AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN DIEGO

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November 22, 1994

TO: Rule 67.18 Workshop Participants & Other Interested Parties

FROM: Richard J. Smith
Deputy Director

RULE 67.18 - MARINE COATING OPERATIONS
FINAL RULE & WORKSHOP REPORT

On October 17, 1994, I sent you a memo transmitting the workshop report and proposed amendments to Rule 67.18 - Marine Coating Operations. On October 26, 1994, the Air Pollution Control District Advisory Committee met to consider the proposed changes to Rule 67.18 and voted unanimously to recommend that additional changes be made to the rule as follows:

- Aluminum outboard motors and lower drive units should be added to exemption (b)(5) concerning the application of antifoulant coatings, and the exemption language should be written consistent with requirements of the California Code of Regulations, Title 3 and 26, Section 6488.

- Definition (c)(21) for "Pleasure Craft" should be revised to clarify that vessels rented "exclusively" to individuals for non-commercial recreational use qualify as Pleasure Craft. Vessels not rented "exclusively" to individuals for such purposes do not qualify as Pleasure Craft.

- Definition (c)(4) for "Antifoulant Coatings" should retain the requirements for registration as a pesticide with EPA. According to the Federal Insecticide, Fungicide, and Rodenticide Act, all antifoulant coatings are insecticides by definition.

- The maximum VOC limit proposed for Antifoulant Coatings for pleasure craft should be reduced from 330 grams/liter to 300 grams/liter. One marine industry representative that attended the Advisory Committee meeting stated there were a number of antifoulant coatings available for use on pleasure craft that provided good performance and durability at VOC levels at or below 300 grams/liter.

The District agrees with the first three recommendations and has revised the rule accordingly. The District has discussed the last recommendation with other suppliers and users of pleasure craft antifoulant coatings. It appears that only one coating manufacturer makes a solvent-borne pleasure craft antifoulant coating in the VOC range of 300 grams/liter or less. Based on the comments at the workshop and additional information obtained recently from the users of antifoulant coatings, the performance characteristics of low VOC water-based coatings have not been entirely satisfactory. The District has also determined that lowering the VOC limit for pleasure craft antifoulant coating to 300 grams/liter will not likely result in an additional emission reduction.

For these reasons, the District is recommending that the VOC limit for antifoulant pleasure craft coatings be set at 330 grams/liter. The District will continue to work with coating users and manufacturers to evaluate the feasibility of reducing this limit further, and further amendments to Rule 67.18 will be made at a later date if appropriate.

If you have any questions or comments regarding these additional changes, please call Natalie Zlotin at (619) 694-3312 or me at (619) 694-3303. The rule will likely be scheduled for public hearing in December 1994. Please call Juanita Ogata at (619) 694-8851 at the end of November for the exact hearing date.

Richard J. Smith

RICHARD J. SMITH
Deputy Director

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AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN DIEGO

October 17, 1994

TO: Workshop Participants and
Other Interested Parties

FROM: Richard J. Smith
Deputy Director

RULE 67.18 - MARINE COATING OPERATIONS
FINAL RULE AND WORKSHOP REPORT

Attached for your review are the workshop report and the final amended Rule 67.18 - Marine Coating Operations that will be considered for adoption by the Air Pollution Control Board. All changes made to the rule after the workshop are double underlined.

The rule will likely be scheduled for public hearing in December 1994. If you have any questions or comments, please call Natalie Zlotin, as soon as possible, at (619) 694-3312 or me at (619) 694-3303.

Richard J. Smith

RICHARD J. SMITH
Deputy Director

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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.

NZ:jo
10/17/94

AIR POLLUTION CONTROL DISTRICT
COUNTY OF SAN DIEGO

PROPOSED AMENDMENTS TO RULE 67.18

Proposed amendments to Rule 67.18 are to read as follows:

RULE 67.18 MARINE COATING OPERATIONS

(a) APPLICABILITY

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.

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 addressed in Rule 67.12.

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

~~(4)~~(5) Antifoulant coatings applied to aluminum hulls and aluminum running gear below waterline provided records are maintained to substantiate that the antifoulant coatings are applied to aluminum hull and aluminum running gear, and provided the recordkeeping requirements of Section (f) ~~(d)(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 ~~any~~ individuals at their personal residence for the purpose of coating their ~~that individual's~~ own pleasure craft(s).

(8) Marine coatings that are used 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 at the permitted stationary source, and provided records are maintained to substantiate the total annual use of such coatings. These records shall be retained on site for at least ~~two~~ 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-134 and~~ HFC-134a, ~~both isomers~~), 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) ~~(8)~~ ~~(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) ~~(9)~~ ~~(7)~~ **"Heat Resistant Coating"** means any coating which during normal use must withstand temperatures of at least 204°C (400°F).

(11) ~~(10)~~ ~~(8)~~ **"High Gloss Coating"** means any coating which achieves at least 85% reflectance on a 60° meter ~~when tested in accordance with Subsection (g)(3) of this rule. by ASTM standard test method for specular gloss~~.

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

(13) ~~(11)~~ ~~(9)~~ **"High Temperature Coating"** means any coating which during normal use must withstand temperatures of at least 426°C (800°F).

(14)~~(12)~~~~(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)~~(13)~~~~(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)~~(14)~~~~(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)~~(17)(18)~~ **"Pleasure Craft"** means a privately owned vessels used for non-commercial purposes. Vessels rented to individuals for non-commercial, recreational purposes shall be considered pleasure craft.

(22)~~(18)(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 ~~when tested in accordance with Subsection (g)(3) of this rule~~.

(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 ~~Specialty Military~~ 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)~~(23)(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)~~(24)(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)~~(26)(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)~~(27)~~ **"Stationary Source"** means the same as defined in Rule 20.1.

~~means an emission unit or aggregation of emission units, located on the same or contiguous properties. Emission units which are on the same or contiguous property, and which are under the same ownership or entitlement to use, shall be considered a single stationary source. If emission units are on the same or contiguous property and they are related emission units, they shall be considered a single stationary source regardless of emission unit or property ownership or entitlement to use. "Contiguous property" means two or more parcels of land with a common boundary or separated solely by a public or private roadway or other public or private right-of-way.~~

(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)~~(29)~~(32) **"Thermal Spray Aluminum"** means a process of applying a molten aluminum coating to a steel substrate using a thermal spray system.

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

(38)~~(31)~~(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)~~(32)~~(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-fluroethane (CFC-115)~~ and exempt compounds. ~~VOC limits are expressed in grams of VOC content per liter of coating, minus water and exempt compounds.~~

(41)~~(33)~~ **"VOC Content Per ~~Liter~~ 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:

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

where:

$C_c voc$ = 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)~~(34)~~ **"VOC Content Per ~~Liter~~ Volume of Material"** means the weight of VOC per volume of material, and is calculated by the following equation:

$$C_m voc = \frac{W_s - W_w - W_{es}}{V_m}$$

where:

$C_m voc$ = 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)~~(33)~~ **"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 ~~Content of Coatings~~ Limits

Except as provided in Subsection (d)(2), ~~on and after July 3, 1990,~~ 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 ~~Content of~~ 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, 1991~~		Effective ~~September 1, 1994~~ *(date of adoption)*	
	~~Baked~~	~~Air Dried~~	Baked	Air Dried
Air Flask			--	340
Antenna Coating	--	~~530*~~	--	340
Antifoulant Coating (except for pleasure craft)	--	~~400~~	--	400
Antifoulant Coating (for pleasure craft	--	~~400~~	--	~~150~~ 330
Finish Primer	--	~~600*~~	--	600
Heat Resistant Coating	~~360~~	~~420~~	360	420
High Gloss Coating	~~360~~	~~420~~	360	420
High Solids Epoxy Coating			--	280
High Temperature Coating	--	~~500~~	--	500
Impregnating Sealer	--	~~700~~	--	700
Inorganic Zinc Coating	--	~~650~~	--	340
Low Activation Interior Coating	--	~~420~~	--	420
Military Exterior Topcoat			--	340
Mist Coating	--	~~610~~	--	610
Navigational Aids Speciality Ctng.	--	~~550~~	--	550
Organic Zinc Coating			--	340
Pleasure Craft Topcoat	--	~~650*~~	--	650
Preconstruction Zinc Primer			--	650
Pretreatment Wash Primer	--	~~780~~	--	420
Primer Surfacer	--	~~420~~	--	340
Radar Exterior Topcoat			--	340
Rubber Camouflage Coating			--	340
Sealing Coat for Thermal Spray Aluminum	--	~~610~~	--	610
Special Marking Coating	--	~~490~~	--	420
Specialty Interior Coating			--	340
~~Specialty Military Exterior Topcoat~~	--	~~650*~~	--	~~340~~
Tack Coat	--	~~610~~	--	610
Thermoplastic Coatings used in a Repair & Maintenance Ctg. Oper.			--	550
Underwater Weapons System Coating			275	340
Wood Sealer			--	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
Navigational 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	340
Wood Sealer		550		340		340

* indicates limit effective (date of adoption)

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 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 ~~solvent~~ material is flushed or rinsed through the equipment in a contained manner that will minimize evaporation into the atmosphere; or

~~(iii) the equipment is cleaned in a device where liquid solvent is pumped from a solvent container to a sink-like work area and the solvent from the sink-like area drains into an enclosed solvent container while equipment is being cleaned, and the device is covered when not being used, cleaned, or repaired; 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 device has been approved by the Air Pollution Control Officer; or

(v) the cleaning material contains ~~not more than~~ 200 grams or less of VOC per liter of material ~~as determined in accordance with Subsection (g)(1)~~; or

(vi) the cleaning material has an initial boiling point of ~~not less than~~ 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 ~~not more than~~ 200 grams or less of VOC per liter of material ~~as determined in accordance with Subsection (g)(1)~~; or

(ii) the material has an initial boiling point of ~~not less than~~ 190° C (374° F) or greater; or

(iii) the material has a total vapor pressure of VOC of ~~not more than~~ 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 ~~vessel~~.

~~(7) No person shall manufacture, sell, offer for sale, or supply any coating, cleaning, or surface preparation material for use in marine coating operations in San Diego County that, after (date of adoption) was newly formulated to increase the content of 1,1,1-trichloroethane, methylene chloride, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), or chloropentafluoroethane (CFC-115).~~

~~(8) After (twelve months after date of adoption) no person shall manufacture, sell, offer for sale, or supply any coating, cleaning, or surface preparation material for use in marine coating operations in San Diego County containing 1,1,1-trichloroethane, methylene chloride, trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), trichlorotrifluoroethane (CFC-113), dichlorotetrafluoroethane (CFC-114), or chloropentafluoroethane (CFC-115) unless the content of such compound is displayed on the container.~~

(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 ~~(O&M)~~ 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.~~ ~~A~~ person subject to the requirements of this section shall implement the Operation and Maintenance plan ~~on approval of the Air Pollution Control Officer~~, 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 ~~records~~ of any ~~applicable~~ specialty coating categor~~yies claimed for the usage of each coating~~ pursuant to Subsection (d)(2) of this rule.

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

(A) the ~~type and~~ amount of each coating, ~~used~~ or each coating component for multi-component coatings, used; ~~(this includes any components such as bases, catalysts, thinners or reducers, when supplied in separate containers)~~ and

(B) the maximum operating ~~oven~~ 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 ~~usage~~ records of the amount of each coating or each coating component for multi-component coatings, surface preparation and cleaning material used; and ~~specified in Subsection (f)(1)(iii); 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. ~~specified in Subsection (e)(2)(i).~~

~~These records shall be retained on site for at least three years and shall be made available to the Air Pollution Control District upon request. 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 ~~pursuant to~~ referenced in Subsections (c)(11) ~~(10)~~ or (c)(22) ~~(18)~~ of this rule shall be conducted in accordance with ASTM Standard Test Method D523-859 ~~for determination of specular gloss.~~

(4) Measurement of pretreatment wash primer acid content ~~pursuant to~~ referenced in Subsection (c)(25) ~~(20)~~ of this rule shall be conducted in accordance with ASTM Standard Test Method D1613-8591 ~~for determination of acidity in volatile solvents used in paints and related products.~~

(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 ~~for distillation range of volatile organic liquids.~~

(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 zinc content of inorganic zinc coatings ~~pursuant to~~ referenced in Subsections (c)~~(13)~~ (15) and (c)(24) of this rule shall be conducted and reported in accordance with ~~SCAQMD~~ the South Coast Air Quality Management Districts Spectrographic Method 311-91 ~~for analysis of percent metal in metallic coatings.~~

(8) Calculation of total vapor pressure of VOC in cleaning materials subject to Subsection (d)(3)(vii) and/or (d)(4)(iii) of this rule shall be conducted in accordance with the District's ~~"Permit Processing Procedures Regarding Vapor Pressure of VOC Mixture"~~ "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)(4)(iii), the vapor pressure shall be determined in accordance with ASTM Standard Test Method D2879-83, Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope. The fraction of water and exempt compounds in the liquid phase shall be determined by using ASTM Standard Test Methods D3792-86 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 D2879-83 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, shall 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.~~