



Air Pollution Control Board
Brian P. Bilbray District 1
Dianne Jacob District 2
Pamela Slater District 3
Leon L. Williams District 4
John MacDonald District 5

Air Pollution Control Officer
R. J. Sommerville

DATE: December 13, 1994
TO: Air Pollution Control Board
SUBJECT: Adoption of Amendments to Rule 67.18 (Marine Coating Operations)

SUMMARY:

Rule 67.18 regulates volatile organic compound (VOC) emissions from coating (painting) marine vessels and other structures exposed to a marine environment. In July 1993, EPA issued a limited disapproval of Rule 67.18 citing minor administrative deficiencies (e.g. absence of certain test methods). Failure to correct these deficiencies before February 1995 will result in automatic imposition of federal sanctions including a 2.0 to 1.0 emission offset ratio for new and modified major industrial sources (emitting 50 tons per year or more of VOC's) and withholding up to \$75 million in federal transportation funds. The proposed amendments will correct these deficiencies and also satisfy the Best Available Retrofit Control Technology (BARCT) requirements of the California Clean Air Act.

In addition, the pleasure craft coating industry requested the District reconsider the VOC limits for topcoats and finish primers because of the inferior quality of commercially available paints with lower VOC content. The proposed changes revise the limits for pleasure craft coatings and create a new specialty coating category with a higher VOC limit for preconstruction zinc primers, as requested by a local business. The increased emissions are compensated for by adding a new specialty coating category with a lower VOC limit for high solids epoxy coatings and reducing the VOC limits for pleasure craft antifoulant coatings.

The amendments add other new specialty coating categories requested by industry, exempt individuals painting their own pleasure craft at their residences, and allow permitted facilities to use up to 20 gallons per year of coatings with the VOC content higher than rule standards. In addition, the amendments will provide facilities with more choices of materials and devices for reducing VOC emissions from surface preparation operations and cleaning coating application equipment. The changes also make clarifications; update definitions, test methods and requirements for control equipment; and give facilities using complying coatings the option of keeping monthly instead of daily records.

Approximately 37 facilities are affected. The proposed revisions will not result in any emission reductions.

The proposed changes are consistent with the Board's February 2, 1993 direction regarding implementing new or revised rules. They are needed to meet the requirements of the federal and California Clean Air Acts. They also make revisions requested by local industry.

Issue

Should the Board adopt amendments to Rule 67.18 (Marine Coating Operations) to correct deficiencies identified by Environmental Protection Agency, meet the requirements of the California Clean Air Act and make other changes requested by local industry?

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Recommendation

AIR POLLUTION CONTROL OFFICER

Adopt the resolution amending Rule 67.18 and make appropriate findings:

- (1) of necessity, authority, clarity, consistency, non-duplication and reference as required by Section 40727 of the State Health and Safety Code.
- (2) that amended Rule 67.18 will alleviate a problem and promote attainment of ambient air quality standards (Section 40001 of the State Health and Safety Code);
- (3) that the socioeconomic impact of Rule 67.18 was actively considered and a good faith effort was made to minimize adverse socioeconomic impacts (Section 40728.5 of the State Health and Safety Code); and
- (4) that there is no reasonable possibility that the amended rule may have a significant effect on the environment, and that adoption of amended Rule 67.18 is categorically exempt from the provisions of the California Environmental Quality Act pursuant to California Code of Regulations, Title 14, Sections 15300 and 15308, as an action taken to assure the maintenance or protection of the environment and where the regulatory process involves procedures for protection of the environment.

Advisory Statement

The Air Pollution Control District Advisory Committee recommended adopting the proposed amendments to Rule 67.18 at its October 26, 1994 meeting. However, based on comments from a coating manufacturer and user, the Committee also recommended that the District's proposed VOC limit for pleasure craft antifoulant coatings be lowered from 330 to 300 grams per liter.

The District has discussed this recommendation with other local industry representatives that apply and manufacture marine coatings and determined that the VOC limit for these anti-foulant coatings should be set at 330 grams per liter. The District will continue to work with coatings users and manufacturers to evaluate the feasibility of reducing the VOC limit for these coatings and, if appropriate, will return to the Board at a later date with further revisions to Rule 67.18. This course of action is acceptable to both the manufacturer and user that made this recommendation.

Fiscal Impact

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

Alternatives

Not adopt amendments to Rule 67.18. The EPA notified the District that a corrected Rule 67.18 must be submitted before February 1995, or sanctions (2.0 to 1.0 emission offset ratio for new and expanding major industrial sources and withholding up to \$75 million in federal transportation funds) will be imposed on San Diego County. Also, requirements of the Cali-

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ifornia Clean Air Act to implement Best Available Retrofit Control Technology (BARCT) will not be met. In addition, changes requested by local industry will not be made. Accordingly, this alternative is not recommended.

BACKGROUND:

Rule 67.18 was adopted in 1990 to control VOC emissions from marine coating operations. It established VOC limits for general use coatings (and cleaning solvents) applied to marine vessels, oil drilling platforms, navigational aids, and component parts and structures exposed to a marine environment. It also provided higher VOC limits for certain specialty coating categories used on military and commercial vessels and pleasure craft. The rule required these limits be lowered in September, 1994.

In 1992, EPA proposed a limited approval/limited disapproval of Rule 67.18 citing administrative deficiencies such as certain discretionary requirements in the rule and the absence of certain test methods. EPA notified the District that failure to correct the deficiencies before February 1995 will result in automatic imposition of federal sanctions (2.0 to 1.0 emission offset ratio for new and expanding major industrial sources and withholding up to \$75 million in federal transportation funds) on San Diego County. The proposed amendments correct the deficiencies identified by EPA and make other changes to maintain the rule consistent with the California Clean Air Act's BARCT requirements.

The pleasure craft industry also asked the District to revise the rule to increase the VOC limits for finish primers and topcoats because of the inferior quality of complying paints. To offset the projected slight increase in emissions, the industry suggested that the VOC limits for antifoulant paints be reduced to a level lower than that required by the rule. A demonstration was conducted by industry, with District participation, comparing available primers and topcoats with both high and low VOC contents. The results clearly showed the need for pleasure craft primers and topcoats with higher VOC levels and the District proposed to revise the rule to allow this. The District also proposed that VOC limits for pleasure craft antifoulant coatings be set at 330 grams per liter to compensate for the small increase in emissions from topcoats.

The Air Pollution Control District Advisory Committee considered the proposed changes to Rule 67.18 at its October 26, 1994 meeting. Based on comments from a coating manufacturer and a coating user, the Committee recommended that the proposed changes be adopted but that the VOC limit for pleasure craft antifoulant coatings be lowered from 330 to 300 grams per liter.

The District discussed this recommendation with local industry representatives that apply and manufacture marine coatings and determined that the performance characteristics of water-based antifoulant coatings with the VOC limits below 300 grams per liter (certified for sale in California) have not been adequately verified. For example, some users said these coatings can have an adverse impact on the speed of racing boats. It was also questioned whether lowering the VOC limit to 300 grams per liter will result in any additional emission reductions. In addition, only one coating manufacturer makes solvent based coatings (certified for sale in California) in the VOC range of 300 grams per liter or less. Therefore, lowering the limit will require local coating users to buy solvent-based coatings from one manufacturer. For these reasons, the District recommends that the VOC limit for pleasure craft antifoulant coatings be set at 330 grams per liter. The District will continue to work with coatings users and manufacturers to evaluate the feasibility of reducing the VOC limit for these coatings. If appropriate, the District will return to the Board at a later date with further revisions to Rule 67.18. This course of action is acceptable to the one coating manufacturer and user that recommended a lower solvent limit.

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In addition, a local company requested that a new specialty coating category with a higher VOC limit be created for preconstruction zinc primers and the resulting emissions increase be offset by creating a new specialty coating category with a lower VOC limit for high solids epoxy coatings. This will provide greater flexibility to the company in meeting the requirements of Rule 67.18 with no increase in emissions. The District supports this request and added new specialty coating categories for preconstruction zinc primers and high solids epoxy coatings, as requested.

The amendments also exempt individuals coating their own pleasure craft at their residences. They also allow permitted facilities to use up to 20 gallons per year of coatings with VOC contents higher than specified in the rule. This allows the marine industry to continue to use small amounts of highly specialized, high VOC content coatings for which no low VOC substitutes are available. The amendments update definitions, test methods and control equipment requirements, and allow industry more options in choosing materials and devices meeting rule requirements for coating application equipment cleaning operations and surface cleaning operations. Facilities using coatings meeting the VOC limits of the rule will now have the option of keeping monthly instead of daily records.

Rule 67.18 affects approximately 37 facilities involved in military, commercial and pleasure craft coating operations, including approximately 15 small businesses. All coatings and clean-up solvents complying with the revised or optional VOC emission limitations are currently available. Therefore, the amendments to Rule 67.18 are not expected to have any impact on employment and the economy of the region. They are not expected to result in any additional costs to the affected businesses. Less stringent alternatives to the proposed amendments would violate the Federal Clean Air Act requirements. More stringent alternatives will result in additional costs to some small businesses.

The proposed amendments will not provide any emission reductions, and will have no net effect on air quality. They are nevertheless necessary to comply with the federal Clean Air Act and the California Clean Air Act requirements for the attainment of state and federal ambient air standards. The proposed amendments also minimize any potential adverse socioeconomic impacts by retaining higher VOC limits for topcoats and finish primers coatings for pleasure craft. At the same time, lower standards for antifoulant coatings which are presently available compensate for any resulting increases in emissions and achieve no net effect on air quality.

On February 2, 1993, the Air Pollution Control Board directed that, with the exception of a regulation requested by business or a regulation for which a socioeconomic impact assessment is not required, no new or revised regulation shall be implemented unless specifically required by federal or state law. Part of the amendments to Rule 67.18 are requested by local industry and the remainder are required by either the federal or California Clean Air Acts. The amendments are consistent with the February 2, 1993 Board direction.

California Environmental Quality Act

The California Environmental Quality Act requires an environmental review for certain actions. No significant adverse impacts on the environment have been suggested; no such impacts are reasonably possible. Adopting the proposed amendments to Rule 67.18 will not have a significant effect on the environment and is categorically exempt from the provisions of the California Environmental Quality Act pursuant to California Code of Regulations, Title 14, Sections 15300 and 15308, as an action taken to assure the maintenance or protection of the environment where the regulatory process involves procedures for protection of the environment.

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A public workshop on proposed Rule 67.18 was held on June 22, 1993. The workshop report is attached.

Concurrence:

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'R. J. Sommerville', written in a cursive style.

DAVID E. JANSSEN
Chief Administrative Officer

R. J. SOMMERVILLE
Air Pollution Control Officer

**AIR POLLUTION CONTROL BOARD
AGENDA ITEM
INFORMATION SHEET**

SUBJECT: Adoption of Amendments to Rule 67.18 (Marine Coating Operations)

SUPV DIST.: All

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

10 11/29/94

AUDITOR APPROVAL: N/A Yes **4 VOTES:** Yes No

FINANCIAL MANAGEMENT REVIEW: Yes No

CONTRACT REVIEW PANEL: Approved _____ N/A

CONTRACT NUMBER(S): N/A

PREVIOUS RELEVANT BOARD ACTION: N/A

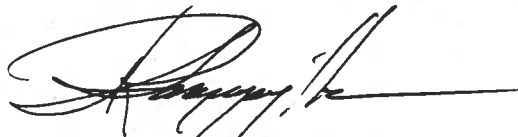
BOARD POLICIES APPLICABLE:

CITIZEN COMMITTEE STATEMENT: The Air Pollution Control District Advisory Committee recommended adoption of the proposed amendments to Rule 67.18 at its October 26, 1994 meeting.

CONCURRENCES:

ORIGINATING DEPARTMENT:

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



R.J. SOMMERVILLE
DEPARTMENT AUTHORIZED REPRESENTATIVE

DECEMBER 13, 1994
MEETING DATE

FINDINGS OF THE SAN DIEGO COUNTY AIR POLLUTION
CONTROL BOARD IN RESPECT TO ADOPTION OF
AMENDMENTS TO RULE 67.18
(MARINE COATING OPERATIONS)

- A. Pursuant to section 40727 of the Health and Safety Code, the Air Pollution Control Board of the San Diego County Air Pollution Control District makes the following findings:
1. (Necessity) The adoption of the proposed amendments to District Rule 67.18 is necessary for the District to correct deficiencies identified by the United States Environmental Protection Agency in July, 1993, and to satisfy requirements for best available retrofit control technology in Health and Safety Code section 40919.
 2. (Authority) The adoption of the proposed rule amendments is authorized by Health and Safety Code sections 40001 and 40702.
 3. (Clarity) The proposed rule amendments are written so that their meaning can be easily understood by persons directly affected by the rule.
 4. (Consistency) The proposed rule amendments are in harmony with, and not in conflict with or contrary to, existing statutes, court decisions, and state and federal regulations.
 5. (Nonduplication) The proposed amendments do not impose the same requirements as an existing state or federal regulation.
 6. (Reference) The adoption of the proposed amendments implements subsections 182(a)(2)(A) and 182(b)(2) of the federal Clean Air Act [42 U.S.C. section 7511a, subsections (a)(2)(A) and (b)(2)], mandating rules requiring reasonably available control technology for stationary sources of volatile organic compound (VOC) emissions, and Health and Safety Code section 40919 mandating rules requiring the use of best available retrofit control technology.
- B. The Air Pollution Control Board has actively considered the socioeconomic impact of the proposed amendments and minimized adverse socioeconomic impacts by retaining higher VOC limits for topcoats and finish primer coatings for pleasure craft. At the same time, lower standards for antifoulant coatings which are presently available compensate for any resulting increases in emissions and achieve no net effect on air quality.
- C. The Air Pollution Control Board further finds that there is no reasonable possibility that the amended rule may have a significant effect on the environment, and that the adoption of the proposed amendments is categorically exempt from the provisions of the California Environmental Quality Act pursuant to California Code of Regulations, title 14, sections 15300 and 15308, as an action taken to assure the protection of the environment which will not have a significant effect on the environment and where the regulatory process involves procedures for protection of the environment.
- D. The Air Pollution Control Board further finds in accordance with Health and Safety Code section 40001 that the adoption of the proposed rule amendments is necessary to satisfy state and federal law, and that the proposed amendments will promote the attainment of state and federal ambient air quality standards.

APCD Meeting 12/13/94
Agenda Item #1

Approved and/or authorized by the Board
of Supervisors of the County of San Diego
Date 12/13/94 Minute Order No. APCB 1
THOMAS J. PASTUSZKA
Clerk of the Board of Supervisors
By A. Gomez
Deputy Clerk

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

NO. 94-516

TUESDAY, DECEMBER 13, 1994

**RESOLUTION AMENDING RULE 67.18
OF REGULATION IV
OF THE RULES AND REGULATIONS OF THE
SAN DIEGO COUNTY AIR POLLUTION CONTROL DISTRICT**

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

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

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

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

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

Amendments to Rule 67.18 are to read as follows:

RULE 67.18 MARINE COATING OPERATIONS

(a) APPLICABILITY

(1) Except as otherwise provided in Section (b), this rule is applicable to marine coating operations including the coating of marine and fresh water vessels, oil drilling platforms, navigational aids and component parts; and structures intended for exposure to a marine environment.

(2) Rule 66 shall not apply to any marine coating operation which is subject to this rule.

(b) EXEMPTIONS

The provisions of this rule shall not apply to:

(1) Coating operations employing non-refillable hand held aerosol cans.

(2) Solid film lubricants.

(3) Polyester resin materials used in operations subject to or specifically exempt from Rule 67.12.

(4) Touch-up operations of thermoplastic coatings on marine and fresh water vessels.

(5) Antifoulant coatings applied to aluminum hulls, outboard motors, lower drive shafts, and aluminum running gear below waterline provided records are maintained to substantiate that the antifoulant coatings are applied to aluminum hull, outboard motors, lower drive shafts, and aluminum running gear, and provided the recordkeeping requirements of Section (f) are met.

(6) Architectural coatings subject to Rule 67.0, applied to installed bridges, piers or other stationary structures.

(7) Noncommercial marine coating operations performed by individuals at their personal residence for the purpose of coating their own pleasure craft(s).

(8) Marine coatings used at a permitted stationary source in volumes of less than 20 gallons per year, provided not more than 20 gallons per year of all such non-compliant coatings are used and provided records are maintained to substantiate the total annual usage of such coatings. These records shall be retained on site for at least three years and shall be made available to the District upon request.

(9) Solvent cleaning equipment subject to Rule 67.6 and used for surface preparation.

(c) DEFINITIONS

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

(1) "Air Dried Coating" means any coating which is not heated above 90°C (194°F) for the purpose of curing or drying.

(2) "Air Flask Coating" means a special composition coating applied to interior surfaces of high pressure breathing air flasks to provide corrosion resistance and which is certified safe for use with breathing air supplies.

(3) "Antenna Coatings" means any coating applied to equipment on a vessel exterior which is used to receive or transmit electromagnetic signals.

(4) "Antifoulant Coating" means any coating which is applied to the under-water portion of a vessel to prevent or reduce the attachment of biological organisms and which is registered with the Environmental Protection Agency (EPA) as a pesticide.

(5) "Baked Coating" means any coating which is cured or dried in an oven where the oven air temperature exceeds 90°C (194°F).

(6) "Coating" means a material containing more than 20 grams per liter of VOC as applied, less water and exempt compounds, which can be applied as a thin layer to a substrate and which dries or cures to form a continuous solid film, including but not limited to any paint, primer, varnish, stain, lacquer, enamel, shellac, sealant, or maskant, and excluding adhesives.

(7) "Coating Operation" means all steps involved in the application, drying and/or curing of surface coatings, and associated equipment cleaning and surface preparation.

(8) **"Exempt Compound"** means any of the following compounds or classes of compounds: 1,1,1-trichloroethane, methylene chloride, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), chlorodifluoromethane (HCFC-22), trifluoromethane (HFC-23), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), chloropentafluoroethane (CFC-115), dichlorotrifluoroethane (HCFC-123), dichlorofluoroethane (HCFC-141b), 1,1,1,2-tetrafluoroethane (HFC-134a), 1,1,2,2-tetrafluoroethane (HFC-134), chlorodifluoroethane (HCFC-142b), 2-chloro-1,1,1,2-chlorotetrafluoroethane (HCFC-124), pentafluoroethane (HFC-125), 1,1,1-trifluoroethane (HFC-143a), 1,1-difluoroethane (HFC-152a); and the following four classes of perfluorocarbon (PFC) compounds:

- (i) cyclic, branched, or linear, completely fluorinated alkanes;
- (ii) cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
- (iii) cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and
- (iv) sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

(9) **"Finish Primer"** means any coating up to 5 mils thick (dry) applied prior to the application of a pleasure craft topcoat for the purpose of corrosion resistance, adhesion of the topcoat, and which promotes a uniform surface by filling in surface imperfections.

(10) **"Heat Resistant Coating"** means any coating which during normal use must withstand temperatures of at least 204°C (400°F).

(11) **"High Gloss Coating"** means any coating which achieves at least 85% reflectance on a 60° meter.

(12) **"High Solids Epoxy Coating"** means an epoxy coating which is applied over a preconstruction zinc primer, or to a metal surface from which preconstruction zinc primer has been removed, or over earlier coats of high solids epoxy coating, in ship structural modification or initial ship construction.

(13) **"High Temperature Coating"** means any coating which during normal use must withstand temperatures of at least 426°C (800°F).

(14) **"Impregnating Sealer"** means a coating formulated for and applied to wood and fiberglass surfaces to impregnate these surfaces to prevent further deterioration of these surfaces prior to applying subsequent coatings.

(15) **"Inorganic Zinc Coating"** means a coating derived from zinc dust incorporated into an inorganic silicate binder, which contains more than eight pounds of elemental zinc per gallon of coating, as applied, and which is used for the express purpose of providing corrosion protection.

(16) **"Low Activation Interior Coating"** means a special composition coating used on interior surfaces aboard marine vessels to minimize the activation of pigments on painted surfaces within a nuclear radiation environment.

(17) **"Military Exterior Topcoat"** means an exterior topcoat applied to military vessels, including U.S. Coast Guard vessels subject to specified chemical, biological, and radiological washdown requirements.

(18) **"Mist Coating"** means a thin film epoxy coating up to 2 mils thick (dry) applied to an inorganic or organic zinc primer to promote adhesion of subsequent coatings.

(19) **"Navigational Aids Specialty Coating"** means a coating applied to Coast Guard buoys or other Coast Guard waterway markers when they are recoated at their usage site and immediately returned to the water.

(20) **"Organic Zinc Coating"** means a coating derived from zinc dust incorporated into an organic binder, which contains more than eight pounds of elemental zinc per gallon of coating, as applied, and which is used for the express purpose of providing corrosion protection.

(21) **"Pleasure Craft"** means a privately owned vessels used for non-commercial purposes. Vessels rented exclusively to individuals for non-commercial, recreational purposes shall be considered pleasure craft.

(22) **"Pleasure Craft Topcoat"** means any coating applied to a pleasure craft exterior above the waterline and below the waterline when stored out of water, and which achieves at least 95% reflectance on a 60° meter.

(23) **"Polyester Resin Materials"** means unsaturated polyesters, cross-linking agents, catalysts, gel coats, inhibitors, and any other material used in a polyester resin operation.

(24) **"Preconstruction Zinc Primer"** means a coating which contains more than one pound of elemental zinc per gallon of coating as applied, and is applied in a thin layer to metal surfaces prior to use in ship structural modification or initial ship construction, for the purposes of providing initial corrosion protection and compatibility with the welding process.

(25) **"Pretreatment Wash Primer"** means any coating which contains a minimum of 0.5 percent acid by weight and which is applied directly to fiberglass and bare metal surfaces and is necessary to provide surface etching and required adhesion for subsequent coatings.

(26) **"Primer Surfacer"** means any coating between 5 and 10 mils thick (dry) applied prior to the application of a pleasure craft topcoat for the purpose of corrosion resistance, adhesion of the topcoat, and which promotes a uniform surface by filling in surface imperfections.

(27) **"Radar Exterior Topcoat"** means a polyurethane topcoat with no electrically or magnetically conductive pigmentation, which is used on an isoprene rubber substrate aboard U.S. military vessels on radar equipment and meeting retention requirements for flexibility and color.

(28) **"Repair and Maintenance Coating Operation"** means the partial recoating of marine and fresh water vessels with thermoplastic coatings, applied over the same type of existing coatings.

(29) **"Rubber Camouflage Coating "** means a specially formulated epoxy coating, used as a camouflage topcoat for exterior submarine hulls and sonar domes lined

with elastomeric material, which provides resistance to chipping and cracking of the rubber substrate.

(30) **"Sealant Coat for Thermal Spray Aluminum"** means an epoxy coating, thinned at a ratio of not greater than one for one with appropriate solvent, and applied to thermal spray aluminum surfaces at approximately a one mil thickness.

(31) **"Solid Film Lubricant"** means a thin film coating of an organic binder system, containing as its chief pigment material, one or more of the following: molybdenum disulfide, graphite, polytetrafluoroethylene, or other solids that act as a dry lubricant between meeting surfaces.

(32) **"Specialty Interior Coating"** means a coating used on interior surfaces aboard U.S. military vessels, pursuant to a coating specification which requires that the coating have fire retardant properties and a toxicity index of less than 0.03, in addition to existing military physical and performance requirements.

(33) **"Special Marking Coating"** is a coating used specifically for items such as flight decks, ships numbers and other demarcations for safety or identification.

(34) **"Stationary Source"** means the same as defined in Rule 20.1.

(35) **"Tack Coat"** means an epoxy coat up to two mils thick (dry) applied to allow adhesion of a subsequent coating during the coating process where the existing epoxy coating has aged beyond the time limit specified by the manufacturer for the application of the next coat.

(36) **"Thermal Spray Aluminum"** means a process of applying a molten aluminum coating to a steel substrate using a thermal spray system.

(37) **"Thermoplastic Coating"** means vinyl, acrylic, chlorinated rubber or bituminous resin coatings.

(38) **"Touch-up Operation"** means that portion of the coating operation which is incidental to the main coating process but necessary to cover minor imperfections or minor mechanical damage incurred prior to intended use.

(39) **"Undersea Weapons System Coating"** means a coating applied to any component of a weapons system intended for exposure to a marine environment and intended to be launched or fired undersea.

(40) **"Volatile Organic Compound" (VOC)** means any volatile compound of carbon, which may be emitted to the atmosphere during operations or activities subject to this rule, except methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and exempt compounds.

(41) **"VOC Content Per Volume of Coating, Less Water and Exempt Compounds"** means the weight of VOC per combined volume of VOC and coating solids, and is calculated by the following equation:

$$C_{\text{voc}} = \frac{W_s - W_w - W_{es}}{V_m - V_w - V_{es}}$$

where:

- C_{voc} = VOC content less water and exempt compounds
- W_s = weight of volatile compounds including water and exempt compounds
- W_w = weight of water
- W_{es} = weight of exempt compounds
- V_m = volume of material including water and exempt compounds
- V_w = volume of water
- V_{es} = volume of exempt compounds

(42) **"VOC Content Per Volume of Material"** means the weight of VOC per volume of material, and is calculated by the following equation:

$$C_{\text{mvoc}} = \frac{W_s - W_w - W_{\text{es}}}{V_m}$$

where:

- C_{mvoc} = VOC content
- W_s = weight of volatile compounds including water and exempt compounds
- W_w = weight of water
- W_{es} = weight of exempt compounds
- V_m = volume of material including water and exempt compounds

(43) **"Wood Sealer"** means a coating formulated for and applied to wood to prevent subsequent coatings from being absorbed into the wood.

(d) **STANDARDS**

(1) **VOC Limits**

Except as provided in Subsection (d)(2), a person shall not apply any marine coating with a VOC content in excess of the following limits expressed as grams of VOC per liter of coating, as applied, excluding water and exempt compounds:

| | |
|--------------------|-----|
| Air Dried Coatings | 340 |
| Baked Coatings | 275 |

(2) **VOC Limits for Specialty Coatings**

A person shall not apply any marine specialty coating with a VOC content in excess of the following limits, expressed as grams of VOC per liter of coating, as applied, excluding water and exempt compounds:

| | Effective (<i>date of adoption</i>) | |
|--|---------------------------------------|-------|
| | Air Dried | Baked |
| Air Flask | 340 | |
| Antenna Coating | 340 | |
| Antifoulant Coating (except for pleasure craft) | 400 | |
| Antifoulant Coating (for pleasure craft) | 330 | |
| Finish Primer | 600 | |
| Heat Resistant Coating | 420 | 360 |
| High Gloss Coating | 420 | 360 |
| High Solids Epoxy Coating | 280 | |
| High Temperature Coating | 500 | |
| Impregnating Sealer | 700 | |
| Inorganic Zinc Coating | 340 | |
| Low Activation Interior Coating | 420 | |
| Military Exterior Topcoat | 340 | |
| Mist Coating | 610 | |
| Navigational Aids Speciality Coating | 550 | |
| Organic Zinc Coating | 340 | |
| Pleasure Craft Topcoat | 650 | |
| Preconstruction Zinc Primer | 650 | |
| Pretreatment Wash Primer | 420 | |
| Primer Surfacer | 340 | |
| Radar Exterior Topcoat | 340 | |
| Rubber Camouflage Coating | 340 | |
| Sealing Coat for Thermal Spray Aluminum | 610 | |
| Special Marking Coating | 420 | |
| Specialty Interior Coating | 340 | |
| Tack Coat | 610 | |
| Thermoplastic Coatings used in a Repair and Maintenance Coating Operation | 550 | |
| Underwater Weapons System Coating | 340 | 275 |
| Wood Sealer | 340 | |

The requirements of Subsections (d)(1) and (d)(2) may be met using an Alternative Emission Control Plan (AECP) that has been approved pursuant to Rule 67.1.

(3) Cleaning of Equipment

A person shall not use VOC-containing materials for the cleaning of equipment used in marine coating operations unless:

(i) a system is used that totally encloses the component parts being cleaned during the washing, rinsing, and draining processes; or

(ii) the cleaning material is flushed or rinsed through the equipment in a contained manner that will minimize evaporation into the atmosphere; or

(iii) the equipment or equipment parts are cleaned in a container which is open only when being accessed for adding, cleaning, or removing application equipment or when cleaning material is being added, provided the cleaned equipment or equipment parts are drained to the container until dripping ceases; or

(iv) other application equipment cleaning methods that are demonstrated to be as effective as any of the equipment described above in minimizing the emissions of

VOC to the atmosphere, provided that the method and/or device has been approved by the Air Pollution Control Officer; or

(v) the cleaning material contains 200 grams or less of VOC per liter of material; or

(vi) the cleaning material has an initial boiling point of 190° C (374° F) or greater; or

(vii) the cleaning material has a total vapor pressure of VOC of 20 mm Hg or less, at 20° C (68° F).

(4) Surface Preparation

After (*six months after date of adoption*), a person shall not use VOC containing materials for surface preparation in marine coating operations unless:

(i) the material contains 200 grams or less of VOC per liter of material; or

(ii) the material has an initial boiling point of 190° C (374° F) or greater; or

(iii) the material has a total vapor pressure of VOC of 45 mm Hg or less, at 20° C (68° F).

(5) No person shall require for use or specify the application of a coating subject to this rule if such use or application results in a violation of any provision of this rule. This prohibition shall apply to all written or oral contracts under the terms of which any coating is applied to any marine vessel, component or structure intended for exposure to a marine environment at any physical location within San Diego County.

(6) The manufacturer shall provide on the coating container or on separate data sheets a designation of VOC expressed in grams per liter or pounds per gallon, less water and exempt compounds, for all coatings which are offered for sale in San Diego County to be used on marine vessels, components and structures intended for exposure to a marine environment.

(e) CONTROL EQUIPMENT

(1) In lieu of complying with provisions of Subsections (d)(1), (d)(2), (d)(3), and/or (d)(4) of this rule, a person may use an air pollution control system which:

(i) has been installed in accordance with an Authority to Construct; and

(ii) includes an emission collection system which captures organic gaseous emissions, including emissions associated with applicable coating, equipment cleaning, and surface preparation operations, and transports the captured emissions to an air pollution control device; and

(iii) has a combined emissions capture and control device efficiency of at least 85 percent by weight.

(2) A person subject to the requirements of this section shall submit to the Air Pollution Control Officer for approval an Operation and Maintenance plan for the proposed emission control device and emission collection system and receive approval prior to

operation of the control equipment. Thereafter, the plan can be modified, with Air Pollution Control Officer approval, as necessary to ensure compliance. Such plan shall:

(i) identify all key system operating parameters. Key system operating parameters are those necessary to ensure compliance with Subsection (e)(1)(iii) such as temperature, pressure, and/or flow rate; and

(ii) include proposed inspection schedules and anticipated ongoing maintenance regarding the key system operating parameters.

(3) Upon approval of the Air Pollution Control Officer, a person subject to the requirements of this section shall implement the Operation and Maintenance plan, and shall comply with the provisions of the approved plan thereafter.

(f) RECORDKEEPING

All records shall be retained on site for at least three years and shall be made available to the District upon request.

(1) Any person subject to the provisions of Subsections (d)(1), (d)(2), (d)(3) and/or (d)(4) of this rule shall maintain records in accordance with the following:

(i) Maintain a current list of coatings and VOC containing materials in use which provides all of the coating, cleaning, and/or surface preparation material VOC data necessary to evaluate compliance, including but not limited to:

(A) Manufacturer name and identification of coatings or each coating component for multi-component coatings (this includes any components such as bases, catalysts, thinners or reducers, when supplied in separate containers), and each cleaning and surface preparation material;

(B) Mix ratio of components; and

(C) VOC content, initial boiling point, and/or total vapor pressure of VOC of each coating, or coating component for multi-component coatings, cleaning and surface preparation material.

(ii) Maintain current documentation to demonstrate applicability of any specialty coating category pursuant to Subsection (d)(2) of this rule.

(iii) At a minimum, maintain records on a monthly basis showing:

(A) the amount of each coating, or each coating component for multi-component coatings, used; and

(B) the maximum operating temperature of any ovens used to bake marine coatings, if applicable; and

(C) the type and amount of each cleaning and surface preparation material used; and

(D) material additions to dip tanks used for dip coating operations.

(2) A person using control equipment in accordance with Section (e) of this rule shall:

- (i) maintain records in accordance with Subsection (f)(1); and
- (ii) for all coating, cleaning, and/or surface preparation materials not in compliance with Subsections (d)(1), (d)(2), (d)(3), or (d)(4) of this rule, maintain daily records of the amount of each coating or each coating component for multi-component coatings, surface preparation and cleaning material used; and
- (iii) maintain daily records of key system operating parameters as approved in the Operation and Maintenance plan. Such records shall be sufficient to document continuous compliance with Subsection (e)(1)(iii) during periods of emission producing activities.

(g) TEST METHODS

(1) Measurement of VOC content of the marine coatings, cleaning and surface preparation materials subject to Subsections (d)(1), (d)(2), (d)(3)(v) or (d)(4)(i) of this rule shall be conducted in accordance with EPA Test Method 24 (40 CFR 60, Appendix A) as it exists on (*date of adoption*).

(2) Perfluorocarbon (PFC) compounds shall be assumed to be absent from a coating, cleaning, or surface preparation material subject to this rule unless a manufacturer of the material or a facility operator identifies the specific individual compound(s) and the amount(s) present in the material and provides an EPA and ARB approved test method which can be used to quantify the specific compounds.

(3) Measurement of coating reflectance referenced in Subsections (c)(11) or (c)(22) of this rule shall be conducted in accordance with ASTM Standard Test Method D523-89.

(4) Measurement of pretreatment wash primer acid content referenced in Subsection (c)(25) of this rule shall be conducted in accordance with ASTM Standard Test Method D1613-91.

(5) Measurement of the initial boiling point of cleaning and surface preparation materials subject to Subsection (d)(3)(vi) and/or (d)(4)(ii) of this rule shall be conducted in accordance with ASTM Standard Test Method D1078-86.

(6) Measurement of control device efficiency subject to Subsection (e)(1) of this rule shall be conducted in accordance with EPA Methods 18 and/or 25A (40 CFR 60) as they exist on (*date of adoption*) and in accordance with a protocol approved by the Air Pollution Control Officer.

(7) Measurement of elemental zinc content referenced in Subsections (c)(15), (c)(20) and (c)(24) of this rule shall be conducted and reported in accordance with the South Coast Air Quality Management District Spectrographic Method 311-91.

(8) Calculation of total vapor pressure of VOC in materials subject to Subsection (d)(3)(vii) and/or (d)(4)(iii) of this rule shall be conducted in accordance with the District's "Procedures for Estimating the Vapor Pressure of VOC Mixtures" as it exists on (*date of adoption*). If the vapor pressure of the liquid mixture exceeds the limits specified in Subsection (d)(3)(vii) and/or (d)(4)(iii), the vapor pressure shall be determined in accordance with ASTM Standard Test Method D2879-86, Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope. The fraction of water and exempt compounds in the liquid phase shall be determined by using ASTM Standard Test Methods D3792-91 and D4457-85 and shall be used to calculate the partial pressure of water and exempt compounds. The results of vapor pressure measurements obtained using

ASTM Test Method D2879-86 shall be corrected for partial pressure of water and exempt compounds.

(9) Measurement of the emission collection system capture efficiency subject to Subsection (e)(1) of this rule shall be conducted using a protocol approved by the Air Pollution Control Officer. Subsequent to the initial compliance demonstration period, applicable key system operating parameters, as approved by the Air Pollution Control Officer, can be used as indirect verification that capture efficiency performance has not diminished.

(10) Measurement of solvent losses from alternative application cleanup equipment subject to Subsection (d)(3)(iv) shall be conducted and reported in accordance with the South Coast Air Quality Management District's "General Test Method for Determining Solvent Losses from Spray Gun Cleaning Systems" as it exists on *(date of adoption)*.

IT IS FURTHER RESOLVED AND ORDERED that the subject amendments to Rule 67.18 of Regulation IV, shall take effect upon adoption.

PASSED AND ADOPTED by the Air Pollution Control Board of the San Diego County Air Pollution Control District, State of California, this 13th day of December, 1994 by the following votes:

AYES: Bilbray, Jacob, Slater, Williams, MacDonald
NOES: None
ABSENT: None

STATE OF CALIFORNIA) ss
County of San Diego)

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

APPROVED AS TO FORM AND LEGALITY
COUNTY COUNSEL

BY Dutton
DEPUTY



THOMAS J. PASTUSZKA
Clerk of the Board of Supervisors

By A. Gomez
Adair Gomez, Deputy

AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN DIEGO

PROPOSED AMENDMENTS TO RULE 67.18

CHANGE COPY

Proposed amendments to Rule 67.18 are to read as follows:

RULE 67.18 MARINE COATING OPERATIONS

(a) **APPLICABILITY**

(1) Except as otherwise provided in Section (b), this rule is applicable to marine coating operations including the coating of marine and fresh water vessels, oil drilling platforms, navigational aids, and component parts and structures intended for exposure to a marine environment.

(2) Rule 66 shall not apply to any marine coating operation which is subject to this rule.

(b) **EXEMPTIONS**

The provisions of this rule shall not apply to:

(1) Coating operations employing non-refillable hand held aerosol cans.

(2) ~~Any solid~~ Solid film lubricants.

(3) Polyester resin materials used in operations subject to or specifically exempt from Rule 67.12.

~~(3)~~(4) Touch-up operations of thermoplastic coatings on ~~of commercial marine and fresh water~~ vessels.

~~(4)~~(5) Antifoulant coatings applied to aluminum hulls, outboard motors, lower drive shafts, and aluminum running gear below waterline provided records are maintained to substantiate that the antifoulant coatings are applied to aluminum hull, outboard motors, lower drive shafts, and aluminum running gear, and provided the recordkeeping requirements of Section ~~(f)~~ ~~(e)~~(5) are met.

~~(5)~~(6) Architectural coatings subject to Rule 67.0, applied to installed bridges, piers or other stationary structures.

(7) Noncommercial marine coating operations performed by individuals at their personal residence for the purpose of coating their own pleasure craft(s).

(8) Marine coatings that are used at a permitted stationary source in volumes of less than 20 gallons per year, provided not more than 20 gallons per year of all such non-compliant coatings are used and provided records are maintained to substantiate the total annual usage of such coatings. These records shall be retained on site for at least three years and shall be made available to the District upon request.

(9) Solvent cleaning equipment subject to Rule 67.6 and used for surface preparation.

(c) **DEFINITIONS**

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

(1) **"Air Dried Coating"** means any coating which is not heated above 90°C (194°F) for the purpose of curing or drying.

(2) **"Air Flask Coating"** means a special composition coating applied to interior surfaces of high pressure breathing air flasks to provide corrosion resistance and which is certified safe for use with breathing air supplies.

(3) (2) **"Antenna Coatings"** means any coating applied to equipment on a vessel exterior which is used to receive or transmit electromagnetic signals.

(4) (3) **"Antifoulant Coating"** means any coating which is applied to the underwater portion of a vessel to prevent or reduce the attachment of biological organisms and which is registered with the Environmental Protection Agency (EPA) as a pesticide.

(5) (4) **"Baked Coating"** means any coating which is cured or dried in an oven where the oven air temperature exceeds 90°C (194°F).

(6) **"Coating"** means a material containing more than 20 grams per liter of VOC as applied, less water and exempt compounds, which can be applied as a thin layer to a substrate and which dries or cures to form a continuous solid film, including but not limited to any paint, primer, varnish, stain, lacquer, enamel, shellac, sealant, or maskant, and excluding adhesives.

(7) (5) **"Coating Operation"** means the sum of all steps involved in the application, drying and/or curing of surface coatings, and associated equipment cleaning and surface preparation.

(8) (7) **"Exempt Compound"** means any of the following compounds or classes of compounds: 1,1,1-trichloroethane, methylene chloride, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), chlorodifluoromethane (HCFC-22), trifluoromethane (HFC-23), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), chloropentafluoroethane (CFC-115), dichlorotrifluoroethane (HCFC-123), dichlorofluoroethane (HCFC-141b), 1,1,1,2-tetrafluoroethane (HFC-134a), 1,1,2,2-tetrafluoroethane (HFC-134), chlorodifluoroethane (HCFC-142b), 2-chloro-1,1,1,2-chlorotetrafluoroethane (HCFC-124), pentafluoroethane (HFC-125), 1,1,1-trifluoroethane (HFC-143a), 1,1-difluoroethane (HFC-152a); and the following four classes of perfluorocarbon (PFC) compounds:

(i) cyclic, branched, or linear, completely fluorinated alkanes;

(ii) cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;

(iii) cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and

(iv) sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

(9)(6) **"Finish Primer"** means any coating up to 5 mils thick (dry) applied prior to the application of a pleasure craft topcoat for the purpose of corrosion resistance, adhesion of the topcoat, and which promotes a uniform surface by filling in surface imperfections.

(10)(7) **"Heat Resistant Coating"** means any coating which during normal use must withstand temperatures of at least 204°C (400°F).

(11)(8) **"High Gloss Coating"** means any coating which achieves at least 85% reflectance on a 60° meter ~~when tested by ASTM standard test method for specular gloss.~~

(12) **"High Solids Epoxy Coating"** means an epoxy coating which is applied over a preconstruction zinc primer, or to a metal surface from which preconstruction zinc primer has been removed, or over earlier coats of high solids epoxy coating, in ship structural modification or initial ship construction.

(13)(9) **"High Temperature Coating"** means any coating which during normal use must withstand temperatures of at least 426°C (800°F).

(14)(10) **"Impregnating Sealer"** means a coating formulated for and applied to wood and fiberglass surfaces to impregnate these surfaces to prevent further deterioration of these surfaces prior to applying subsequent coatings.

(15)(11) **"Inorganic Zinc Coating"** means a coating derived from zinc dust incorporated into an inorganic silicate binder, which contains more than eight pounds of elemental zinc per gallon of coating, as applied, and which is used for the express purpose of providing corrosion protection.

(16)(12) **"Low Activation Interior Coating"** means a special composition coating used on interior surfaces aboard marine vessels to minimize the activation of pigments on painted surfaces within a nuclear radiation environment.

(13) **"Marine Coating"** ~~is any coating, except unsaturated polyester resin (fiberglass) coatings, containing volatile organic compounds and applied by brush, spray, roller or other means to marine vessels, oil drilling platforms, navigational aids, and component parts and structures intended for exposure to a marine environment.~~

(17)(14) **"Military Exterior Topcoat"** means an exterior topcoat applied to military vessels, including U.S. Coast Guard vessels subject to specified chemical, biological, and radiological washdown requirements.

(18)(15) **"Mist Coating"** means a thin film epoxy coating up to 2 mils thick (dry) applied to an inorganic or organic zinc primer to promote adhesion of subsequent coatings.

(19)(16) **"Navigational Aids Specialty Coating"** means a coating applied to Coast Guard buoys or other Coast Guard waterway markers when they are recoated at their usage site and immediately returned to the water.

(20)(17) **"Organic Zinc Coating"** means a coating derived from zinc dust incorporated into an organic binder, which contains more than eight pounds of elemental zinc per gallon of coating, as applied, and which is used for the express purpose of providing corrosion protection.

(21)(18) **"Pleasure Craft"** means a privately owned vessels used for non-commercial purposes. Vessels rented exclusively to individuals for non-commercial, recreational purposes shall be considered pleasure craft.

(22)(19) **"Pleasure Craft Topcoat"** means any coating applied to a pleasure craft exterior above the waterline and below the waterline when stored out of water, and which achieves at least 95% reflectance on a 60° meter.

(23)(19) **"Polyester Resin Materials"** means unsaturated polyesters, cross-linking agents, catalysts, gel coats, inhibitors, and any other material used in a polyester resin operation.

(24) **"Preconstruction Zinc Primer"** means a coating which contains more than one pound of elemental zinc per gallon of coating as applied, and is applied in a thin layer to metal surfaces prior to use in ship structural modification or initial ship construction, for the purposes of providing initial corrosion protection and compatibility with the welding process.

(25)(20) **"Pretreatment Wash Primer"** means any coating which contains a minimum of 0.5 percent acid by weight and which is applied directly to fiberglass and bare metal surfaces and is necessary to provide required adhesion and surface etching and required adhesion for subsequent coatings.

(26)(21) **"Primer Surfacer"** means any coating between 5 and 10 mils thick (dry) applied prior to the application of a pleasure craft topcoat for the purpose of corrosion resistance, adhesion of the topcoat, and which promotes a uniform surface by filling in surface imperfections.

(27)(25) **"Radar Exterior Topcoat"** means a polyurethane topcoat with no electrically or magnetically conductive pigmentation, which is used on an isoprene rubber substrate aboard U.S. military vessels on radar equipment and meeting retention requirements for flexibility and color.

(28)(22) **"Repair and Maintenance of Thermoplastic Coating Operation of Commercial Vessels"** means the partial recoating of in-use non-U.S. military marine and fresh water vessels with vinyl, chlorinated rubber or bituminous resin thermoplastic coatings, applied over the same type of existing coatings.

(29)(23) **"Rubber Camouflage Coating"** means a specially formulated epoxy coating, used as a camouflage topcoat for exterior submarine hulls and sonar domes lined with elastomeric material, which provides resistance to chipping and cracking of the rubber substrate.

(30)(24) **"Sealant Coat for Thermal Spray Aluminum"** means an epoxy coating, thinned at a ratio of not greater than one for one with appropriate solvent, and applied to thermal spray aluminum surfaces at approximately a one mil thickness.

(31)(25) **"Solid Film Lubricant"** means a thin film coating of an organic binder system, containing as its chief pigment material, one or more of the following: molybdenum disulfide, graphite, polytetrafluoroethylene, or other solids that act as a dry lubricant between meeting surfaces.

(32)(26) **"Specialty Interior Coating"** means a coating used on interior surfaces aboard U.S. military vessels, pursuant to a coating specification which requires that the

coating have fire retardant properties and a toxicity index of less than 0.03, in addition to existing military physical and performance requirements.

(33)(27) **"Special Marking Coating"** is a coating used specifically for items such as flight decks, ships numbers and other demarcations for safety or identification.

(34) **"Stationary Source"** means the same as defined in Rule 20.1.

(35)(28) **"Tack Coat"** means an epoxy coat up to two mils thick (dry) applied to allow adhesion of a subsequent coating during the coating process where the existing epoxy coating has aged beyond the time limit specified by the manufacturer for the application of the next coat.

(36)(32) **"Thermal Spray Aluminum"** means a process of applying a molten aluminum coating to a steel substrate using a thermal spray system.

(37) **"Thermoplastic Coating"** means vinyl, acrylic, chlorinated rubber or bituminous resin coatings.

(38)(29) **"Touch-up Operation"** means is that portion of the coating operation which is incidental to the main coating process but necessary to cover minor imperfections or minor mechanical damage incurred prior to intended use.

(39)(30) **"Undersea Weapons System Coating"** means a coating applied to any component of a weapons system intended for exposure to a marine environment and intended to be launched or fired undersea.

(40)(31) **"Volatile Organic Compound" (VOC)** means any volatile compound of carbon, which may be emitted to the atmosphere during operations or activities application of and/or subsequent drying or curing of coatings or compounds subject to this rule, except methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, 1,1,1-trichloroethane, methylene chloride, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), chlorodifluoromethane (CFC-22), trifluoromethane (CFC-23), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), and chloropenta-fluoroethane (CFC-115) and exempt compounds. VOC limits are expressed in grams of VOC content per liter of coating, minus water and exempt compounds.

(41) **"VOC Content Per Volume of Coating, Less Water and Exempt Compounds"** means the weight of VOC per combined volume of VOC and coating solids, and is calculated by the following equation:

$$C_{cVOC} = \frac{W_s - W_w - W_{es}}{V_m - V_w - V_{es}}$$

where:

C_{cVOC} = VOC content less water and exempt compounds

W_s = weight of volatile compounds including water and exempt compounds

W_w = weight of water

W_{es} = weight of exempt compounds

- V_m = volume of material including water and exempt compounds
- V_w = volume of water
- V_{es} = volume of exempt compounds

(42) "VOC Content Per Volume of Material" means the weight of VOC per volume of material, and is calculated by the following equation:

$$C_{mVOC} = \frac{W_s - W_w - W_{es}}{V_m}$$

where:

- C_{mVOC} = VOC content
- W_s = weight of volatile compounds including water and exempt compounds
- W_w = weight of water
- W_{es} = weight of exempt compounds
- V_m = volume of material including water and exempt compounds

(43) "Wood Sealer" means a coating formulated for and applied to wood to prevent subsequent coatings from being absorbed into the wood.

(d) **STANDARDS**

(1) VOC Limits

Except as provided in Subsection (d)(2), a person shall not apply any marine coating with a VOC content in excess of the following limits expressed as grams of VOC per liter of coating, as applied, excluding water and exempt solvents compounds:

| | |
|---|-----|
| Air Dried or Forced Air-dried Coatings | 340 |
| Baked Coatings | 275 |

(2) VOC Limits for Specialty Coatings

A person shall not apply any marine specialty coating with a VOC content in excess of the following limits, expressed as grams of VOC per liter of coating, as applied, excluding water and exempt solvents compounds:

Effective September 1, 1994
(date of adoption)

| | Baked | Air Dried |
|--|-------|-----------|
| <u>Air Flask</u> | 340 | |
| <u>Antenna Coating</u> | 340 | |
| <u>Antifoulant Coating (except for pleasure craft)</u> | 400 | |
| <u>Antifoulant Coating (for pleasure craft)</u> | 330 | |
| <u>Finish Primer</u> | 600 | |
| <u>Heat Resistant Coating</u> | 420 | 360 |
| <u>High Gloss Coating</u> | 420 | 360 |
| <u>High Solids Epoxy Coating</u> | 280 | |
| <u>High Temperature Coating</u> | 500 | |
| <u>Impregnating Sealer</u> | 700 | |
| <u>Inorganic Zinc Coating</u> | 340 | |
| <u>Low Activation Interior Coating</u> | 420 | |
| <u>Military Exterior Topcoat</u> | 340 | |
| <u>Mist Coating</u> | 610 | |
| <u>Navigational Aids Speciality Coating</u> | 550 | |
| <u>Organic Zinc Coating</u> | 340 | |
| <u>Pleasure Craft Topcoat</u> | 650 | |
| <u>Preconstruction Zinc Primer</u> | 650 | |
| <u>Pretreatment Wash Primer</u> | 420 | |
| <u>Primer Surfacer</u> | 340 | |
| <u>Radar Exterior Topcoat</u> | 340 | |
| <u>Rubber Camouflage Coating</u> | 340 | |
| <u>Sealing Coat for Thermal Spray Aluminum</u> | 610 | |
| <u>Special Marking Coating</u> | 420 | |
| <u>Specialty Interior Coating</u> | 340 | |
| <u>Tack Coat</u> | 610 | |
| <u>Thermoplastic Coatings used in a Repair and Maintenance Coating Operation</u> | 550 | |
| <u>Underwater Weapons System Coating</u> | 340 | 275 |
| <u>Wood Sealer</u> | 340 | |

| | Eff. July 3, 1990 | | Eff. Sept. 1, 1992 | | Eff. Sept. 1, 1994 | |
|-------------|-------------------|-----------|--------------------|-----------|--------------------|-----------|
| | Baked | Air Dried | Baked | Air Dried | Baked | Air Dried |
| Antifoulant | -- | 440 | 400 | -- | -- | 400 |

| | Eff. July 3, 1990 | | Eff. Sept. 1, 1991 | | Eff. Sept. 1, 1994 | |
|---------------------------------|-------------------|-----------|--------------------|-----------|--------------------|-----------|
| | Baked | Air Dried | Baked | Air Dried | Baked | Air Dried |
| Air Flask | -- | 650 | -- | 340 | -- | 340 |
| Finish Primer | -- | 600 | -- | 420 | -- | 340 |
| Heat Resistant Coating | 445 | 520 | 360 | 420 | 360 | 420 |
| High Gloss Coating | 420 | 490 | 360 | 420 | 360 | 420 |
| High Temperature Coating | -- | 650 | -- | 500 | -- | 500 |
| Impregnating Sealer | -- | 700 | -- | 700 | -- | 700 |
| Inorganic Zinc | -- | 650 | -- | 650 | -- | 340 |
| Low Activation Interior Coating | -- | 490 | -- | 420 | -- | 420 |
| Military Exterior Topcoat | -- | 420 | -- | 340 | -- | 340 |
| Mist Coating | -- | 610 | -- | 610 | -- | 610 |

| | | | | | |
|---------------------------|-----|-----|-----|-----|-----|
| Navigation Aids Specialty | | | | | |
| -Coating | 550 | 550 | 550 | | |
| Organic Zinc | 360 | 360 | 360 | | |
| Pleasure Craft Topcoat | 680 | 550 | 420 | | |
| Pretreatment Wash Primer | 780 | 780 | 420 | | |
| Primer Surfacer | 550 | 420 | 340 | | |
| Repair & Maintenance of | | | | | |
| Thermoplastic Coating of | | | | | |
| Commercial Vessels | 650 | 550 | 340 | | |
| Rubber Camouflage | 600 | 340 | 340 | | |
| Sealant Coat for Thermal | | | | | |
| -Spray Aluminum | 610 | 610 | 610 | | |
| Special Marking Coating | 490 | 490 | 420 | | |
| Specialty Interior | 420 | 340 | 340 | | |
| Tack Coat | 610 | 610 | 610 | | |
| Undersea Weapon Systems | 360 | 420 | 275 | 340 | 275 |
| Wood Sealer | 550 | 340 | 340 | | |

The requirements of Subsections (d)(1) and (d)(2) may be met using an Alternative Emission Control Plan (AECPL) that has been approved pursuant to Rule 67.1.

(3) Cleaning up of Equipment

A person shall not use VOC-containing materials for the cleaning up of equipment used in marine coating operations unless:

(i) a system is used that totally encloses the component parts being cleaned during the washing, rinsing, and draining processes; or

(ii) the cleaning material is flushed or rinsed through the equipment in a contained manner that will minimize evaporation into the atmosphere; or

(iv)(iii) the equipment or equipment parts are cleaned in a container which is open only when being accessed for adding, cleaning, or removing application equipment or when cleaning material is being added, provided the cleaned equipment or equipment parts are drained to the container until dripping ceases; or

(iv) other application equipment cleaning methods that are demonstrated to be as effective as any of the equipment described above in minimizing the emissions of VOC to the atmosphere, provided that the method and/or device has been approved by the Air Pollution Control Officer; or

(v) the cleaning material contains 200 grams or less of VOC per liter of material; or

(vi) the cleaning material has an initial boiling point of 190° C (374° F) or greater; or

(vii) the cleaning material has a total vapor pressure of VOC of 20 mm Hg or less, at 20° C (68° F).

(4) Surface Preparation

After (six months after *date of adoption*), a person shall not use VOC-containing materials for surface preparation in marine coating operations unless:

- (i) the material contains 200 grams or less of VOC per liter of material; or
- (ii) the material has an initial boiling point of 190° C (374° F) or greater; or
- (iii) the material has a total vapor pressure of VOC of 45 mm Hg or less, at 20° C (68° F).

~~(6)~~ (5) No person shall require for use or specify the application of a coating subject to this rule if such use or application results in a violation of any provision of this rule. This prohibition shall apply to all written or oral contracts under the terms of which any coating is applied to any marine vessel, component or structure intended for exposure to a marine environment at any physical location within San Diego County.

~~(7)~~(6) The manufacturer shall provide on the coating container or on separate data sheets a designation of VOC expressed in grams per liter or pounds per gallon, less water and exempt compounds, for all coatings which are offered for sale in San Diego County to be used on marine vessels, components and structures intended for exposure to a marine environment.

~~(e)~~ (4) ~~Add-On Control Device~~ CONTROL EQUIPMENT

~~(1)~~ (i) In lieu of complying with provisions of Subsections ~~(d)(1), and (d)(2), (d)(3), and/or (d)(4)~~ of this rule, a person may use an air pollution control system which: equipment approved in writing by the Air Pollution Control Officer provided that the VOC emissions from such operations and/or materials are reduced such that:

- (i) has been installed in accordance with an Authority to Construct; and
- (ii) includes an emission collection system which captures organic gaseous emissions, including emissions associated with applicable coating, equipment cleaning, and surface preparation operations, and transports the captured emissions to an air pollution control device; and
- (iii) has a combined emissions capture and control device efficiency of at least 85 percent by weight.

~~(A)~~ The control device reduces emissions from an emissions collection system by at least 95 percent by weight; and

~~(B)~~ The emission collection system which captures and transports emissions to an air pollution control device has been demonstrated to collect at least 90 percent by weight of the emissions generated by the sources of emissions;

~~(2)~~ (ii) A person subject to the requirements of this section shall submit to the Air Pollution Control Officer for approval an Operation and Maintenance plan for the proposed emission control device and emission collection system and receive approval prior to operation of the control equipment. Thereafter, the plan can be modified, with Air Pollution Control Officer approval, as necessary to ensure compliance. Such plan shall:

(i) (A) identify all key system operating parameters. Key system operating parameters are those necessary to ensure compliance with Subsection (e)(1)(iii) such as temperature, pressure, and/or flow rate; and s-(d)(4) (i)(A) and (d)(4)(i)(B):

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

(3) (iii) Upon approval of the Air Pollution Control Officer, a The Operation and Maintenance plan must be submitted to the Air Pollution Control Officer and receive approval prior to operation of the air pollution control equipment: person subject to the requirements of this section shall implement the Operation and Maintenance plan, and shall comply with the provisions of the approved plan thereafter.

(f) (5) Recordkeeping **RECORDKEEPING**

All records shall be retained on site for at least three years and shall be made available to the District upon request.

(1) Effective July 3, 1990, a Any person required to have a permit to operate pursuant to these rules and regulations and subject to the provisions of Subsections (d)(1), (d)(2), and (3), or (d)(3) and/or (d)(4) of this rule shall maintain records in accordance with the following requirements:

(i) Maintain a current list of coatings and VOC containing materials in use which provides all of the coating, cleaning, and/or surface preparation material VOC data necessary to evaluate compliance, including but not limited to:

(A) Manufacturer name and identification of coatings or each coating component for multi-component coatings (this includes any components such as bases, catalysts, thinners or reducers, when supplied in separate containers), and each cleaning and surface preparation material;

(B) Mix ratio of components; and

(C) VOC content, initial boiling point, and/or total vapor pressure of VOC of each coating, or coating component for multi-component coatings, cleaning and surface preparation material.

(ii) Maintain current documentation to demonstrate applicability of any specialty coating category pursuant to Subsection (d)(2) of this rule.

(iii) (ii) At a minimum, Maintain maintain records on a daily monthly basis showing:

(A) the type and amount of each coating, or each coating component for multi-component coatings, used; and

(B) the maximum operating temperature of any ovens used to bake marine coatings, if applicable; and

(C) (iii) Maintain records on a daily basis showing the type and amount of each cleaning up and surface preparation material used; and

(D) material additions to dip tanks used for dip coating operations.

(2) A person using control equipment in accordance with Section (e) of this rule shall:

(i) maintain records in accordance with Subsection (f)(1); and

(ii) for all coating, cleaning, and/or surface preparation materials not in compliance with Subsections (d)(1), (d)(2), (d)(3), or (d)(4) of this rule, maintain daily records of the amount of each coating or each coating component for multi-component coatings, surface preparation and cleaning material used; and

(iii) maintain daily records of key system operating parameters as approved in the Operation and Maintenance plan. Such records shall be sufficient to document continuous compliance with Subsection (e)(1)(iii) during periods of emission producing activities.

~~A person subject to this subsection may provide monthly records that compile the types and amounts of coatings and cleanup solvents used on a daily basis, the specialty coating category, if any, that applies to each coating used, and the VOC content limit that applies to each coating used, provided such person also maintains the records required by (i) (ii), and (iii) above.~~

~~These requirements shall not apply to any person who complies with an alternate recordkeeping plan that provides for an enforceable daily record which has been approved in writing by the Air Pollution Control Officer.~~

(8) Compliance with Rule 66.

~~Any coating operation which is subject to this rule shall comply with the requirements of Rule 66 until such time as compliance with Subsection (d)(1), (2), (3), and (5) or (d)(3), (4) and (5) of this rule is achieved. Rule 66 shall not apply to any coating operation which is subject to and in compliance with Subsection (d)(1), (2), (3), (4) and (5) of this rule.~~

(g) (9) Test Methods TEST METHODS

(1) Measurement of VOC content of the marine coatings, cleaning and surface preparation materials subject to Subsections (d)(1), (d)(2), (d)(3)(v) or (d)(4)(i) of this rule shall be conducted in accordance with EPA Test Method 24 (40 CFR 60, Appendix A) as it exists on (date of adoption).

(2) Perfluorocarbon (PFC) compounds shall be assumed to be absent from a coating, cleaning, or surface preparation material subject to this rule unless a manufacturer of the material or a facility operator identifies the specific individual compound(s) and the amount(s) present in the material and provides an EPA and ARB approved test method which can be used to quantify the specific compounds.

(3) Measurement of coating reflectance referenced in Subsections (c)(11) or (c)(22) of this rule shall be conducted in accordance with ASTM Standard Test Method D523-89.

(4) Measurement of pretreatment wash primer acid content referenced in Subsection (c)(25) of this rule shall be conducted in accordance with ASTM Standard Test Method D1613-91.

(5) Measurement of the initial boiling point of cleaning and surface preparation materials subject to Subsection (d)(3)(vi) and/or (d)(4)(ii) of this rule shall be conducted in accordance with ASTM Standard Test Method D1078-86.

(6) Measurement of control device efficiency subject to Subsection (e)(1) of this rule shall be conducted in accordance with EPA Methods 18 and/or 25A (40 CFR 60) as they exist on (date of adoption) and in accordance with a protocol approved by the Air Pollution Control Officer.

(7) Measurement of elemental zinc content referenced in Subsections (c)(15), (c)(20) and (c)(24) of this rule shall be conducted and reported in accordance with the South Coast Air Quality Management Districts Spectrographic Method 311-91.

(8) Calculation of total vapor pressure of VOC in materials subject to Subsection (d)(3)(vii) and/or (d)(4)(iii) of this rule shall be conducted in accordance with the District's "Procedures for Estimating the Vapor Pressure of VOC Mixtures" as it exists on (date of adoption). If the vapor pressure of the liquid mixture exceeds the limits specified in Subsection (d)(3)(vii) and/or (d)(4)(iii), the vapor pressure shall be determined in accordance with ASTM Standard Test Method D2879-86, Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isotenoscope. The fraction of water and exempt compounds in the liquid phase shall be determined by using ASTM Standard Test Methods D3792-91 and D4457-85 and shall be used to calculate the partial pressure of water and exempt compounds. The results of vapor pressure measurements obtained using ASTM Test Method D2879-86 shall be corrected for partial pressure of water and exempt compounds.

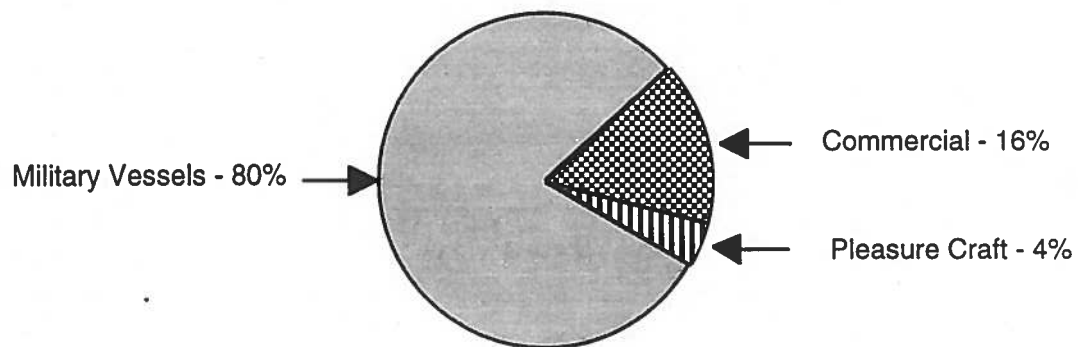
(9) Measurement of the emission collection system capture efficiency subject to Subsection (e)(1) of this rule shall be conducted using a protocol approved by the Air Pollution Control Officer. Subsequent to the initial compliance demonstration period, applicable key system operating parameters, as approved by the Air Pollution Control Officer, can be used as indirect verification that capture efficiency performance has not diminished.

(10) Measurement of solvent losses from alternative application cleanup equipment subject to Subsection (d)(3)(iv) shall be conducted and reported in accordance with the South Coast Air Quality Management District's "General Test Method for Determining Solvent Losses from Spray Gun Cleaning Systems" as it exists on (date of adoption).

Measurement of VOCs subject to Sections (d)(1), (2) and (3) of this rule shall be conducted and reported in accordance with EPA Test Method 24 (40 CFR 60, Appendix A) or equivalent methods approved by the Air Pollution Control Officer. Measurement of the water content and exempt solvent content shall be conducted and reported in accordance with ASTM Test Methods for determination of water, dichloromethane, and 1,1,1-trichloroethane using gas chromatography. Calculation of the VOC content of coatings less water and exempt solvents shall be performed in accordance with ASTM Standard Practice for determination of VOC content in coatings containing water and/or exempt solvents. Measurement of acid content shall be conducted and reported in accordance with ASTM Test Methods for determination of acidity in volatile solvents and chemical intermediates used in paint, varnish, lacquer, and related products. Measurement of elemental metal content shall be conducted and reported in accordance with the Spectrographic Method used by Pacific Spectrochemical Laboratory, Inc. for the analysis of carbon dust and carbon laminates. Measurement of VOC subject to Subsection (d)(4) of this rule shall be conducted and reported in accordance with the New Source Performance Standard for Magnetic Tape Coating Facilities, Subpart SSS, Rule 260.713, Subsection (b) (40 CFR 60, Section 60.713) and with EPA Test Method 25 (40 CFR 60, Appendix A) or equivalent methods approved by the Air Pollution Control Officer.

Attachment

**MARINE COATING MATERIAL USAGE AND EMISSIONS DISTRIBUTION IN
SAN DIEGO COUNTY (1994 DATA)**



**AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN DIEGO**

RULE 67.18 - MARINE COATING OPERATIONS

WORKSHOP REPORT

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

The workshop was held on June 22, 1993, and was attended by 49 people. Written comments were also received. The workshop comments and District responses are as follows:

1. WORKSHOP COMMENT:

Would the proposed exemption in Subsection (b)(8) for non-compliant coatings used in volumes less than 20 gallons per year apply to each type of coating, or all coatings combined? Does it apply to coatings other than marine coatings?

DISTRICT RESPONSE:

The proposed exemption, which is now Subsection (b)(7), will allow use of a total (all coatings combined) of 20 gallons per year of non-compliant marine coatings at a stationary source. Rule 67.18 applies only to marine coatings.

2. WORKSHOP COMMENT:

District Rule 67.9, Aerospace Coating Operations provides exemptions for 50 gallons per year of non-compliant coatings at a facility, and for facilities using less than 50 gallons of coating per year. Rule 67.18 should also exempt this amount.

DISTRICT RESPONSE:

The District disagrees. The aerospace industry routinely uses a wide variety of very specialized coatings in small volumes, and some of these will not comply with the VOC limits in Rule 67.9. Information provided to the District indicates the marine coating industry may occasionally use small amounts of non-compliant coatings for special projects. An exemption for 20 gallons per year should be sufficient to satisfy marine coating industry needs.

3. WORKSHOP COMMENT:

Rule 67.9 Section (b) for aerospace coating operations includes an exemption for 50 gallons per year for coatings used for research and development. Our facility is currently applying for a variance for a research project using 45 gallons of paint. Rule 67.18 also should provide such an exemption.

DISTRICT RESPONSE:

Ongoing research and development activities, including testing of compliant coatings, represent a vital part of aerospace industry operations. The District is not aware of similar ongoing research and development work done by the marine coating industry. The variance process is the appropri-

ate method to obtain temporary exemptions for what appear to be only occasional research and development projects.

4. WORKSHOP COMMENT:

Why does the exemption in Subsection (b)(8) apply specifically to permitted sources?

DISTRICT RESPONSE:

A marine coating facility of any size should normally be able to use compliant coatings since Rule 67.18 provides a number of specialty coating categories with VOC limits higher than 340 g/l. However, in a few instances limited amounts of coatings are used that cannot comply with Rule 67.18, and such instances are more likely to occur at larger facilities that have District Permits. This subsection was not intended to be a 'small user' exemption, thus it applies specifically to permitted sources which have annual coating usage over 20 gallons per year.

5. WORKSHOP COMMENT:

The District should propose a definition of 'stationary source' in Rule 67.18 consistent with the proposed New Source Review (NSR) rules.

DISTRICT RESPONSE:

The District agrees. The proposed definition has been revised to refer to the definition in the most recent NSR rules.

6. WORKSHOP COMMENT:

Would the proposed exemption in Subsection (b)(8) for 20 gallons per year of non-compliant coating usage apply to an entire Navy Base, individual tenant commands, or individual permitted operations?

DISTRICT RESPONSE:

The exemption will apply to each stationary source. A Navy base will likely be a single stationary source according to the definition in the most recent NSR rules.

7. WORKSHOP COMMENT:

The District should not adopt the proposed exemption in Subsection (b)(7) for individuals coating their own pleasure craft. Abuse of this exemption may be difficult to prevent.

DISTRICT RESPONSE:

The District proposed this exemption to avoid inspecting marine coating activity at residences. The exemption has been revised to now apply to marine coating operation performed by individuals "at their personal residence." This revision clarifies the District's intent, and should limit abuse of the exemption.

8. WORKSHOP COMMENT:

A permitted boatyard should be allowed to use small quantities of non-compliant coatings for touch-up operations on pleasure craft. The existing definition of touch-up is inadequate to provide for uniform enforcement of the exemption for touch-up coatings.

DISTRICT RESPONSE:

The exemption for 'touch-up' in the current Rule 67.18 is only for thermoplastic coating repair operations. Since these coatings are not normally used on pleasure craft, there is presently no provision for touch-up coatings on pleasure craft in the current Rule 67.18. However, proposed Subsection (b)(8) allows usage of up to 20 gallons per year of non-compliant coatings at any permitted marine coating facility. This can include touch-up coatings.

9. WORKSHOP COMMENT:

What is considered 'touch-up' under the exemption for touch-up operations in Subsection (b)(4)?

DISTRICT RESPONSE:

A touch-up operation was defined in Subsection (c)(29), which is now Subsection (c)(38). It is a minor portion of a coating operation. When it is part of a thermoplastic coating repair and maintenance operation, it is exempt from Rule 67.18 under Subsection (b)(4). For clarity, "Touch-up" has been changed to "Touch-up Operation" in Subsection (c)(38).

10. WORKSHOP COMMENT:

What is considered 'repair and maintenance' under the category for "Repair and Maintenance of Thermoplastic Coatings" in Subsection (c)(22)?

DISTRICT RESPONSE:

Subsection (c)(22), which is now Subsection (c)(28), defines 'repair and maintenance' as a partial recoat of a vessel over the same existing type of thermoplastic coating system. A recoating of less than 50 percent of an area of a vessel, e.g. less than 50 percent of the freeboard area of the hull, is considered a partial recoat. Thermoplastic coatings are typically used on large commercial vessels, and may be used on certain military vessels.

11. WORKSHOP COMMENT:

There is a current industry effort to use zinc-based coatings that have lower zinc content than traditional coatings. Marine coating rules in the South Coast and Bay Area districts do not specify a minimum zinc content for zinc-based specialty coating categories. The specification for 8 lb/gal zinc in Subsection (c)(13) of Rule 67.18 should be deleted.

DISTRICT RESPONSE:

The District disagrees. This specification does not preclude industry from using coatings with the zinc content lower than 8 lb/gal which also comply with the general VOC limit for marine coatings of 340 g/l. The definition in Subsection (c)(15), which was formerly Subsection (c)(13), refers to a special category of inorganic zinc coatings which have higher VOC content, and it reflects the

minimum zinc content currently used in such inorganic zinc coatings. After September 1994, the VOC limit for this category changes to 340 g/l.

12. WORKSHOP COMMENT:

The definitions for 'finish primer' and 'primer surfacer' should also specify military vessels.

DISTRICT RESPONSE:

The District disagrees. These coatings are used specifically in the pleasure craft industry, and together with pleasure craft topcoats provide the premium appearance required in this industry. The military currently uses primers with VOC contents of less than 340 grams/liter.

13. WORKSHOP COMMENT:

What is the basis of the proposed VOC limit changes for the pleasure craft topcoats and finish primers?

DISTRICT RESPONSE:

The current VOC limits for pleasure craft topcoats and finish primers became effective in September, 1991. In October, 1991, the San Diego Ship Repair Association applied for a class variance from these new limits. An interim variance was granted with a condition that the industry conduct a demonstration, comparing existing non-compliant coatings with some coatings that manufacturers were representing as possible suitable compliant alternatives. The demonstration was overseen by the District. The results showed that the compliant alternatives do not have acceptable drying properties (the report for the demonstration is available from the District).

Therefore the District is proposing to retain the VOC limits for pleasure craft topcoats and finish primers at the 1991 levels, 650 g/l and 600 g/l, respectively. The small potential increase in emissions from this action is offset by the simultaneous lowering of the VOC limit for pleasure craft antifoulant coatings to 330 g/l from 440 g/l.

14. WORKSHOP COMMENT:

The performance of water-based antifoulant coatings is unproven in the industry at this time. Use of these coatings can often result in more frequent recoats and more under-hull cleaning and maintenance. Longer drying times and incompatibility with existing systems often result in additional labor requirements and hazardous waste generation. Many pleasure craft owners are not satisfied with the water-based antifoulant coatings, and may take their business elsewhere.

Several boatyards have found the performance of the water-based antifoulant coatings to be acceptable, but have found the performance of the low-VOC pleasure craft topcoats and primers to be below industry standards.

DISTRICT RESPONSE:

The Federal Clean Air Act prohibits the relaxation of an emission standard in an existing rule in a non-attainment area, unless at the same time the rule is modified to ensure equivalent or greater emission reductions of non-attainment air pollutants. At the time the pleasure craft topcoat and finish primer demonstration study was conducted, some industry representatives indicated that new water-based antifoulant coatings had become available which could provide offsets for the VOC

emission increase that would result from the revision of the limits for pleasure craft topcoats and primers. For this reason, the District had considered a VOC limit of 150 g/l for pleasure craft antifoulant coatings.

The two comments above, however, combined with further input the District received during the demonstration study, indicate that members of the industry do not all share the same opinion about the performance of water-based antifoulant coatings. To address concerns regarding the performance and availability of these coatings, the District is now proposing to increase the VOC limit for pleasure craft antifoulant coatings from 150 g/l to 330 g/l. This will allow the use of established solvent-based antifoulant systems which have a lower VOC content than the presently required 400g/l. At the same time, lower emissions resulting from the use of antifoulant coatings with a VOC content of 330 g/l or less will provide the necessary emission offsets for the higher VOC limits proposed for pleasure craft topcoats and primers. The District intends to revisit this issue at a future date in order to assess technology developments for water-based antifoulant coatings.

15. WORKSHOP COMMENT:

Has the District quantified estimates for current emission distributions or expected emission reductions, as a result of the VOC limit changes in the proposed rule?

DISTRICT RESPONSE:

District emission distribution and reduction estimates were compiled from 1991 coating usage data supplied by the boatyards. This information is available to the public upon request.

16. WORKSHOP COMMENT:

Pleasure craft coating usage and category usage distributions may have changed since 1991 due to the depressed local economy.

DISTRICT RESPONSE:

The current slowed economy is presumed to be somewhat temporary. Therefore coating usage during such a period may not be representative of a typical year for the industry, and additional adjustments to the 1991 coating usage estimates may not be justified. The District will continue to monitor coating usage to determine if any adjustments are justified in future revisions to the rule.

17. WORKSHOP COMMENT:

Obtaining the necessary pesticide registration for antifoulant coatings typically takes up to three years. Only one company currently has registered water-based antifoulant coatings, and this could result in insufficient availability of these coatings. South Coast's Rule 1106.1 provides for a two-year phase-out of existing antifoulant coatings. The proposed revisions to Rule 67.18 should do the same.

DISTRICT RESPONSE:

As mentioned previously, the District has revised the proposed VOC limit for antifoulant coatings from 150 g/l to 330 g/l, which will allow the use of currently registered solvent-based products. Therefore no phase-out period for existing antifoulant coatings is required.

18. WORKSHOP COMMENT:

Pleasure craft coating usage by individual craft owners constitutes a significant portion of total pleasure craft coating usage, and elimination of proposed Subsection (b)(7) could therefore be an area of consideration for emission reductions for Rule 67.18.

DISTRICT RESPONSE:

The District disagrees. Elimination of a proposed exemption which is not yet in the rule will not result in actual emission reductions.

19. WORKSHOP COMMENT:

Lower VOC limits than currently specified in Rule 67.18 for certain coating categories, such as low-VOC epoxy primers and sealers used on pleasure craft, could present an alternative to lower limits for antifoulant coatings.

DISTRICT RESPONSE:

The District requested but did not receive any information from industry to support this claim. However, this is no longer an issue because the District has revised the proposed VOC limit for antifoulant coatings from 150 g/l to 330g/l.

20. WORKSHOP COMMENT:

South Coast's Rule 1106.1 requires high transfer efficiency equipment for coating application. High transfer efficiency associated with hand-application methods could provide additional emission reductions in pleasure craft coating operations.

DISTRICT RESPONSE:

The District agrees. However, at this time there is no test method acceptable to EPA for measuring transfer efficiency, therefore quantification of emission reductions is very difficult. In addition, hand-application methods cannot be used with all coatings for all purposes, and will likely add to labor costs. The cost-effectiveness of such a requirement would need to be thoroughly studied before it could be considered.

21. WORKSHOP COMMENT:

Has the District completed a CEQA study (California Environmental Quality Act) for the proposed 150 g/l antifoulant coating limit?

DISTRICT RESPONSE:

The proposed amendments to Rule 67.18 are categorically exempt from the requirement to conduct a CEQA study because they will not have a significant effect on the environment and are undertaken as part of a regulatory process which involves procedures for protection of the environment. In addition, the proposed limit for pleasure craft antifoulant coatings has been revised to 330 g/l, allowing the application of currently existing solvent-based materials.

22. WORKSHOP COMMENT:

Will the District examine economic impacts of the proposed revisions to Rule 67.18?

DISTRICT RESPONSE:

The District has evaluated the cost effectiveness of the proposed amendments and determined that it is consistent with the cost-effectiveness of other recently adopted or amended rules regulating VOC emissions.

The State Health and Safety Code requires the District to perform a formal socioeconomic impact assessment for any new or amended rule which significantly affects air quality or emission limitations. The revised VOC limits for pleasure craft coatings in proposed Rule 67.18 will not significantly affect air quality because a slight increase in emissions which may result from the relaxation of limits for pleasure craft topcoats and primers will be offset by a decrease in emissions from the use of antifoulant coatings with lower VOC contents. The proposed rule will not significantly affect emission limitations since in most cases these limitations (VOC content of coatings, surface preparations and cleaning materials) reflect existing technology. In addition, revised emission limitations for cleaning and surface preparation materials provide industry with more options for choosing currently available low polluting materials, such as high boiling or low volatility substances. Therefore, the District concluded that it is not necessary to conduct a Socioeconomic Impact Assessment for the proposed amended Rule 67.18.

23. WORKSHOP COMMENT:

Since the pleasure craft coating demonstration study, one company has marketed a high-solids pleasure craft topcoat system which complies with lower VOC limits and which does not have the problems of the systems used in the demonstration study.

DISTRICT RESPONSE:

The District acknowledges this. The feasibility of revising Rule 67.18 at a future date to lower VOC limits reflecting this latest technology will be considered when feedback from the users of these coatings on their acceptability becomes available.

24. WORKSHOP COMMENT:

Future water quality regulations may prohibit the use of copper-based antifoulant coatings, thereby eliminating the availability of most, if not all, currently used pleasure craft antifoulant coatings.

DISTRICT RESPONSE:

If such new water quality regulations are adopted in the future, the District will consider appropriate revisions to Rule 67.18 at that time.

25. WORKSHOP COMMENT:

How do Rule 67.18 revisions compare to the current marine coating federal regulations being developed by EPA?

DISTRICT RESPONSE:

EPA is required by the Federal Clean Air Act to develop a Control Technique Guideline document reflecting reasonably available control technology for control of VOC's from marine coating operations. To date, EPA has published an Alternative Control Technology document (ACT) for Surface Coating Operations at Shipbuilding and Ship Repair Facilities, which is primarily based on South Coast Air Quality Management District Rule 1106. The applicability of the ACT has been limited to commercial and military metal vessels only, and therefore does not address requirements for pleasure craft coatings. Three specialty coating categories in the proposed Rule 67.18; Antenna, Pretreatment Wash Primers, and Special Marking Coatings, have VOC limits which are more stringent than those found in the ACT. EPA also indicates in the ACT that it may develop a National Emissions Standards for Hazardous Air Pollutants (NESHAPs) for this industry in a few years.

26. WORKSHOP COMMENT:

Rule 67.9 for aerospace coating operations includes an option, not presently included in Rule 67.18, for using equipment cleaning materials having a total vapor pressure of VOC of 20 mm Hg at 20°C. This inconsistency creates confusion for the cleaning of coating equipment which is used in both aerospace and marine coating operations.

DISTRICT RESPONSE:

The District agrees. Proposed Rule 67.18 has been revised to include a provision for low vapor pressure cleaning materials.

27. WORKSHOP COMMENT:

Section (f) specifies that records be kept of coating, cleaning, and surface preparation material usage. The District should clarify what 'usage' means in this section.

DISTRICT RESPONSE:

The District agrees. For coatings, the amounts in inventory at the beginning of the month and coating purchases for that month, less the amounts in inventory at the end of the month and coatings collected for recycle or disposal, should be recorded as monthly usage. In a typical equipment cleaning process, spent solvents used in enclosed cleaners may be reclaimed and used again. Such a process would use reclaimed solvent, and also new make-up solvent. Only the new make-up solvent should be recorded as usage in monthly records. Surface preparation materials are generally dispensed from containers onto rags and wiped on to substrates. The amount of material added to dispensers should be recorded as monthly usage.

28. WORKSHOP COMMENT:

The District should consider imposing overall emission limitations on facilities, rather than VOC limits for individual types of coatings. This would provide a stronger incentive for facilities to use coatings with lower VOC's.

DISTRICT RESPONSE:

Such overall emission limitations can be imposed on coating operations at facilities which elect to comply with District Rule 67.1, Alternative Emissions Control Plans. However, such emission limitations can have the effect of limiting facility production levels, which VOC content limits do

not. This should be considered by a facility before it elects to comply by use of an alternative emissions control plan.

29. WRITTEN COMMENT:

Section (a) in Rule 67.18 specifies that Rule 66 is not applicable to marine coating operations. This specification should also include Rule 67.6 and Rule 67.12.

DISTRICT RESPONSE:

The District agrees. Subsection (b) (9) has been added to clarify that solvent cleaning equipment subject to Rule 67.6 and used for surface preparation is exempt from Rule 67.18. Section (b)(3) has been revised to clarify that polyester resin operations addressed in Rule 67.12 are exempt from Rule 67.18.

30. WRITTEN COMMENT:

The specification of "existing" thermoplastic coatings in the exemption for touch-up in Subsection (b)(4) conflicts with the definition of 'touch-up' in Subsection (c)(31).

DISTRICT RESPONSE:

The District agrees. For clarity, "existing" has been deleted from Subsection (b)(4), and "touch-up" has been changed to "touch-up operation" in Subsection (c)(31), which is now Subsection (c)(38).

31. WRITTEN COMMENT:

New antifoulant coatings which will not need to be registered as pesticides may eventually replace the traditional antifoulant coatings. This should be reflected in the definition in Subsection (c)(3).

DISTRICT RESPONSE:

The District agrees. The requirement for pesticide registration has been deleted from this definition, which is now in Subsection (c)(4).

32. WRITTEN COMMENT:

For consistency in the proposed definitions of 'VOC content', W_s should be specified as including exempt compounds as well as water.

DISTRICT RESPONSE:

The District agrees. Exempt compounds have been included in this term.

33. WRITTEN COMMENT:

The 'VOC content' definitions contain the phrase '...per Liter of Coating...', but the terms in the equation do not specify units. For consistency, units of grams for weight and liters for volume should be specified in these definitions.

DISTRICT RESPONSE:

The definitions for VOC content have been revised to reflect that any consistent units of weight or volume measurement are acceptable, provided that any necessary conversion to grams per liter is made for comparison to VOC limits in Section (d).

34. WRITTEN COMMENT:

Rule 67.18 should explicitly indicate that the 'VOC Content' in proposed Subsections (c)(33) and (c)(34) is the same as the "as applied" VOC content for single-component coatings.

DISTRICT RESPONSE:

The referenced definitions are now contained in Subsections (c)(41) and (c)(42). Subsection (c)(41) provides a general formula for the calculation of the VOC content of coatings (less water and exempt compounds). It can be used to calculate the VOC content of a coating either "as supplied" or "as applied". If VOC containing materials such as reducers, thinners, accelerators, etc. are added to the coating, the weight and volume of each added material must also be used to calculate the VOC content of the coating "as applied" to the substrate. This equation may be used to calculate the VOC content of coatings for comparison with the standards of Subsection (d)(1) & (d)(2).

Subsection (c)(42) provides a general formula for the calculation of the VOC content of cleaning materials (including water and exempt compounds). This equation may be used to calculate the VOC content of cleaning materials for comparison with the standards of Subsection (d)(3) & (d)(4).

35. WRITTEN COMMENT:

Rule 67.18 should specify how proposed Subsections (c)(33) and (c)(34) apply to multi-component coatings.

DISTRICT RESPONSE:

The referenced definitions are now contained in Subsections (c)(41) and (c)(42). The equation in Subsection (c)(41) determines the VOC content of a coating "as applied", and therefore the weight and volume of each added material must also be included to calculate the VOC content of the coating "as applied" to the substrate. Subsection (c)(42) is not applicable to multi-component coatings.

36. WRITTEN COMMENT:

Rule 67.18 should explicitly indicate that proposed Subsection (c)(33) VOC content is used to determine compliance with VOC limits for coatings, and that proposed Subsection (c)(34) VOC content is used to determine emission levels for New Source Review.

DISTRICT RESPONSE:

The referenced definitions are now contained in Subsections (c)(41) and (c)(42). The formulas in these subsections are general equations used to determine VOC content of coatings and cleaning materials. Subsection (c)(41) is used to calculate compliance with Rule 67.18 coating VOC limits. Subsection (c)(42) is used to calculate compliance with Rule 67.18 VOC content limits for cleaning materials.

For emission calculations the VOC content of coatings or materials is based on the VOC content "including water and exempt compounds". Therefore the equation in Subsection (c)(42) can also be used for emission calculation purposes.

37. WORKSHOP COMMENT:

The VOC limit of 650 grams per liter for inorganic zinc coatings in Rule 67.18 is changing to 340 g/l on September 1, 1994. An inorganic zinc coating currently used as a 'preconstruction primer' has a VOC content less than 340 g/l. However, other coatings are being examined which could make the construction operation more economically competitive, also reducing pollution in wastewater drainage to the Bay and generation of hazardous waste. Coatings which would accomplish this may be over 340 g/l. The VOC limit for this category in Rule 67.18 should remain at 650 g/l, as in South Coast AQMD Rule 1106.

DISTRICT RESPONSE:

EPA requirements prohibit the relaxation of any existing emission limits without compensating emission reductions from the same source category. The District has examined annual usage of zinc primers and epoxy primers used in new marine construction, and the VOC contents of existing epoxy and prospective zinc coatings. As a result, two new specialty categories have been included in Rule 67.18: 'preconstruction primer' with a VOC limit of 650 g/l, and 'high solids epoxy coating' with a VOC limit of 280 g/l. Upon examination of these proposed new limits and projected usage of each coating, it was determined that the overall emission reductions expected from Rule 67.18 will still be realized.

38. WRITTEN COMMENT:

The VOC limit for pretreatment wash primers will be 420 g/l on September 1, 1994. Coating manufacturers have indicated that new compliant coatings will not be available on that date. The VOC limit for this category in Rule 67.18 should remain at the current level.

DISTRICT RESPONSE:

The District disagrees. The marine coating industry is actively seeking alternatives to the use of conventional pretreatment wash primers. The Navy, for example, no longer specifies the use of these coatings, and other companies may also want to examine the necessity of using pretreatment wash primers. The District believes that the new limit will not cause a problem for the industry.

39. WRITTEN COMMENT:

The VOC limit for thermoplastic coating repair in Rule 67.18 will be 340 g/l on September 1, 1994. Coating manufacturers have indicated that new compliant coatings will not be available on that date. The VOC limit for this category in Rule 67.18 should remain at the current level.

DISTRICT RESPONSE:

The District agrees. Coating usage for this category in San Diego County is very minor, and proposed Rule 67.18 has been revised to extend the current VOC limit for this category.

40. WORKSHOP COMMENT:

In recent years, thermoplastic coatings other than those listed in Subsection (c)(30) have found widespread use, such as coatings based on acrylic resins. Rule 67.18 should include a provision for the repair of these thermoplastic coatings.

DISTRICT RESPONSE:

This definition, now contained in Subsection (c)(37), has been revised to include acrylic thermoplastic coatings.

41. WRITTEN COMMENT:

How may a facility take advantage of the proposed opportunity to keep monthly usage records instead of daily records?

DISTRICT RESPONSE:

Some facilities may be able to use purchase, disposal, and inventory records to compile the required monthly records. For example, the usage of cleaning materials can be determined by keeping records only on days when the materials were dispensed, or when dispensers are refilled. The removal of daily recordkeeping requirements decreases the amount of paperwork which must be done to demonstrate compliance. In some cases, a facility may still need to track daily usage of coatings in order to be able to compile monthly records.

42. WRITTEN COMMENT:

In Subsection (f)(1)(i) for recordkeeping, the "...VOC data necessary to evaluate compliance" should be specified.

DISTRICT RESPONSE:

Subsection (f) has been revised as suggested.

43. WRITTEN COMMENT:

What is meant by 'type' in the recordkeeping specifications of Subsections (f)(1)(iii) (A) and (C)?

DISTRICT RESPONSE:

The word 'type' is unnecessary for Subsection (f)(1)(iii)(A) and has been deleted. For Subsection (f)(1)(iii)(C), however, the type of material may need to be specified as either a cleaning material, as a surface preparation material, or as both, for purposes of determining compliance.

44. WRITTEN COMMENT:

Will proposed Subsection (f)(1)(iii), which allows monthly recordkeeping, result in a revision to the daily recordkeeping requirements in existing marine coating permits?

DISTRICT RESPONSE:

If permit conditions reflect current Rule 67.18 daily recordkeeping requirements, they will be modified to reflect the proposed change to monthly recordkeeping. However, if daily recordkeeping requirements are a result of New Source Review rule requirements, the condition to keep daily records will remain.

45. WRITTEN COMMENT:

Specialty coating categories were included in Rule 67.18 due to the specialized performance requirements of these coatings. Although some specialty coating categories currently have VOC limits of 340 g/l, which is the general limit specified in Subsection (d)(1), these categories should nevertheless be retained in the rule.

DISTRICT RESPONSE:

The District agrees. The proposal has been revised to retain these categories. Additionally, the VOC limit for the Organic Zinc category has been changed from 360 to 340 g/l, for statewide consistency. The organic zinc coatings currently used meet this new limit.

46. WORKSHOP COMMENT:

The proposed new category for 'specialty military exterior topcoat' should be renamed, as it may be confused with the existing 'military exterior topcoat' category.

DISTRICT RESPONSE:

The District agrees. This category has been renamed 'radar exterior topcoat'.

47. ARB COMMENT:

It is recommended that the District change Subsection (f)(1)(iii) to retain daily recordkeeping requirements, since most inspections are done on a per day basis.

DISTRICT RESPONSE:

The District disagrees. Rule 67.18 does not impose any daily limits on the usage of complying marine coating materials, therefore daily usage of these materials are not relevant to rule enforcement. Daily usage records may still be required for those permit units which are subject to the New Source Review rules, and therefore have daily emission limitations. In addition, sources using add-on control equipment are required to keep daily records of non-compliant coatings which have VOC content higher than the rule allows.

48. EPA COMMENT:

Subsection (g)(7) refers to SCAQMD Method 311-91 for determination of zinc content in coatings. SCAQMD had not provided adequate data for EPA evaluation of the method, and this method has not yet been approved by EPA.

DISTRICT RESPONSE:

EPA has informed the District that the South Coast AQMD Method 311-91 is still being considered. Since there are no other test methods approved by EPA for determination of metal content in coatings, the District will retain Method 311-91 in the amended rule until this issue is resolved.

49. EPA COMMENT:

Subsection (g)(6) must refer to EPA Method 25 for determination of air pollution control device efficiency.

DISTRICT RESPONSE:

Subsection (g)(6) has been revised to include EPA Method 25.

50. EPA COMMENT:

The District's "Permit Processing Procedures Regarding Vapor Pressure of a VOC Mixture", referred to in Subsection (g)(8), is currently under EPA review. EPA approval of Rule 67.18 as currently proposed may be contingent upon approval of this District method.

DISTRICT RESPONSE:

EPA has notified the District that the proposed procedure will be approved with some minor modifications.

51. EPA COMMENT:

Subsection (g)(2) refers to a requirement for an 'approved' test method for perfluorocarbons. This requirement must specify EPA approval.

DISTRICT RESPONSE:

Subsection (g)(2) has been revised to specify EPA and ARB approval.

52. EPA COMMENT:

Subsection (d)(2) contains specialty categories including 'pleasure craft topcoat', 'impregnating sealer', and 'mist coating' which have limits higher than 340 g/l. These higher limits are not included in ARB's RACT/BARCT determination for marine coatings. EPA recommends that Rule 67.18 meet the RACT/BARCT limits.

DISTRICT RESPONSE:

The RACT/BARCT determination for marine coating operations exempts pleasure craft coatings such as 'pleasure craft topcoat' and 'impregnating sealer'. During the original adoption of Rule 67.18, 'mist coatings' was a necessary small-use specialty category identified by local industry

which was overlooked during the RACT/BARCT development process. This category will be retained in Rule 67.18.

53. EPA COMMENT:

Subsection (f)(2)(iii) specifies a requirement to maintain daily records of key system operating parameters for emissions control equipment. This subsection should include additional wording specifying that "... records sufficient to document continuous compliance ..." be kept.

DISTRICT RESPONSE:

Subsection (f)(2)(iii) has been revised as suggested.

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10/17/94