminum hulls.~~

(~~3~~4) Any aerosol coating product~~s~~.

(~~4~~5) The provisions of paragraph (d)(9) shall not apply to Marine or Pleasure Craft coatings with a viscosity of 650 centipoise or greater, as applied.

(~~5~~6) The provisions of paragraphs (d)(1), (d)(2), and (d)(3) shall not apply to Marine coatings that are used for vessels that are intended to submerge to at least 500 feet below the surface of the water provided that the total combined usage of such coatings does not exceed one gallon per month and such coatings are in compliance with the VOC limits in the U.S. EPA National Emission Standards for Hazardous Air Pollutants (NESHAP) for Shipbuilding and Ship Repair (Surface Coatings).

RULE 1106 – MARINE AND PLEASURE CRAFT COATINGS

CHAPTER 3: IMPACT ASSESSMENT OF PROPOSED AMENDED RULE 1106

- Emission Impact Assessment
- Cost Analysis
- Incremental Cost-Effectiveness
- California Environmental Quality Act (CEQA)
- Socioeconomic Impact Assessment
- Draft Findings under California Health and Safety Code 40727
- Comparative Analysis
- Draft Conclusions and Recommendations
- Public Comments and Responses

EMISSION IMPACT ASSESSMENT

Staff does not anticipate any real quantifiable emission reductions or increases, since Proposed Amended Rule 1106 seeks to align the VOC content limit for certain coating categories with the U.S. EPA CTG, and other California APCDs/AQMDs, and because of currently available marine and pleasure craft coating products already meeting the VOC limits in this proposal, will not lead to reformulation of coatings; thus, Proposed Amended Rule 1106 will be administrative in nature.

COST ANALYSIS

The proposed amendment to Rule 1106 is not expected to have a net cost impact, since industry will be able to continue business as usual and operate their equipment subject to Proposed Amended Rule 1106 in a similar manner to the current rules.

INCREMENTAL COST-EFFECTIVENESS

Under Health and Safety Code § 40920.6, the SCAQMD is required to perform an incremental cost analysis when adopting a Best Available Retrofit Control Technology (BARCT) rule or feasible measure required by the California Clean Air Act. To perform this analysis, the SCAQMD must (1) identify one or more control options achieving the emission reduction objectives for the proposed rule, (2) determine the cost effectiveness for each option, and (3) calculate the incremental cost effectiveness for each option. To determine incremental costs, the SCAQMD must "calculate the difference in the dollar costs divided by the difference in the emission reduction potentials between each progressively more stringent potential control option as compared to the next less expensive control option." Staff reviewed the current standards throughout the state and determined that PAR 1106 represents BARCT for Marine and Pleasure Craft Coatings because there are no other more stringent limits available. PAR 1106 will not result in emission reductions and therefore no incremental cost analysis is required under Health and Safety Code § 40920.6.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Pursuant to the California Environmental Quality Act (CEQA) and SCAQMD's Certified Regulatory Program (Rule 110), the SCAQMD, as lead agency for the proposed project, prepared a Draft Environmental Assessment (EA) for Proposed Amended Rule 1106 – Marine and Pleasure Craft Coatings and proposed rescission of Rule 1106.1 – Pleasure Craft Coating Operations. The environmental analysis in the Draft EA concluded that the proposed project would not generate any significant adverse impacts. The Draft EA was released for a 30-day public review and comment period from August 19, 2015 to September 18, 2015, and no comment letters were received relative to the analysis in the Draft EA. Subsequent to the release for public review, Proposed Amended Rule 1106 was modified to add two exemptions. The first exemption was for high viscosity/high solids coatings for metal parts and products and the second exemption was for certain pre-treatment wash primers and special marking coatings. A new definition was added for ultraviolet/electron beam (UV/EB) curable thin film marine and pleasure craft coatings.

Staff reviewed the modifications to Proposed Amended Rule 1106 and concluded that none of the revisions constituted: 1) significant new information; 2) a substantial increase in the severity of an environmental impact, or 3) provided new information of substantial importance relative to the draft document. Further, revisions to the proposed project, in response to verbal or written comments, did not create new, avoidable significant effects. Pursuant to CEQA Guidelines Sections 15073.5 and 15088.5,

Staff determined that these revisions did not require recirculation of the Draft EA. Consequently, Staff incorporated the aforementioned changes into the Final EA and it was released as part of the Governing Board package for the October 2, 2015 public hearing. The project, however, was not adopted and moreover, the Final EA was not certified at that time.

Since the release of the Final EA, additional changes have been made to Proposed Amended Rule 1106 that would remove the previously proposed reporting requirements. Staff has reviewed these additional modifications to Proposed Amended Rule 1106 and concluded that none of these additional revisions constitute: 1) significant new information; 2) a substantial increase in the severity of an environmental impact; or 3) provide new information of substantial importance relative to the draft document. Additionally, revisions to the proposed project in response to verbal or written comments would not create new, avoidable significant effects. These revisions do not require recirculation of the Draft EA pursuant to CEQA Guidelines Sections 15073.5 and 15088.5. Therefore, staff is preparing a Revised Final EA which will be included in the Governing Board package for the May 3, 2019 public hearing (date subject to change) which will remove the reporting requirements previously proposed during the 2015 rule development process.

SOCIOECONOMIC IMPACT ASSESSMENT

Proposed Amended Rule 1106 clarifies existing requirements for Marine and Pleasure Craft Coatings found in current Rule 1106 and 1106.1, and proposes new requirements that align with existing requirements found in current SCAQMD Regulation XI rules, U.S. EPA Control Technique Guidelines, and similar rules of other California air districts. Since there are already available marine and pleasure craft coating products that are already being used and meet the VOC requirements in this proposal, the proposed amendments are not expected to result in increased compliance costs to affected facilities beyond what is currently required. Additionally, the proposed amendments are administrative in nature and will not significantly affect air quality or emission limitations. As such, no socioeconomic impact assessment was performed for the proposed amendments.

DRAFT FINDINGS UNDER CALIFORNIA HEALTH AND SAFETY CODE 40727

The draft findings include necessity, authority, clarity, consistency, non-duplication and reference, as defined in Health and Safety Code Section §40727. The draft findings are as follows:

Necessity - The SCAQMD Governing Board finds and determines that Proposed Amended Rule 1106, Marine and Pleasure Craft Coatings, is necessary to enhance readability and provide clarity of rule language.

Authority - The SCAQMD Governing Board obtains its authority to adopt, amend or repeal rules and regulations from Health and Safety Code §§ 39002, 40000, 40001, 40440, 40702, 40725 - 40728 and 41700.

Clarity - The SCAQMD Governing Board finds and determines that Proposed Amended Rule 1106 is written and displayed so that the meaning can be easily understood by persons directly affected by it.

Consistency - The SCAQMD Governing Board finds and determines that Proposed Amended Rule 1106 is in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, or federal or state regulations.

Non-Duplication - The SCAQMD Governing Board has determined that Proposed Amended Rule 1106 does not impose the same requirement as any existing state or federal regulation, and the proposed amendment is necessary and proper to execute the powers and duties granted to, and imposed upon, the SCAQMD.

Reference - In adopting this Proposed Amended Rule 1106, the SCAQMD Governing Board references the following statutes which SCAQMD hereby implements, interprets or makes specific: Health and Safety Code Sections 40001, 40440, and 40702.

COMPARATIVE ANALYSIS

California Health and Safety Code Section 40727.2 requires the comparative analysis with any federal or other SCAQMD rules that apply to the same equipment or source type as the proposed amendment. The existing VOC limits in current Rule 1106 and Rule 1106.1 as well as the proposed VOC limits in Proposed Amended Rule 1106 are not in conflict with the current National Emission Standards for Hazardous Air Pollutants (NESHAP) for Shipbuilding and Ship Repair Operations (Surface Coating), 40 CFR Part 63, dated June 18, 1996. The existing VOC limits in current Rule 1106 and Rule 1106.1 as well as the proposed VOC limits in Rule 1106 are not in conflict with the current U.S. EPA CTG, dated August 27, 1996. Proposed Amended Rule 1106 seeks to align the VOC limit for Inorganic Zinc Coating in current Rule 1106 from 650 g/L to 340 g/L to be consistent with the U.S. EPA VOC limit of 340 g/L.

The NESHAP for Shipbuilding and Ship Repair Operations (Surface Coating) sets forth Hazardous Air Pollutants ("HAP") emission limits for major source facilities that apply coatings used in volumes of 200 liters (52.8 gallons) or more. Affected sources under this NESHAP are Shipbuilding and Ship Repair Operations (Surface Coating) that are major sources under federal law, or are coating operations located within the confines of a federal major source.

The CTG is intended to provide state and local air pollution authorities' information to assist them in determining RACT for VOCs for Shipbuilding and Ship Repair Operations (Surface Coating).

The proposed amendments to Rule 1106 are not expected to reduce or increase VOC emissions. Current Rules 1106 and 1106.1 and Proposed Amended Rule 1106 does not regulate Hazardous Air Pollutants (HAP) emissions directly. Therefore, the existing as well as the proposed VOC limits of Rule 1106 are not in conflict with federal regulations.

Table 3-1 has been prepared to show comparisons between SCAQMD Proposed Amended Rule 1106, the U.S. EPA CTG, and the NESHAP regulation.

TABLE 3-1: COMPARATIVE ANALYSIS

CATEGORY	SCAQMD PAR1106 – Marine and Pleasure Craft Coatings	U.S.EPA CTG Control Techniques Guidelines for Shipbuilding and Ship Repair Operations (Surface Coating)	USEPA NESHAP 40 CFR Part 63 – NESHAP for HAP for Shipbuilding and Ship Repair Operations (Surface Coating)
Purpose	Reduces emissions of VOC and stratospheric ozone depleting and global warming compounds from Marine & Pleasure Craft Coatings.	Provides state and local air pollution authorities' information to assist them in determining RACT, to control VOCs from surface coating operations in the shipbuilding and ship repair industry.	Establishes National Emission Standards for Hazardous Air Pollutants for shipbuilding and ship repair (surface coating) facilities.
Applicability	Applies to local Marine and Pleasure Craft Coatings.	Applies to facilities that perform surface coating operations in the shipbuilding and ship repair industry. Does not include pleasure craft coating operations.	Applies to shipbuilding and ship repair (surface coating) operations at any facility that is a major source. Does not include pleasure craft coating operations.
Averaging Provisions	None.	None.	None.
Units	Mass/Volume: Grams/Liter or Pounds/gallon.	Mass/Volume: Grams/Liter.	Mass/Volume: Grams/Liter.
Operating Parameters	Has HVLP type transfer efficiency requirements for coating application equipment.	No HVLP type transfer efficiency requirements for application equipment.	Does not include the use of HVLP type transfer efficiency for application equipment.
Method to Determine VOC	U.S. EPA Method 24, or SCAQMD Method 304, or SCAQMD Method 313.	Does not mention U.S. EPA Methods for determining VOC.	U.S.EPA Method 24 of 40 CFR part 60, appendix A.
Capture Efficiency	U.S. EPA Method 55 or, SCAQMD's "Protocol for determining VOC capture efficiency.	Does not mention U.S. EPA Methods for capture efficiency.	Does not mention U.S.EPA Methods for capture efficiency.
Control Device Efficiency	U.S.EPA Method 25 & 25A, or SCAQMD Method 25.1. Must use U.S. EPA Method 422 to determine emissions from exempt compounds	Does not mention U.S. EPA Methods for control device efficiency.	Does not mention U.S. EPA Methods for control device efficiency.
Work Practices	Defers to Rule 1171 for storage and disposal of VOC containing materials.	Does not contain any work practices recommendations.	VOC containing containers to be kept closed when not in use. Minimize spills of VOC containing materials.
Monitoring	None	None	None
Reporting	None	No mention for reporting	No mention for reporting

Recordkeeping	Defers recordkeeping to Rule 109, records to be kept annually.	No mention for recordkeeping.	Comprehensive records required annually to support compliance.
Other Elements	Prohibition of possession, specification and sale for non-compliant marine and pleasure craft coatings.	No mention of a prohibition of sale requirement.	No mention of a prohibition of sale requirement.
	Marine coatings applied to interior surfaces of potable water containers, touch-up coatings and aerosol containers.	No transfer efficiency requirements in the CTG.	Offers two exemptions: annual usage of less than 200 liters for an individual coating and aerosol containers.

DRAFT CONCLUSIONS AND RECOMMENDATIONS

Based on the foregoing, staff recommends the adoption of Proposed Amended Rule 1106 - Marine and Pleasure Craft Coatings.

PUBLIC COMMENTS AND RESPONSES

Staff will hold the public workshop for the rescinding of Rule 1106.1 - Pleasure Craft Coatings and the Proposed Amended Rule 1106 - Marine and Pleasure Craft Coatings on February, 12, 2019. Comments to be made during the comment period, February 12 through February 26, 2019, and staff responses to those comments will be provided here.

REFERENCES

SCAQMD Final Staff Report for proposed amendment to: 1106 - Marine Coating Operations, December 1994.

SCAQMD Final Staff Report, Proposed Amended Rule 1106.1 - Pleasure Craft Coating Operations, January 1999.

Websites:

http://en.wikipedia.org/wiki/Anti-fouling_paint

http://en.wikipedia.org/wiki/Ablation