

U.S. ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[AD-FRL-5335-3]

National Emission Standards For Hazardous Air Pollutants  
For Shipbuilding and Ship Repair (Surface Coating)  
Operations

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This action promulgates national emission standards for hazardous air pollutants (NESHAP) under Section 112 of the Clean Air Act as amended in 1990 (CAA) for shipbuilding and ship repair (surface coating) operations. The NESHAP requires existing and new major sources to control emissions using the maximum achievable control technology (MACT) to control hazardous air pollutants (HAP).

The MACT described herein is based on maximum HAP limits for various categories of marine coatings. Surface coating operations at shipyards are the focus of the NESHAP, and a variety of HAP are used as solvents in marine coatings. The HAP emitted by the facilities covered by this final rule include xylene, toluene, ethylbenzene, methyl ethyl ketone, methyl isobutyl ketone, ethylene glycol, and glycol ethers. All of these pollutants can cause reversible or irreversible toxic

effects following exposure. The potential toxic effects include irritation of the eye, nose, throat, and skin and damage to the blood cells, heart, liver, and kidneys. The final rule is estimated to reduce baseline emissions of HAP by 24 percent or 318.5 megagrams per year (Mg/yr) (350 tons per year (tpy)).

The emissions reductions achieved by these standards, combined with the emissions reductions achieved by similar standards, will achieve the primary goal of the CAA, which is to "enhance the quality of the Nation's air resources so as to promote the public health and welfare and productive capacity of its population" 42 U.S.C. §7401(b)(1). The intent of this final regulation is to protect the public health by requiring the maximum degree of reduction in emissions of volatile organic hazardous air pollutants (VOHAP) from new and existing sources, taking into consideration the cost of achieving such emission reduction, any nonair quality, health and environmental impacts, and energy requirements.

DATES: [ insert date of publication in the Federal Register ]. Incorporation by reference of certain publications listed in the regulations is approved by the

director of the Federal Register as of [ insert date of publication in the Federal Register ].

ADDRESSES: Background Information Document. The background information document (BID) for the promulgated standards may be obtained from the U.S. Department of Commerce, National Technical Information Service (NTIS), Springfield, Virginia, 22161, telephone number (703) 487-4650. Please refer to "National Emission Standards For Hazardous Air Pollutants For Shipbuilding and Ship Repair Facilities (Surface Coating)--Background Information Document for Final Standards," EPA-453/R-95-016b. The BID contains (1) a summary of the changes made to the standards since proposal and (2) a summary of all the public comments made on the proposed standards and the Administrator's response to the comments.

Electronic versions of the promulgation BID as well as this final rule are available for download from the EPA's Technology Transfer Network (TTN), a network of electronic bulletin boards developed and operated by the Office of Air Quality Planning and Standards. The TTN provides information and technology exchange in various areas of air pollution control. The service is free, except for the cost of a phone call. Dial (919) 541-5742 for data transfer of up to a 14,400 bits per second. If

more information on TTN is needed, contact the systems operator at (919) 541-5384.

Docket. Docket No. A-92-11, containing supporting information used in developing the promulgated standards, is available for public inspection and copying from 8 a.m. to 5:30 p.m., Monday through Friday, at the EPA's Air and Radiation Docket and Information Center, Waterside Mall, Room M-1500, Ground Floor, 401 M Street SW, Washington, DC 20460. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: Dr. Mohamed Serageldin at (919) 541-2379, Emission Standards Division (MD-13), U. S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711.

SUPPLEMENTARY INFORMATION: Under Section 307(b)(1) of the CAA, judicial review of NESHAP is available only by the filing of a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit within 60 days of publication of this rule. Under Section 307(b)(2) of the CAA, the requirements that are the subject of this action may not be challenged later in

civil or criminal proceedings brought by the EPA to enforce these requirements.

The information presented in this preamble is organized as follows:

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- I. Regulatory Background and Purpose

Section 112 of the CAA requires the EPA to evaluate and control HAP emissions. The control of HAP is to be achieved through promulgation of emission standards under Sections 112(d) and (f), and of work practice standards

under Section 112(h) where appropriate, for categories of sources that emit HAP. Pursuant to Section 112(c) of the CAA, the EPA published in the Federal Register the initial list of source categories that emit HAP on July 16, 1992 (57 FR. 31576). This list includes major and area sources of HAP for which the EPA intends to issue regulations between November 1992 and November 2000.

The CAA was created, in part, "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and productive capacity of its population" 42 U.S.C. §7401(b). This final regulation will protect the public health by reducing emissions of HAP from surface coating operations at shipbuilding and ship repair facilities (shipyards).

Many shipyards are major sources of HAP emissions, emitting over 23 Mg/yr (25 tpy) of organic HAP, including toluene, xylene, ethylbenzene, methanol, methyl ethyl ketone, methyl isobutyl ketone, ethylene glycol and glycol ethers. All of these pollutants can cause reversible or irreversible toxic effects following exposure. The potential toxic effects include irritation of the eyes, nose, throat, and skin, irritation and damage to the blood cells, heart, liver, and kidneys.

These adverse health effects are associated with a wide range of ambient concentrations and exposure times and are influenced by source-specific characteristics such as emission rates and local meteorological conditions. Health impacts are also dependent on multiple factors that affect human variability, such as genetics, age, health status (e.g., the presence of pre-existing disease), and lifestyle.

The final standards will reduce VOHAP emissions from shipyard surface coating operations by 318.5 Mg/yr (350 tpy) from a baseline level of 1,362 Mg/yr (1,497 tpy). No significant economic impacts are associated with the final standards. No firms or facilities are at risk of closure as a result of the final standards, and there will not be a significant economic impact on a substantial number of small entities.

## II. The Standards

The final rule is applicable to all existing and new shipbuilding and repair facilities that are major sources of HAP or are located at plant sites that are major sources. Major source facilities that are subject to this rule must not apply any marine coating with a VOHAP content in excess of the applicable limit and must

implement the work practices required in the rule. Section 112(a) of the CAA defines major source as a source, or group of sources, located within a contiguous area and under common control that emits or has the potential to emit, considering controls, 9.1 Mg/yr (10 tpy) or more of any individual HAP or 22.7 Mg/yr (25 tpy) or more of any combination of HAP. Area sources are stationary sources that do not qualify as "major." The term "affected source" as used in this rule means the total of all HAP emission points at each shipbuilding and ship repair facility that is subject to the rule.

"Potential to emit" is defined in the Section 112 General Provisions (40 CFR 63.2) as "the maximum capacity of a stationary source to emit a pollutant under its physical or operational design."

To determine the applicability of this rule to facilities that are within a contiguous area of other HAP-emitting emission sources that are not part of the source category covered by this rule, the owner or operator must determine whether the plant site as a whole is a major source. A formal HAP emissions inventory must be used to determine if total HAP emissions from all HAP emission sources at the plant site meets the definition of a major source. The actual emissions of HAP from most



shipyards are substantially less than the major source cutoff limits [i.e., 9.1 Mg/yr (10 tpy) of any single HAP, or 22.8 Mg/yr (25 tpy) of all HAP combined]. If the source becomes a synthetic minor source through accepting enforceable restrictions that ensure potential and actual HAP emissions will be below the major source cutoffs, the NESHAP does not apply. See promulgation BID Section 2.4 for additional details and the associated recordkeeping provisions (see ADDRESSES section of this preamble).

Existing major sources may switch to area source status by obtaining and complying with a federally enforceable limit on their potential to emit prior to the "compliance date" of the regulation. The "compliance date" for this regulation is defined as [INSERT DATE ONE YEAR AFTER PUBLICATION IN THE FEDERAL REGISTER]. New major sources are required to comply with the NESHAP requirements upon start up or the promulgation date, whichever is later. Existing major sources may switch to area source status by obtaining and complying with a federally enforceable limit on their potential to emit that makes the facility an area source prior to the "compliance date" of the regulation. The compliance date for this regulation is [INSERT DATE ONE YEAR AFTER PUBLICATION IN THE FEDERAL REGISTER]. A facility that

has not obtained federally enforceable limits on its potential to emit by the compliance date, and that has not complied with the NESHAP requirements, will be in violation of the NESHAP. New major sources are required to comply with the NESHAP requirements upon start-up or the promulgation date, whichever is later. All sources that are major sources for HAP on the compliance date are required to comply permanently with the NESHAP to ensure that the maximum achievable reductions in toxic emissions are achieved and maintained. All major sources for HAP on the "compliance date" are required to comply permanently with the NESHAP to ensure that the maximum achievable reductions in toxic emissions are achieved and maintained.

The final standards impose limits on the VOHAP content of 23 types of coatings used at shipyards. Compliance with the VOHAP limits must be demonstrated on a monthly basis. The promulgated standards include four compliance options to allow owners or operators flexibility in demonstrating compliance with the VOHAP limits. The final standards also allow for an alternative means of compliance other than using compliant coatings, if approved by the Administrator. The Administrator shall approve the alternative means of

limiting emissions if, in the Administrator's judgment, (after control) emissions of VOHAP per volume solids applied will be no greater than those from the use of coatings that comply with the applicable VOHAP limits.

The final standards also require that all handling and transfer of VOHAP containing materials to and from containers, tanks, vats, vessels, and piping systems be conducted in a manner that minimizes spills and other factors leading to emissions. (This requirement includes hand- or brush-application of coatings.) In addition, containers of thinning solvent or waste that hold any VOHAP must be normally closed (to minimize evaporation) unless materials are being added to or removed from them.

Owners or operators of existing shipbuilding and ship repair (surface coating) operations subject to the requirements promulgated under Section 112(d) of the CAA are required to comply with the standards within 1 year from

[insert date of publication in the Federal Register].

Owners or operators of new shipbuilding and ship repair (surface coating) operations with initial startup before or after [insert date of publication in the Federal

Register] are required to comply with all requirements of the standards upon startup. The first requirement is the initial notification due 6 months before start up.

### III. Summary of Impacts

These standards will reduce nationwide emissions of HAP from shipbuilding and ship repair (surface coating) operations by approximately 318.5 Mg (350 tons) in 1997 compared to the emissions that would result in the absence of the standards. These standards will also reduce volatile organic compounds (VOC) emissions from those same shipbuilding and ship repair (surface coating) operations by approximately 837 Mg (920 tons) in 1997 compared to the emissions that would result in the absence of the standards. No significant adverse secondary air, water, solid waste, or energy impacts are anticipated from the promulgation of these standards.

Implementation of this regulation is expected to result in nationwide annualized costs for existing shipyards of about \$2 million beyond baseline. This estimation is based on an analysis of the application of VOHAP limits on marine coatings at all existing major source facilities not currently controlled to the level of the standards.

The economic impact analysis conducted prior to proposal showed that the economic impacts from the proposed standard would be insignificant. An update of the economic impact analysis (due to revisions to the final rule) indicates that the original conclusion still holds true. Implementation of the rule is not expected to cause significant economic impacts for the 35 major source facilities in this industry.

#### IV. Significant Changes to the Proposed Standards

##### A. Public Participation

The standards were proposed and the preamble was published in the Federal Register on December 6, 1994 (59 FR 62681). The preamble to the proposed standards discussed the availability of the regulatory text and proposal BID, which described the regulatory alternatives considered and the impacts of those alternatives. Public comments were solicited at the time of proposal, and copies of the regulatory text and BID were distributed to interested parties. Electronic versions of the preamble, regulation, and BID were made available to interested parties via the TTN (see SUPPLEMENTARY INFORMATION section of this preamble).

To provide interested persons the opportunity for oral presentation of data, views, or arguments concerning the proposed standards, a public hearing was held on January 18, 1995 in Research Triangle Park, North Carolina. The public comment period was from December 6, 1994 to February 17, 1995. In all, 22 comment letters were received (including one duplicate). The comments have been carefully considered, and changes have been made to the proposed standards when determined by the Administrator to be appropriate.

B. Comments on the Proposed Standards

Comments on the proposed standards were received from 22 commenters; the commenters were comprised mainly of States, shipyard owners or operators, marine coating manufacturers, environmental groups, and trade associations. A detailed discussion of these comments and responses can be found in the promulgation BID, which is referred to in the ADDRESSES section of this preamble. The summary of comments and responses in the BID serve as the basis for the revisions that have been made to the standards between proposal and promulgation. (Some additional changes have been made to clarify the standards and improve their organization.) Most of the comment letters contained multiple comments. For summary

purposes, the comments were grouped into several topic areas.

C. Significant Comments/Changes

Several changes have been made since the proposal of these standards. The majority of the changes have been made to clarify portions of the rule that were unclear to the commenters. A summary of the major comments and changes is presented below.

(1) Applicability to coating manufacturers .

Several commenters asked the EPA to regulate the manufacture and sale of marine coatings rather than the end users (shipyards). While this approach has some obvious advantages, the EPA does not have authority to regulate (with this NESHAP) the manufacture and sale of coatings under Section 112(d). The EPA plans to address requirements for coating manufacturers under Section 183(e) of the CAA by March 1997 through either a national rule or a control techniques guidelines (CTG).

(2) Number of major sources/MACT floor . Some commenters thought the EPA underestimated the number of major source shipyards, and thereby erred in the MACT floor determination. Although the EPA based the proposed number of major sources on the best available information at the time, there has been recent additional information

provided by the Louisiana Department of Environmental Quality (Louisiana having more shipyards than any other State) showing there are four other shipyards with HAP emissions greater than the major source cutoffs. At the same time, however, the same additional information indicated that one of the shipyards identified in the original list of 25 has HAP emissions well below the major source cutoffs (based on recent operating permit data).

This information along with other State permit data on annual paint usage and VOC/VOHAP emissions indicates that there are 35 major sources, instead of the estimated 25 discussed in the proposal preamble. Even though 10 additional major sources have been identified, the MACT floor would not change. At proposal, the EPA based the MACT floor on the control achieved by the best-performing 5 sources, as required by Section 112 (d)(3) of the CAA when there are less than 30 sources in the category. If there are 35 sources in the category, the MACT floor would be based on the best-performing 4.2 sources (12 percent of the 35) as required by Section 112 (d)(3). Under both situations, the MACT floor is the same.



Another point to be considered is that even if there are 45 major source shipyards, the best 12 percent is still represented by the best  $0.12 \times 45 = 5.4$  or best 5 yards. Both the MACT floor and the associated marine coating VOHAP limits would be identical. Since the NESHAP proposal date, the Navy has adopted VOC limits identical to (or more stringent than) the 1992 California limits for all Naval shipyards and Navy-related work. Since at least two of the Naval shipyards qualify as major sources, if the MACT floor were to be recalculated today, the limits would be identical to the proposed (and promulgated) limits, regardless of the approach used to determine the mean or median level of control. The Louisiana limits, which are less stringent for the major use categories of coatings, would not enter into any of the floor calculations.

Recent indications from the Navy and other industry representatives reveal that fewer affected sources exist today because of base closings and consolidation efforts. The original estimation of 25 major source shipyards was based on annual paint and solvent usage, type of work conducted (new construction versus repair), number of employees, and type (size) of vessels serviced. The (weighted) average HAP concentration of all marine

coatings is an integral part of emissions estimates and determining if a shipyard qualifies as a major source facility. Other HAP-emitting processes at most shipyards such as welding, metal forming/cutting, and abrasive blasting exist, but the vast majority of HAP emissions come from organic solvents used in marine paints and solvents used for thinning and cleaning.

(3) Elimination of compliance option 1. Proposed compliance option 1 required that each and every container of coating be tested or certified prior to application. Based on comments pertaining to its impracticality and the unrealistic costs associated with testing/certifying every container of coating, compliance option 1 was eliminated from the final rule. The flow diagram (included as Figure 1 in the regulation) summarizing the various compliance options was similarly revised and simplified.

(4) Training requirements. In the proposed rule, the EPA required training and certification for all personnel involved with paints and/or solvents. There were several comments regarding the inappropriate amount and level of detail involved with the training and annual personnel certifications. Some commenters indicated that there was a high turnover rate involving personnel, and

the proposed training requirements would impose a significant impact for very little reduction in HAP emissions. The EPA has determined that it is appropriate to leave the details of training to the individual shipyards who can best define the real needs of their specific locations and applications. Affected sources are responsible for complying with the standards, and it is in their own best interest to ensure that workers are aware of the associated requirements. Therefore, all training requirements related to painting/thinning, handling/transfer of VOHAP-containing materials, and certification of all personnel involved with surface coating operations have been eliminated from the final rule.

(5) Definition of pleasure craft. A definition of pleasure craft has been added to ensure that the standards apply only to those coatings (and solvents) used on commercial and military vessels. Some commenters were concerned that, as proposed, the rule could be interpreted to regulate coatings used on pleasure crafts. Other commenters suggested that pleasure crafts should be included. The EPA did not intend to include coatings used on pleasure crafts in these standards. Such

coatings (applications) will be considered under the development of the Boat Manufacturing NESHAP.

(6) Definition of affected source. The definition of affected source was modified to ensure that the requirements of the standards apply only to those sources (major source shipyards) with a minimum annual marine coating usage of 1,000 L (264.2 gal). The primary focus of this NESHAP is surface coating operations and this clarification will minimize/eliminate the impact on shipyards with minimal surface coating emissions.

(7) Reporting and notification changes. Changes have also been made to the notification and reporting schedules. The initial notification deadline has been extended from 120 to 180 days. The frequency of reporting has also been reduced from the proposed quarterly requirement to semiannual. This change was made to allow shipyards to be consistent with current/upcoming Title V permit requirements. The first compliance certification report is due 6 months after the compliance date.

(8) Exemptions. Several commenters recommended that the EPA adopt some of the exemptions provided in various State regulations. Since the MACT floor was based on three shipyards located in California and those

yards have exemptions similar to those requested, the EPA determined there would be no significant impact and adopted the following exemptions:

a. Any individual coating with annual usage less than 200 liters (52.8 gallons) is exempt from the requirements of the standards (i.e., the applicable VOHAP limit). The total amount of all coatings exempted in any given year cannot exceed 1,000 liters (264.2 gallons); and

b. Any coating applied via nonrefillable hand-held aerosol cans is exempt from the requirements of the standards.

(9) Revision of equations. The equations used with compliance options 2 and 3 (proposed options 3 and 4) have been changed so that calculations are based on volume solids. The revised equations require the VOHAP limits based on volume solids be used in place of the VOHAP limits based on volume of coating less water and non-HAP exempt solvents. This change was made to provide a uniform basis for calculating emission reductions (i.e., associated with thinning additions or add-on control devices).

(10) Weather-related VOHAP limits. The proposal preamble requested comments on how to handle thinning

issues for various climatic conditions. The EPA reviewed the comments and collected additional information on both cold- and hot/humid-weather thinning practices. As a result of this information, cold-weather VOHAP limits are included as part of the final rule. If the temperature is below 4.5 °C (40 °F) at the time the coating is applied and the source needs to thin that coating beyond the applicable VOHAP limit, the date, time, and temperature (including units) must be documented, and the applicable cold-weather VOHAP limit may be used. The cold-weather VOHAP limits on a solids basis were increased equivalently, but the actual values vary for each coating category. The cold-weather VOHAP limits are applicable only to as-supplied coatings that are greater than 40 percent solids by volume.

With regards to hot/humid weather conditions, the data and responses to Section 114 information requests sent by EPA to nine shipyards and other information received did not provide a basis for including a humid weather thinning allowance. Respondents identified meteorological conditions under which coatings must be thinned or not applied at all. Only one shipyard, which uses large quantities of water-based preconstruction primer, maintained that a humid weather thinning

allowance should be adopted. However, the shipyard did not explain how hydrocarbon-based thinners would relate to its water-based operation.

Hot and humid weather conditions appear to inhibit coating operations work less frequently than does cold weather. The different responses can best be understood as they relate to the specifications for thinning under different climatic conditions, which are dependent on paint type and manufacturer. Some coating formulations lose at high temperature more organic solvent than others which could lead to thickening (increase in viscosity) of the paint. This occurs where the rate of application is low and paint containers remain uncovered. Nevertheless, beginning in September 1994, shipyards performing work for the Navy in humid climates such as Louisiana, Florida, and Virginia are required by the Navy to use paints with VOHAP contents levels that are in compliance with the limits in the NESHAP, without provision for additional thinning. There is no reason that VOHAP limits that are achievable for paints used by the Navy cannot also be achieved for paints used by commercial shipyards located in humid climates and that, therefore, a thinning allowance for hot/humid weather conditions is not necessary. If conditions necessitate application of

small amount of noncompliant coatings, the regulation provides a low usage exemption of 1,000 liters of coating per year.

D. Minor Changes

This section contains a list of several of the minor changes to the final rule. A discussion of these changes can be found in the promulgation BID. (See ADDRESSES section of this preamble.)

(1) Revisions to definitions and phrasing have been made to clarify the regulation.

(2) Based on comments received and on changes to the notification and recordkeeping and reporting requirements, those sections of the standard have been reorganized and overlapping requirements clarified or eliminated.

(3) Table 2, which contains the VOHAP limits for the various coating categories, has been simplified to contain only one set of units (metric). The conversion factor for English units is included as a footnote to the table.

V. Control Techniques Guidelines (CTG)

Section 183(b)(4) of the CAA requires the Administrator to issue a CTG document for limiting VOC and particulate matter emissions from coatings (paints)



and solvents used in the shipbuilding and ship repair industry. Since VOHAP emissions from this industry are generally a subset of VOC emissions, the control techniques evaluated for the MACT standard are also applicable to VOC emissions. Therefore, the EPA has developed the CTG concurrently with the NESHAP and will be issuing final guidance under a separate notice. As explained in the proposal notice (AD-FR- ), no CTG is being issued for particulate matter emissions.

## VI. Administrative Requirements

### A. Docket

The Docket is an organized and complete file of all the information considered by the EPA in the development of this rulemaking. The Docket is a dynamic file, since material is added throughout the rulemaking development. The docketing system is intended to allow members of the public and industries involved to readily identify and locate documents so that they can effectively participate in the rulemaking process. Along with the statement of basis and purpose of the proposed and promulgated standards and the EPA responses to significant comments, the contents of the Docket will serve as the record in case of judicial review [see 42 U.S.C. §7607(d)(7)(A)].

B. Paperwork Reduction Act

The Office of Management and Budget (OMB) is currently reviewing the information collection request (ICR) requirements contained in this rule under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. and has assigned OMB control number 2060-0330 and EPA ICR number 1712.2.

The information required to be collected by this rule is needed as part of the overall compliance and enforcement program. It is necessary to identify the regulated entities who are subject to the rule and to ensure their compliance with the rule. The recordkeeping and reporting requirements are mandatory and are being established under authority of Section 114 of the Act. All information submitted to the EPA for which a claim of confidentiality is made will be safeguarded according to the EPA policies set forth in Title 40, Chapter 1, Part 2, Subpart B--Confidentiality of Information (see 40 CFR part 2; 41 FR 36902, September 1, 1976; amended by 43 FR 39999, September 8, 1978; 43 FR 42251, September 28, 1978; 44 FR 17674, March 23, 1979).

The total annual reporting and recordkeeping burden for this collection averaged over the first 3 years is estimated to be \$26,218 per year. The average burden,

per respondent, is 772 hours per year. This estimate includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. The total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise

disclose the information. The rule requires an initial one-time notification from each respondent and subsequent notification every 6 months to indicate their compliance status. At the time of the initial notification each respondent would also be required to submit an implementation plan that describes compliance procedures. A respondent would also be required to keep necessary records of data to determine compliance with the standards in the regulation. The data would be recorded monthly. A report would need to be submitted semi-annually by each respondent. There would be an estimated 35 respondents to the proposed collection requirements.

Send comments on the EPA's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, OPPE Regulatory Information Division; U. S. Environmental Protection Agency (2136); 401 M Street SW.; Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street NW.; Washington, DC 20503; marked "Attention: Desk Officer for EPA." Include the OMB number and the EPA ICR number in any correspondence.

C. Executive Order 12866: Administrative  
Designation and Regulatory Analysis

Under Executive Order 12866 [58 FR 51735 (October 4, 1993)], the EPA is required to judge whether a regulation is "significant" and therefore subject to OMB review and the requirements of this Executive Order to prepare a regulatory impact analysis (RIA). The Order defines "significant regulatory action" as one that is likely to result in a rule that may (1) have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities; (2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs, or the rights and obligation of recipients thereof; or (4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of Executive Order 12866, it has been determined that this rule is not a "significant

regulatory action" and is therefore not subject to OMB review.

D. Executive Order 12875

To reduce the burden of federal regulations on States and small governments, the President issued Executive Order 12875 on October 26, 1993, entitled Enhancing the Intergovernmental Partnership. In particular, this executive order is designed to require agencies to assess the effects of regulations that are not required by statute and that create mandates upon State, local, or tribal governments. Two methods exist for complying with the requirements of the executive order: (1) assure that funds necessary to pay direct costs of compliance with a regulation are provided, or (2) provide OMB a description of the communications and consultations with State/local/tribal governments, the nature of their concerns, any written submission from them, and the EPA's position supporting the need to issue the regulation.

The EPA has always been concerned about the effect of the cost of regulations on small entities; the EPA has consulted with and sought input from public entities to explain costs and burdens they may incur.

The EPA advised interested parties on July 16, 1992 (57 FR 21592), of the categories considered as major and area sources of HAP, and shipbuilding and ship repair (surface coating) industry was listed as a category of both major and area sources. The EPA made significant effort to hear from all levels of interest and all segments of the shipbuilding and ship repair industry. To facilitate comments and input, the EPA conducted comprehensive mailouts of draft and proposal package materials in 1993 and 1994 to shipyards, Department of the Navy (Naval Sea Systems Command), marine coating manufacturers, and State and local government officials. All were given opportunity to comment on the presented regulatory development activities of the standard. Throughout the regulatory development process and more specifically in consultation meetings, industry representatives from commercial/private shipyards, the U.S. Navy, and various trade associations were given an opportunity to comment on the proposed regulatory approach and the MACT alternatives being developed. The major topic areas resulting from these discussions included the need for cold-weather thinning limits, flexibility in compliance approaches, and the need for additional data regarding certain coating categories

(i.e., inorganic zincs). Some of these meetings were held at EPA, while others were conducted at shipyard locations. In addition, individual consultations were conducted with three local (air quality management) districts in California regarding the use of the mass of VOHAP/volume of solids for determining compliance when the coating is thinned.

The EPA addressed many of the suggestions and comments received from State and local agencies during the public comment period, many of which will reduce the impact to small businesses. Some of these suggestions resulted in changes to the rule, including modification of the definition of pleasure craft to clarify that the standards apply only to coatings (and solvents) used on commercial and military vessels and not to boats in non-military shipyards less than 20 meters in length; modification of the definition of affected source to ensure that the requirements of the standards apply only to those sources (major source shipyards) with a minimum annual marine coating usage of 1,000 Liters (264.2 gallons); exemption of any individual coating with annual usage less than 200 liters (52.8 gallons)



(i.e., the applicable VOHAP limit); exemption of any coating applied via nonrefillable hand-held aerosol cans; making the equations used to determine thinning allowance the same for all options to provide a uniform basis for calculating emission reductions (i.e., associated with thinning additions or add-on control devices); extension of the initial notification deadline from 120 to 180 days and reduction of the frequency of reporting from the proposed quarterly requirement to semiannual, which allows shipyards to be consistent with current/upcoming Title V permit requirements; reorganization and clarification of the notification and recordkeeping and reporting requirement, including revision of the definitions and phrasing to ensure that the terminology is understandable; and the addition of 10 major sources based on data provided by Louisiana and Texas State agencies.

Some of the other major concerns that were noted in the State and/or local agency comments and that were considered by the EPA in developing the proposed and final rule involved realistic work practice standards, multiple compliance options to provide flexibility for shipyard owners/operators and State regulators, and streamlining (or eliminating) any overlapping

recordkeeping and reporting requirements. Documentation of all meetings and public comments can be found in Docket A-92-11.

The EPA has considered the purpose and intent of Executive Order 12875 and has determined that shipbuilding and ship repair facility NESHAP are needed. The rule is generally required by statute under Section 112 of the CAA because shipbuilding and ship repair facilities emit significant quantities of air pollutants. Through meetings and consultations during project development and proposal, efforts were made to inform entities of the costs required to comply with the regulation; in addition, modifications were made to reduce the burden to small entities.

E. Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 601 et seq.) requires the EPA to consider potential impacts of proposed regulations on small business "entities." If a preliminary analysis indicates that a proposed regulation would have a significant economic impact on 20 percent or more of small entities, then a regulatory flexibility analysis must be prepared. The EPA's analysis of these impacts was provided in the preamble to the proposed rule (59 FR 62681) and no negative impacts for small

businesses will result from the changes incorporated into the final rule.

Pursuant to the provisions of 5 U.S.C. 605(b), I hereby certify that this rule will not have a significant economic impact on a substantial number of small business entities.

F. Unfunded Mandates Act of 1995

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), P.L. 104-4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under Section 202 of the UMRA, the EPA generally must prepare a written statement including a cost-benefit analysis, for proposed and final rules with "Federal mandates" that may result in expenditures to State, local, and tribal governments, in the aggregate, or to the private sector, of \$100 million or more in any 1 year. Before promulgating an EPA rule for which a written statement is needed, Section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the rule. The provisions of Section 205 do not apply when they are

inconsistent with applicable law. Moreover, Section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective or least burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted. Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed under Section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA regulatory proposals with significant Federal intergovernmental mandates and informing, educating, and advising small governments on compliance with the regulatory requirements.

The EPA has determined that the action promulgated today does not include a Federal mandate that may result in estimated costs of \$100 million or more to either State, local, or tribal governments in the aggregate, or to the private sector. Therefore, the requirements of the Unfunded Mandates Act do not apply to this action.

List of Subjects in 40 CFR Part 63

Environmental protection, Air pollution control,  
Incorporation by reference, Marine coating limits,  
Reporting and recordkeeping requirements, Shipbuilding  
and ship repair standards.

Dated: November 14, 1995.

Carol M. Browner,  
Administrator.

For the reasons set out in the preamble, title 40,  
chapter I, part 63 of the Code of Federal Regulations is  
amended as follows:

PART 63 - NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR  
POLLUTANTS FOR SHIPBUILDING AND SHIP REPAIR (SURFACE  
COATING)

1. The authority citation for part 63 continues to  
read as follows:

Authority: Sections 101, 112, 114, 116, and 301 of  
the Clean Air Act (42 U.S.C. 7401 et seq., as amended by  
Pub. L 101-549, 104 Stat. 2399).

2. Section 63.14 is amended by adding  
paragraph (b)(4) through (b)(14) to read as follows:

§63.14 Incorporation by reference .

\* \* \* \* \*

(b) \* \* \*

(4) ASTM D523-89, Standard Test Method for Specular Gloss, IBR approved for §63.782.

(5) ASTM D1475-90, Standard Test Method for Density of Paint, Varnish, Lacquer, and Related Products, IBR approved for §63.788 appendix A.

(6) ASTM D2369-93, Standard Test Method for Volatile Content of Coatings, IBR approved for §63.788 appendix A.

(7) ASTM D3912-80, Standard Test Method for Chemical Resistance of Coatings Used in Light-Water Nuclear Power Plants, IBR approved for §63.782.

(8) ASTM D4017-90, Standard Test Method for Water and Paints and Paint Materials by Karl Fischer Method, IBR approved for §63.788 appendix A.

(9) ASTM D4082-89, Standard Test Method for Effects of Gamma Radiation on Coatings for Use in Light-Water Nuclear Power Plants, IBR approved for §63.782.

(10) ASTM D4256-89 [reapproved 1994], Standard Test Method for Determination of the Decontaminability of Coatings Used in Light-Water Nuclear Power Plants, IBR approved for §63.782.

(11) ASTM D3792-91, Standard Test Method for Water Content of Water-Reducible Paints by Direct Injection

into a Gas Chromatograph, IBR approved for §63.788 appendix A.

(12) ASTM D3257-93, Standard Test Methods for Aromatics in Mineral Spirits by Gas Chromatography, IBR approved for §63.786(b).

(13) ASTM E260-91, Standard Practice for Packed Column Gas Chromatography, IBR approved for §63.786(b).

(14) ASTM E180-93, Standard Practice for Determining the Precision of ASTM Methods for Analysis and Testing of Industrial Chemicals, IBR approved for §63.786(b).

3. Part 63 is amended by adding subpart II to read as follows:

Subpart II--National Emission Standards for Shipbuilding and Ship Repair (Surface Coating)

Secs.

63.780 Relationship of subpart II to subpart A.

63.781 Applicability.

63.782 Definitions.

63.783 Standards.

63.784 Compliance dates.

63.785 Compliance procedures.

63.786 Test methods and procedures.

63.787 Notification requirements.

63.788 Recordkeeping and reporting requirements.

Subpart II--National Emission Standards for Shipbuilding  
and Ship Repair (Surface Coating)

§63.780 Relationship of subpart II to subpart A.

Table 1 of this subpart specifies the provisions of subpart A of this part that apply to owners and operators of sources subject to the provisions of this subpart.

§63.781 Applicability.

(a) The provisions of this subpart apply to shipbuilding and ship repair operations at any facility that is a major source.

(b) The provisions of this subpart do not apply to coatings used in volumes of less than 200 liters (52.8 gallons) per year, provided the total volume of coating exempt under this paragraph does not exceed 1,000 liters per year (264 gallons per year) at any facility. Coatings exempt under this paragraph shall be clearly labeled as "low-usage exempt," and the volume of each such coating applied shall be maintained in the facility's records.

(c) The provisions of this subpart do not apply to coatings applied with hand-held, nonrefillable, aerosol containers or to unsaturated polyester resin (i.e., fiberglass lay-up) coatings. Coatings applied to



suitably prepared fiberglass surfaces for protective or decorative purposes are subject to this subpart.

(d) The provisions in subpart A pertaining to startups, shutdowns, and malfunctions and continuous monitoring do not apply to this source category unless an add-on control system is used to comply with this subpart in accordance with §63.783(c).

§63.782 Definitions.

Terms used in this subpart are defined in the Clean Air Act (CAA), in subpart A of part 63, or in this section as follows:

Add-on control system means an air pollution control device such as a carbon absorber or incinerator that reduces pollution in an air stream by destruction or removal prior to discharge to the atmosphere.

Affected source means any shipbuilding or ship repair facility having surface coating operations with a minimum 1,000 liters (L) (264 gallons [gal]) annual marine coating usage that is subject to this subpart.

Air flask specialty coating means any special composition coating applied to interior surfaces of high pressure breathing air flasks to provide corrosion resistance and that is certified safe for use with breathing air supplies.

Antenna specialty coating means any coating applied to equipment through which electromagnetic signals must pass for reception or transmission.

Antifoulant specialty coating means any coating that is applied to the underwater portion of a vessel to prevent or reduce the attachment of biological organisms and that is registered with the EPA as a pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act.

As applied means the condition of a coating at the time of application to the substrate, including any thinning solvent.

As supplied means the condition of a coating before any thinning, as sold and delivered by the coating manufacturer to the user.

Batch means the product of an individual production run of a coating manufacturer's process. A batch may vary in composition from other batches of the same product.

Bitumens mean black or brown materials that are soluble in carbon disulfide and consist mainly of hydrocarbons.

Bituminous resin coating means any coating that incorporates bitumens as a principal component and is

formulated primarily to be applied to a substrate or surface to resist ultraviolet radiation and/or water.

Certify means, in reference to the volatile organic compounds (VOC) content or volatile organic hazardous air pollutants (VOHAP) content of a coating, to attest to the VOC content as determined through analysis by Method 24 of appendix A to part 60 of Title 40 of the Code of Federal Regulations (CFR) or through use of forms and procedures outlined in appendix A of this subpart, or to attest to the VOHAP content as determined through an Administrator-approved test method. In the case of conflicting results, EPA Method 24 shall take precedence over the forms and procedures outlined in appendix A for the options in which VOC is used as a surrogate for VOHAP.

Coating means any material that can be applied as a thin layer to a substrate and which cures to form a continuous solid film.

Cold-weather time period means any time during which the ambient temperature is below 4.5 °C (40 °F) and coating is to be applied.

Container of coating means the container from which the coating is applied, including but not limited to a bucket or pot.

Cure volatiles means reaction products which are emitted during the chemical reaction which takes place in some coating films at the cure temperature. These emissions are other than those from the solvents in the coating and may, in some cases, comprise a significant portion of total VOC and/or VOHAP emissions.

Epoxy means any thermoset coating formed by reaction of an epoxy resin (i.e., a resin containing a reactive epoxide with a curing agent).

Exempt compounds means specified organic compounds that are not considered VOC due to negligible photochemical reactivity. Exempt compounds are specified in 40 CFR 51.100(s).

Facility means all contiguous or adjoining property that is under common ownership or control, including properties that are separated only by a road or other public right-of-way.

General use coating means any coating that is not a specialty coating.

Hazardous air pollutants (HAP) means any air pollutant listed in or pursuant to Section 112(b) of the CAA.

Heat resistant specialty coating means any coating that during normal use must withstand a temperature of at least 204 °C (400 °F).

High-gloss specialty coating means any coating that achieves at least 85 percent reflectance on a 60 degree meter when tested by ASTM Method D523 (incorporation by reference--see §63.14).

High-temperature specialty coating means any coating that during normal use must withstand a temperature of at least 426 °C (800 °F).

Inorganic zinc (high-build) specialty coating means a coating that contains 960 grams per liter (8 pounds per gallon) or more elemental zinc incorporated into an inorganic silicate binder that is applied to steel to provide galvanic corrosion resistance. (These coatings are typically applied at more than 2 mil dry film thickness.)

Major source means any source that emits or has the potential to emit, in the aggregate, 9.1 megagrams per year (10 tons per year) or more of any HAP or 22.7 megagrams per year (25 tons per year) or more of any combination of HAP.

Maximum allowable thinning ratio means the maximum volume of thinner that can be added per volume of coating

without violating the standards of §63.783(a) of this subpart, as determined using Equation 1 of this subpart.

Military exterior specialty coating or Chemical Agent Resistant Coatings ("CARC") means any exterior topcoat applied to military or U.S. Coast Guard vessels that are subject to specific chemical, biological, and radiological washdown requirements.

Mist specialty coating means any low viscosity, thin film, epoxy coating applied to an inorganic zinc primer that penetrates the porous zinc primer and allows the occluded air to escape through the paint film prior to curing.

Navigational aids specialty coating means any coating applied to Coast Guard buoys or other Coast Guard waterway markers when they are recoated aboard ship at their usage site and immediately returned to the water.

Nonskid specialty coating means any coating applied to the horizontal surfaces of a marine vessel for the specific purpose of providing slip resistance for personnel, vehicles, or aircraft.

Nonvolatiles (or volume solids) means substances that do not evaporate readily. This term refers to the film-forming material of a coating.

Normally closed means a container or piping system is closed unless an operator is actively engaged in adding or removing material.

Nuclear specialty coating means any protective coating used to seal porous surfaces such as steel (or concrete) that otherwise would be subject to intrusion by radioactive materials. These coatings must be resistant to long-term (service life) cumulative radiation exposure (ASTM D4082-89 [incorporation by reference--see §63.14]), relatively easy to decontaminate (ASTM D4256-89 [reapproved 1994] [incorporation by reference--see §63.14]), and resistant to various chemicals to which the coatings are likely to be exposed (ASTM D3912-80 [incorporation by reference--see §63.14]). [Nuclear coatings should meet the general protective requirements outlined by the Department of Energy (formerly U.S. Atomic Energy Commission Regulatory Guide 1.54).]

Operating parameter value means a minimum or maximum value established for a control device or process parameter that, if achieved by itself or in combination with one or more other operating parameter values, determines that an owner or operator has complied with an applicable emission limitation or standard.

Organic zinc specialty coating means any coating derived from zinc dust incorporated into an organic binder that contains more than 960 grams of elemental zinc per liter (8 pounds per gallon) of coating, as applied, and that is used for the expressed purpose of corrosion protection.

Pleasure craft means any marine or fresh-water vessel used by individuals for noncommercial, nonmilitary, and recreational purposes that is less than 20 meters in length. A vessel rented exclusively to or chartered by individuals for such purposes shall be considered a pleasure craft.

Pretreatment wash primer specialty coating means any coating that contains a minimum of 0.5 percent acid, by mass, and is applied only to bare metal to etch the surface and enhance adhesion of subsequent coatings.

Repair and maintenance of thermoplastic coating of commercial vessels (specialty coating) means any vinyl, chlorinated rubber, or bituminous resin coating that is applied over the same type of existing coating to perform the partial recoating of any in-use commercial vessel. (This definition does not include coal tar epoxy coatings, which are considered "general use" coatings.)



Rubber camouflage specialty coating means any specially formulated epoxy coating used as a camouflage topcoat for exterior submarine hulls and sonar domes.

Sealant for thermal spray aluminum means any epoxy coating applied to thermal spray aluminum surfaces at a maximum thickness of 1 dry mil.

Ship means any marine or fresh-water vessel used for military or commercial operations, including self-propelled vessels, those propelled by other craft (barges), and navigational aids (buoys). This definition includes, but is not limited to, all military and Coast Guard vessels, commercial cargo and passenger (cruise) ships, ferries, barges, tankers, container ships, patrol and pilot boats, and dredges. For purposes of this subpart, pleasure crafts and offshore oil and gas drilling platforms are not considered ships.

Shipbuilding and ship repair operations means any building, repair, repainting, converting, or alteration of ships.

Special marking specialty coating means any coating that is used for safety or identification applications, such as markings on flight decks and ships' numbers.

Specialty coating means any coating that is manufactured and used for one of the specialized applications described within this list of definitions.

Specialty interior coating means any coating used on interior surfaces aboard U.S. military vessels pursuant to a coating specification that requires the coating to meet specified fire retardant and low toxicity requirements, in addition to the other applicable military physical and performance requirements.

Tack specialty coating means any thin film epoxy coating applied at a maximum thickness of 2 dry mils to prepare an epoxy coating that has dried beyond the time limit specified by the manufacturer for the application of the next coat.

Thinner means a liquid that is used to reduce the viscosity of a coating and that evaporates before or during the cure of a film.

Thinning ratio means the volumetric ratio of thinner to coating, as supplied.

Thinning solvent : see Thinner.

Undersea weapons systems specialty coating means any coating applied to any component of a weapons system intended to be launched or fired from under the sea.

Volatile organic compounds (VOC) is as defined in §51.100(s) of this chapter.

Volatile organic hazardous air pollutants (VOHAP) means any compound listed in or pursuant to Section 112(b) of the CAA that contains carbon, excluding metallic carbides and carbonates. This definition includes VOC listed as HAP and exempt compounds listed as HAP.

Weld-through preconstruction primer (specialty coating) means a coating that provides corrosion protection for steel during inventory, is typically applied at less than 1 mil dry film thickness, does not require removal prior to welding, is temperature resistant (burn back from a weld is less than 1.25 centimeters [0.5 inches]), and does not normally require removal before applying film-building coatings, including inorganic zinc high-build coatings. When constructing new vessels, there may be a need to remove areas of weld-through preconstruction primer due to surface damage or contamination prior to application of film-building coatings.

§63.783 Standards.

(a) No owner or operator of any existing or new affected source shall cause or allow the application of any coating to a ship with an as-applied VOHAP content exceeding the applicable limit given in Table 2 of this subpart, as determined by the procedures described in §63.785(c)(1) through (c)(4). For the compliance procedures described in §63.785(c)(1) through (c)(3), VOC shall be used as a surrogate for VOHAP, and the EPA Reference Method 24 shall be used as the definitive measure for determining compliance. For the compliance procedure described in §63.785(c)(4), an alternative test method capable of measuring independent VOHAP shall be used to determine compliance. The method must be submitted to and approved by the Administrator.

(b) Each owner or operator of a new or existing affected source shall ensure that:

(1) All handling and transfer of VOHAP-containing materials to and from containers, tanks, vats, drums, and piping systems is conducted in a manner that minimizes spills.

(2) All containers, tanks, vats, drums, and piping systems are free of cracks, holes, and other defects and

remain closed unless materials are being added to or removed from them.

(c) Approval of alternative means of limiting emissions. (1) The owner or operator of an affected source may apply to the Administrator for permission to use an alternative means (such as an add-on control system) of limiting emissions from coating operations. The application must include:

(i) An engineering material balance evaluation that provides a comparison of the emissions that would be achieved using the alternative means to those that would result from using coatings that comply with the limits in Table 2 of this subpart, or the results from an emission test that accurately measures the capture efficiency and control device efficiency achieved by the control system and the composition of the associated coatings so that the emissions comparison can be made;

(ii) A proposed monitoring protocol that includes operating parameter values to be monitored for compliance and an explanation of how the operating parameter values will be established through a performance test; and

(iii) Details of appropriate recordkeeping and reporting procedures.

(2) The Administrator shall approve the alternative means of limiting emissions if, in the Administrator's judgment, postcontrol emissions of VOHAP per volume applied solids will be no greater than those from the use of coatings that comply with the limits in Table 2 of this subpart.

(3) The Administrator may condition approval on operation, maintenance, and monitoring requirements to ensure that emissions from the source are no greater than those that would otherwise result from this subpart.

§63.784 Compliance dates.

(a) Each owner or operator of an existing affected source shall comply within 1 year after the effective date of this subpart.

(b) Each owner or operator of an existing unaffected area source that increases its emissions of (or its potential to emit) HAP such that the source becomes a major source that is subject to this subpart shall comply within 1 year after the date of becoming a major source.

(c) Each owner or operator of a new or reconstructed source shall comply with this subpart according to the schedule in §63.6(b) of subpart A.

§63.785 Compliance procedures .

(a) For each batch of coating that is received by an affected source, the owner or operator shall (see Figure 1 of this section for a flow diagram of the compliance procedures):

(1) Determine the coating category and the applicable VOHAP limit as specified in §63.783(a).

(2) Certify the as-supplied VOC content of the batch of coating. The owner or operator may use a certification supplied by the manufacturer for the batch, although the owner or operator retains liability should subsequent testing reveal a violation. If the owner or operator performs the certification testing, only one of the containers in which the batch of coating was received is required to be tested.

(b)(1) In lieu of testing each batch of coating, as applied, the owner or operator may determine compliance with the VOHAP limits using any combination of the procedures described in paragraphs (c)(1), (c)(2), (c)(3), and (c)(4) of this section. The procedure used for each coating shall be determined and documented prior to application.

(2) The results of any compliance demonstration conducted by the affected source or any regulatory agency

using Method 24 shall take precedence over the results using the procedures in paragraphs (c)(1), (c)(2), or (c)(3) of this section.

(3) The results of any compliance demonstration conducted by the affected source or any regulatory agency using an approved test method to determine VOHAP content shall take precedence over the results using the procedures in paragraph (c)(4) of this section.

(c)(1) Coatings to which thinning solvent will not be added. For coatings to which thinning solvent (or any other material) will not be added under any circumstance or to which only water is added, the owner or operator of an affected source shall comply as follows:

(i) Certify the as-applied VOC content of each batch of coating.

(ii) Notify the persons responsible for applying the coating that no thinning solvent may be added to the coating by affixing a label to each container of coating in the batch or through another means described in the implementation plan required in §63.787(b).

(iii) If the certified as-applied VOC content of each batch of coating used during a calendar month is less than or equal to the applicable VOHAP limit in §63.783(a) (either in terms of g/L of coating or g/L of



solids), then compliance is demonstrated for that calendar month, unless a violation is revealed using Method 24.

(2) Coatings to which thinning solvent will be added--coating-by-coating compliance. For a coating to which thinning solvent is routinely or sometimes added, the owner or operator shall comply as follows:

(i) Prior to the first application of each batch, designate a single thinner for the coating and calculate the maximum allowable thinning ratio (or ratios, if the affected source complies with the cold-weather limits in addition to the other limits specified in Table 2 of this subpart) for each batch as follows:

$$R = \frac{(V_s)(VOHAP\ limit) - m_{VOC}}{D_{th}} \quad \text{Eqn. 1}$$

where:

R = Maximum allowable thinning ratio for a given batch (L thinner/L coating as supplied);

$V_s$  = Volume fraction of solids in the batch as supplied (L solids/L coating as supplied);

VOHAP limit = Maximum allowable as-applied VOHAP content of the coating (g VOHAP/L solids);

$m_{VOC}$  = VOC content of the batch as supplied

[g VOC (including cure volatiles and exempt compounds on the HAP list)/L coating (including water and exempt compounds) as supplied];

$D_{th}$  = Density of the thinner (g/L).

If  $V_s$  is not supplied directly by the coating manufacturer, the owner or operator shall determine  $V_s$  as follows:

$$V_s = 1 - \frac{m_{volatiles}}{D_{avg}} \quad \text{Eqn. 2}$$

where:

$m_{volatiles}$  = Total volatiles in the batch, including VOC, water, and exempt compounds (g/L coating);

and

$D_{avg}$  = Average density of volatiles in the batch (g/L).

The procedures specified in §63.786(d) may be used to determine the values of variables defined in this paragraph. In addition, the owner or operator may choose to construct nomographs, based on Equation 1, similar or identical to the one provided in appendix B as a means of easily estimating the maximum allowable thinning ratio.

(ii) Prior to the first application of each batch, notify painters and other persons, as necessary, of the designated thinner and maximum allowable thinning ratio(s) for each batch of the coating by affixing a label to each container of coating or through another means described in the implementation plan required in §63.787(b).

(iii) By the 15th day of each calendar month, determine the volume of each batch of the coating used, as supplied, during the previous month.

(iv) By the 15th day of each calendar month, determine the total allowable volume of thinner for the coating used during the previous month as follows:

$$V_{th} = \sum_{i=1}^n (R \times V_b)_i + \sum_{i=1}^n (R_{cold} \times V_{b-cold})_i \quad \text{Eqn. 3}$$

where:

$V_{th}$  = Total allowable volume of thinner for the previous month (L thinner);

$V_b$  = Volume of each batch, as supplied and before being thinned, used during non-cold-weather days of the previous month (L coating as supplied);

$R_{\text{cold}}$  = Maximum allowable thinning ratio for each batch used during cold-weather days

(L thinner/L coating as supplied);

$V_{\text{b-cold}}$  = Volume of each batch, as supplied and before being thinned, used during cold-weather days of the previous month (L coating as supplied);

$i$  = Each batch of coating; and

$n$  = Total number of batches of the coating.

(v) By the 15th day of each calendar month, determine the volume of thinner actually used with the coating during the previous month.

(vi) If the volume of thinner actually used with the coating [paragraph (c)(3)(v) of this section] is less than or equal to the total allowable volume of thinner for the coating [paragraph (c)(3)(iv) of this section], then compliance is demonstrated for the coating for the previous month, unless a violation is revealed using Method 24.

(3) Coatings to which the same thinning solvent will be added--group compliance. For coatings to which the same thinning solvent (or other material) is routinely or sometimes added, the owner or operator shall comply as follows:

(i) Designate a single thinner to be added to each coating during the month and "group" coatings according to their designated thinner.

(ii) Prior to the first application of each batch, calculate the maximum allowable thinning ratio (or ratios, if the affected source complies with the cold-weather limits in addition to the other limits specified in Table 2 of this subpart) for each batch of coating in the group using the equations in paragraph (c)(2) of this section.

(iii) Prior to the first application of each "batch," notify painters and other persons, as necessary, of the designated thinner and maximum allowable thinning ratio(s) for each batch in the group by affixing a label to each container of coating or through another means described in the implementation plan required in §63.787(b).

(iv) By the 15th day of each calendar month, determine the volume of each batch of the group used, as supplied, during the previous month.

(v) By the 15th day of each calendar month, determine the total allowable volume of thinner for the group for the previous month using Equation 3.

(vi) By the 15th day of each calendar month, determine the volume of thinner actually used with the group during the previous month.

(vii) If the volume of thinner actually used with the group [paragraph (c)(3)(vi) of this section] is less than or equal to the total allowable volume of thinner for the group [paragraph (c)(3)(v) of this section], then compliance is demonstrated for the group for the previous month, unless a violation is revealed using Method 24.

(4) Demonstration of compliance through an alternative (i.e., other than Method 24) test method .

The owner or operator shall comply as follows:

(i) Certify the as-supplied VOHAP content (g VOHAP/L solids) of each batch of coating.

(ii) If no thinning solvent will be added to the coating, the owner or operator of an affected source shall follow the procedure described in §63.785(c)(1), except that VOHAP content shall be used in lieu of VOC content.

(iii) If thinning solvent will be added to the coating, the owner or operator of an affected source shall follow the procedure described in §63.785(c)(2) or (3), except that in Equation 1: the term " $m_{\text{VOC}}$ " shall be replaced by the term " $m_{\text{VOHAP}}$ ," defined as the VOHAP content

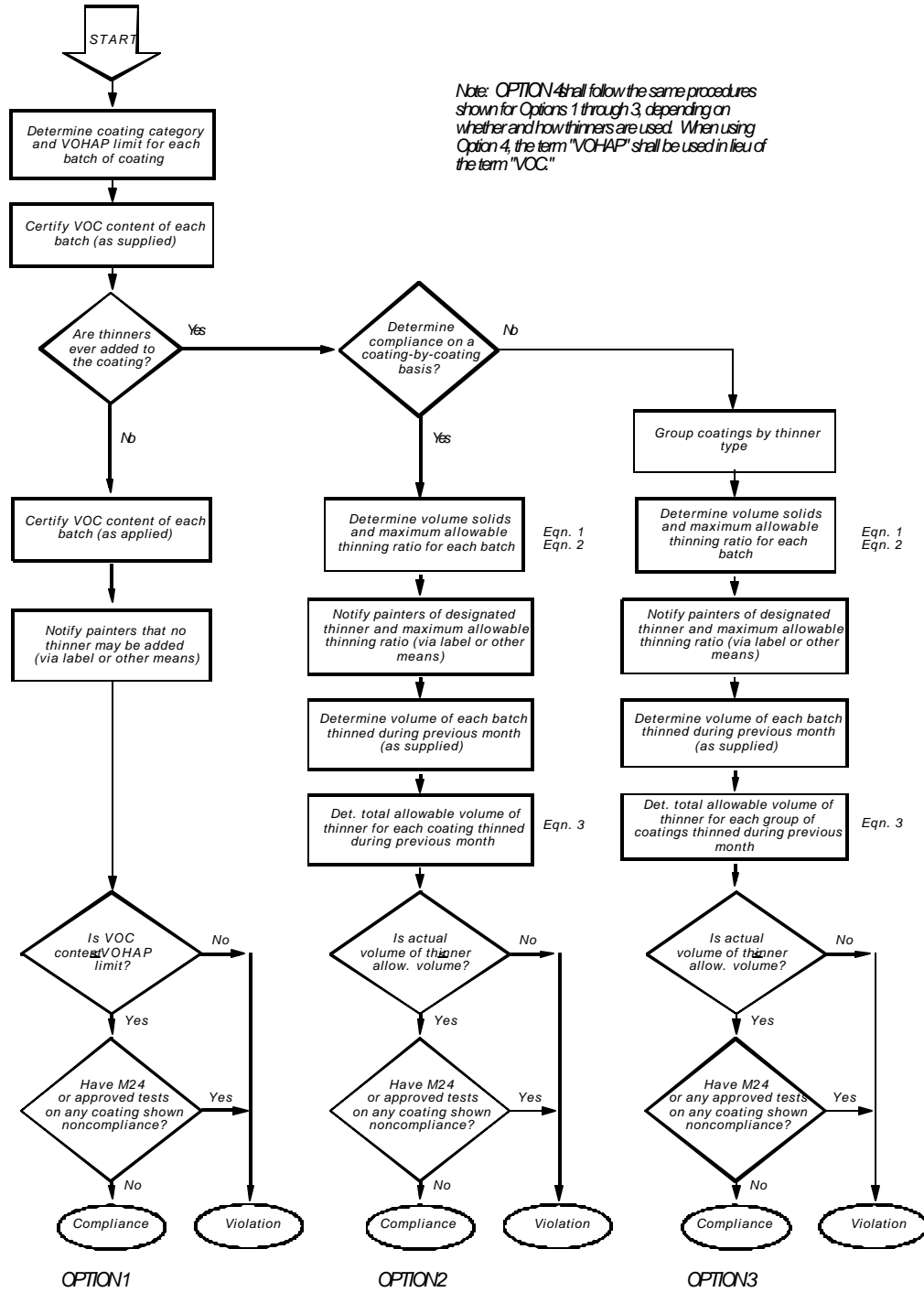
of the coating as supplied (g VOHAP/L coating) and the term " $D_{th}$ " shall be replaced by the term " $D_{th(VOHAP)}$ " defined as the

average density of the VOHAP thinner(s) (g/L).

(d) A violation revealed through any approved test method shall result in a 1-day violation for enforcement purposes. A violation revealed through the recordkeeping procedures described in paragraphs (c)(1) through (c)(4) of this section shall result in a 30-day violation for enforcement purposes, unless the owner or operator provides sufficient data to demonstrate the specific days during which noncompliant coatings were applied.



Figure 1 of §63.785



§63.786 Test methods and procedures .

(a) For the compliance procedures described in §63.785(c)(1) through (c)(3), Method 24 of 40 CFR part 60, appendix A, is the definitive method for determining the VOC content of coatings, as supplied or as applied. When a coating or thinner contains exempt compounds that are volatile HAP or VOHAP, the owner or operator shall ensure, when determining the VOC content of a coating, that the mass of these exempt compounds is included.

(b) For the compliance procedure described in §63.785(c)(4), the Administrator must approve the test method for determining the VOHAP content of coatings and thinners. As part of the approval, the test method must meet the specified accuracy limits indicated below for sensitivity, duplicates, repeatability, and reproducibility coefficient of variation each determined at the 95 percent

confidence limit. Each percentage value below is the corresponding coefficient of variation multiplied by 2.8 as in the ASTM Method E180-93: Standard Practice for Determining the Precision of ASTM Methods for Analysis and Testing of Industrial Chemicals (incorporation by reference--see §63.14).

(1) Sensitivity: The overall sensitivity must be sufficient to identify and calculate at least one mass percent of the compounds of interest based on the original sample. The sensitivity is defined as ten times the noise level as specified in ASTM Method D3257-93: Standard Test Methods for Aromatics in Mineral Spirits by Gas Chromatography (incorporation by reference--see §63.14). In determining the sensitivity, the level of sample dilution must be factored in.

(2) Repeatability: First, at the 0.1-5 percent analyte range the results would be suspect if duplicates vary by more than 6 percent relative and/or day to day variation of mean duplicates by the same analyst exceeds 10 percent relative. Second, at greater than 5 percent analyte range the results would be suspect if duplicates vary by more than 5 percent relative and/or day to day variation of duplicates by the same analyst exceeds 5 percent relative.

(3) Reproducibility: First, at the 0.1-5 percent analyte range the results would be suspect if lab to lab variation exceeds 60 percent relative. Second, at greater than 5 percent range the results would be suspect if lab to lab variation exceeds 20 percent relative.

(4) Any test method should include information on the apparatus, reagents and materials, analytical procedure, procedure for identification and confirmation of the volatile species in the mixture being analyzed, precision and bias, and other details to be reported. The reporting should also include information on quality assurance (QA) auditing.

(5) Multiple and different analytical techniques must be used for positive identification if the components in a mixture under analysis are not known. In such cases a single column gas chromatograph (GC) may not be adequate. A combination of equipment may be need such as a GC/mass spectrometer or GC/infrared system. (If a GC method is used, the operator must use practices in ASTM Method E260-91: Standard Practice for Gas Chromatography [incorporation by reference--see §63.14].)

(c) A coating manufacturer or the owner or operator of an affected source may use batch formulation data as a test method in lieu of Method 24 to certify the as-

supplied VOC content of a coating if the manufacturer or the owner or operator has determined that batch formulation data have a consistent and quantitatively known relationship to Method 24 results. This determination shall consider the role of cure volatiles, which may cause emissions to exceed an amount based solely upon coating formulation data. Notwithstanding such determination, in the event of conflicting results, Method 24 shall take precedence.

(d) Each owner or operator of an affected source shall use or ensure that the manufacturer uses the form and procedures mentioned in appendix A of this subpart to determine values for the thinner and coating parameters used in Equations 1 and 2. The owner or operator shall ensure that the coating/thinner manufacturer (or supplier) provides information on the VOC and VOHAP contents of the coatings/thinners and the procedure(s) used to determine these values.

§63.787 Notification requirements .

(a) Each owner or operator of an affected source shall comply with all applicable notification requirements in §63.9(a)-(d) and (i)-(j) of subpart A (General Provisions), with the exception that the deadline specified in §63.9(b)(2) and (3) shall be

extended from 120 days to 180 days. Any owner or operator that receives approval pursuant to §63.783(c) of this subpart to use an add-on control system to control coating emissions shall comply with the applicable requirements of §63.9(e)-(h) of subpart A.

(b) Implementation plan. The provisions of §63.9(a) (Notification requirements/Applicability and general information) of subpart A apply to the requirements of this paragraph.

(1) Each owner or operator of an affected source shall:

(i) Prepare a written implementation plan that addresses each of the subject areas specified in paragraph (b)(3) of this section; and

(ii) Not later than 180 days after the effective date of this subpart, submit the implementation plan to the Administrator for approval along with the notification required by §63.9(b)(2) or (5) of subpart A, as applicable.

(2) The Administrator may require revisions to the initial plan where the Administrator finds that the plan does not adequately address each subject area listed in paragraph (b)(3) of this section or that the requirements in the plan are unclear.

(3) Implementation plan contents. Each implementation plan shall address the following subject areas:

(i) Coating compliance procedures. The implementation plan shall include the compliance procedure(s) under §63.785(c) that the source intends to use.

(ii) Recordkeeping procedures. The implementation plan shall include the procedures for maintaining the records required under §63.788, including the procedures for gathering the necessary data and making the necessary calculations.

(iii) Transfer, handling, and storage procedures. The implementation plan shall include the procedures for ensuring compliance with §63.783(b).

(4) Major sources that intend to become area sources by the compliance date. Existing major sources that intend to become area sources by the compliance date [INSERT DATE ONE YEAR AFTER PUBLICATION IN THE FEDERAL REGISTER] may choose to submit, in lieu of the implementation plan required under section (b)(1), a statement that, by the compliance date, the major source intends to obtain and comply with federally enforceable

limits on their potential to emit which make the facility an area source.

§63.788 Recordkeeping and reporting requirements.





TABLE 3. SUMMARY OF RECORDKEEPING AND REPORTING REQUIREMENTS <sup>a,b,c</sup>

Requirement	All Opts.		Option 1		Option 2		Option 3	
	Rec	Rep	Rec	Rep	Rec	Rep	Rec	Rep
Notification (§63.9(a)-(d))	X	X						
Implementation plan (§63.787(b)) <sup>d</sup>	X	X						
Volume of coating applied at unaffected major sources (§63.781(b))	X							
Volume of each low-usage-exempt coating applied at affected sources (§63.781(c))	X	X						
ID of the coatings used, their appropriate coating categories, and the applicable VOHAP limit	X	X						
Determination of whether containers meet the standards described in §63.783(b)(2)	X	X						
Results of M-24 or other approved tests	X	X						
Certification of the as-supplied VOC content of each batch	X							
Certification of the as-applied VOC content of each batch			X					
Volume of each coating applied			X	X				
Density of each thinner and volume fraction of solids in each batch					X		X	
Maximum allowable thinning ratio(s) for each batch					X	X	X	X
Volume used of each batch, as supplied					X	X	X	X
Total allowable volume of thinner					X	X	X	X
Actual volume of thinner used					X	X	X	X
Identification of each group of coatings and designated thinners							X	X

<sup>a</sup>Affected sources that comply with the cold-weather limits must record and report additional information, as specified in §63.788(b)(3)(ii)(C), (iii)(C), and (iv)(D).

<sup>b</sup>Affected sources that detect a violation must record and report additional information, as specified in §63.788(b)(4).

<sup>c</sup>OPTION 4: the recordkeeping and reporting requirements of Option 4 are identical to those of Options 1, 2, or 3, depending on whether and how thinners are used. However, when using Option 4, the term "VOHAP" shall be used in lieu of the term "VOC," and the owner or operator shall record and report the Administrator-approved VOHAP test method or certification procedure.

<sup>d</sup>Major sources that intend to become area sources by the compliance date may, in lieu of submitting an implementation plan, choose to submit a statement of intent as specified in §63.787(b)(4).

(a) Each owner or operator of an affected source shall comply with the applicable recordkeeping and reporting requirements in §63.10(a), (b), (d), and (f) of subpart A (General Provisions). Any owner that receives approval pursuant to §63.783(c) of this subpart to use an add-on control system to control coating emissions shall also comply with the applicable requirements of §63.10(c) and (e). A summary of recordkeeping and reporting requirements is provided in Table 3 of this subpart.

(b) Recordkeeping requirements. (1) Each owner or operator of an unaffected major source, as described in §63.781(b), shall record the total volume of coating applied at the source to ships. Such records shall be compiled monthly and maintained for a minimum of 5 years.

(2) Each owner or operator of an affected source shall compile records on a monthly basis and maintain those records for

a minimum of 5 years. At a minimum, these records shall include:

- (i) All documentation supporting initial notification;
- (ii) A copy of the affected source's approved implementation plan;
- (iii) The volume of each low-usage-exempt coating applied;
- (iv) Identification of the coatings used, their appropriate coating categories, and the applicable VOHAP limit;
- (v) Certification of the as-supplied VOC content of each batch of coating;
- (vi) A determination of whether containers meet the standards as described in §63.783(b)(2); and
- (vii) The results of any Method 24 or approved VOHAP measurement test conducted on individual containers of coating, as applied.

(3) The records required by paragraph (b)(2) of this section shall include additional information, as determined by the compliance procedure(s) described in §63.785(c) that each affected source followed:

- (i) Coatings to which thinning solvent will not be added. The records maintained by facilities demonstrating

compliance using the procedure described in §63.785(c)(1) shall contain the following information:

(A) Certification of the as-applied VOC content of each batch of coating; and

(B) The volume of each coating applied.

(ii) Coatings to which thinning solvent will be added--coating-by-coating compliance. The records maintained by facilities demonstrating compliance using the procedure described in §63.785(c)(2) shall contain the following information:

(A) The density and mass fraction of water and exempt compounds of each thinner and the volume fraction of solids (nonvolatiles) in each batch, including any calculations;

(B) The maximum allowable thinning ratio (or ratios, if the affected source complies with the cold-weather limits in addition to the other limits specified in Table 2 of this subpart for each batch of coating, including calculations;

(C) If an affected source chooses to comply with the cold-weather limits, the dates and times during which the ambient temperature at the affected source was below 4.5 °C (40°F) at the time the coating was applied and the volume used of each batch of the coating, as supplied, during these dates;

(D) The volume used of each batch of the coating, as supplied;

(E) The total allowable volume of thinner for each coating, including calculations; and

(F) The actual volume of thinner used for each coating.

(iii) Coatings to which the same thinning solvent will be added--group compliance . The records maintained by facilities demonstrating compliance using the procedure described in §63.785(c)(3) shall contain the following information:

(A) The density and mass fraction of water and exempt compounds of each thinner and the volume fraction of solids in each batch, including any calculations;

(B) The maximum allowable thinning ratio (or ratios, if the affected source complies with the cold-weather limits in addition to the other limits specified in Table 2 of this subpart) for each batch of coating, including calculations;

(C) If an affected source chooses to comply with the cold-weather limits, the dates and times during which the ambient temperature at the affected source was below 4.5 °C (40°F) at the time the coating was applied and the volume used of each batch in the group, as supplied, during these dates;

(D) Identification of each group of coatings and their designated thinners;

(E) The volume used of each batch of coating in the group, as supplied;

(F) The total allowable volume of thinner for the group, including calculations; and

(G) The actual volume of thinner used for the group.

(iv) Demonstration of compliance through an alternative (i.e., non-Method 24) test method. The records maintained by facilities demonstrating compliance using the procedure described in §63.785(c)(4) shall contain the following information:

(A) Identification of the Administrator-approved VOHAP test method or certification procedure;

(B) For coatings to which the affected source does not add thinning solvents, the source shall record the certification of the as-supplied and as-applied VOHAP content of each batch and the volume of each coating applied;

(C) For coatings to which the affected source adds thinning solvent on a coating-by-coating basis, the source shall record all of the information required to be recorded by paragraph (b)(3)(ii) of this section; and



(D) For coatings to which the affected source adds thinning solvent on a group basis, the source shall record all of the information required to be recorded by paragraph (b)(3)(iii) of this section.

(4) If the owner or operator of an affected source detects a violation of the standards specified in §63.783, the owner or operator shall, for the remainder of the reporting period during which the violation(s) occurred, include the following information in his or her records:

(i) A summary of the number and duration of deviations during the reporting period, classified by reason, including known causes for which a Federally-approved or promulgated exemption from an emission limitation or standard may apply.

(ii) Identification of the data availability achieved during the reporting period, including a summary of the number and total duration of incidents that the monitoring protocol failed to perform in accordance with the design of the protocol or produced data that did not meet minimum data accuracy and precision requirements, classified by reason.

(iii) Identification of the compliance status as of the last day of the reporting period and whether compliance was continuous or intermittent during the reporting period.

(iv) If, pursuant to paragraph (b)(4)(iii) of this section, the owner or operator identifies any deviation as resulting from a known cause for which no Federally-approved or promulgated exemption from an emission limitation or standard applies, the monitoring report shall also include all records that the source is required to maintain that pertain to the periods during which such deviation occurred and:

(A) The magnitude of each deviation;

(B) The reason for each deviation;

(C) A description of the corrective action taken for each deviation, including action taken to minimize each deviation and action taken to prevent recurrence; and

(D) All quality assurance activities performed on any element of the monitoring protocol.

(c) Reporting requirements. (1) Before the 60th day following completion of each 6-month period after the compliance date specified in §63.784, each owner or operator of an affected source shall submit a report to the Administrator for each of the previous 6 months. The report shall include all of the information that must be retained pursuant to paragraphs (b)(2)-(3) of this section, except for that information specified in paragraphs (b)(2)(i) through (ii), (b)(2)(v), (b)(3)(i)(A), (b)(3)(ii)(A), and

(b)(3)(iii)(A). If a violation at an affected source is detected, the source shall also report the information specified in paragraph (b)(4) of this section for the reporting period during which the violation(s) occurred. To the extent possible, the report shall be organized according to the compliance procedure(s) followed each month by the affected source.

TABLE 1 TO SUBPART II. GENERAL PROVISIONS APPLICABILITY TO SUBPART II

Reference	Applies to Subpart II	Comment
63.1(a)(1)-(3)	Yes	
63.1(a)(4)	Yes	Subpart II clarifies the applicability of each paragraph in subpart A to sources subject to subpart II.
63.1(a)(5)-(7)	Yes	
63.1(a)(8)	No	Discusses State programs.
63.1(a)(9)-(14)	Yes	
63.1(b)(1)	Yes	§63.781 specifies applicability in more detail.
63.1(b)(2)-(3)	Yes	
63.1(c)-(e)	Yes	
63.2	Yes	Additional terms are defined in §63.782; when overlap between subparts A and II occurs, subpart II takes precedence.
63.3	Yes	Other units used in subpart II are defined in that subpart.
63.4	Yes	
63.5(a)-(c)	Yes	
63.5(d)	Yes	Except information on control devices and control efficiencies should not be included in the application unless an add-on control system is or will be used to comply with subpart II in accordance with §63.783(c).
63.5(e)-(f)	Yes	
63.6(a)-(b)	Yes	
63.6(c)-(d)	Yes	Except §63.784(a) specifies the compliance date for existing affected sources.
63.6(e)-(f)	No	If an alternative means of limiting emissions (e.g., an add-on control system) is used to comply with subpart II in accordance with §63.783(c), then these paragraphs do apply.
63.6(g)	No	§63.783(c) specifies procedures for application and approval of alternative means of limiting emissions.
63.6(h)	No	Subpart II does not contain any opacity or visible emission standards.
63.6(i)-(j)	Yes	
63.7	No	If an alternative means of limiting emissions (e.g., an add-on control system) is used to comply with subpart II in accordance with §63.783(c), then this section does apply.
63.8	No	If an alternative means of limiting emissions (e.g., an add-on control system) is used to comply with subpart II in accordance with §63.783(c), then this section does apply.
63.9(a)-(d)	Yes	§63.787(a) extends the initial notification deadline to 180 days. §63.787(b) requires an implementation plan to be submitted with the initial notification.
63.9(e)	No	If an alternative means of limiting emissions (e.g., an add-on control system) is used to comply with subpart II in accordance with §63.783(c), then this paragraph does apply.
63.9(f)	No	Subpart II does not contain any opacity or visible emission standards

Reference	Applies to Subpart II	Comment
63.9(g)-(h)	No	If an alternative means of limiting emissions (e.g., an add-on control system) is used to comply with subpart II in accordance with §63.783(c) then these paragraphs do apply.
63.9(i)-(j)	Yes	
63.10(a)-(b)	Yes	§63.788(b)-(c) list additional recordkeeping and reporting requirements.
63.10(c)	No	If an alternative means of limiting emissions (e.g., an add-on control system) is used to comply with subpart II in accordance with §63.783(c), then this paragraph does apply.
63.10(d)	Yes	
63.10(e)	No	If an alternative means of limiting emissions (e.g., an add-on control system) is used to comply with subpart II in accordance with §63.783(c), then this paragraph does apply.
63.10(f)	Yes	
63.11	No	If an alternative means of limiting emissions (e.g., an add-on control system) is used to comply with subpart II in accordance with §63.783(c), then this section does apply.
63.12-63.15	Yes	

TABLE 2 TO SUBPART II. VOLATILE ORGANIC HAP (VOHAP) LIMITS  
FOR MARINE COATINGS

Coating Category	VOHAP limits <sup>a,b,c</sup>		
	grams/liter coating (minus water and exempt compounds)	grams/liter solids <sup>d</sup>	
		t > 4.5°C	t < 4.5°C <sup>e</sup>
General use	340	571	728
Specialty	--	--	--
Air flask	340	571	728
Antenna	530	1,439	--
Antifoulant	400	765	971
Heat resistant	420	841	1,069
High-gloss	420	841	1,069
High-temperature	500	1,237	1,597
Inorganic zinc high-build	340	571	728
Military exterior	340	571	728
Mist	610	2,235	--
Navigational aids	550	1,597	--
Nonskid	340	571	728
Nuclear	420	841	1,069
Organic zinc	360	630	802
Pretreatment wash primer	780	11,095	--
Repair and maint. of thermoplastics	550	1,597	--
Rubber camouflage	340	571	728
Sealant for thermal spray aluminum	610	2,235	--
Special marking	490	1,178	--
Specialty interior	340	571	728
Tack coat	610	2,235	--
Undersea weapons systems	340	571	728
Weld-through precon. primer	650	2,885	--

<sup>a</sup>The limits are expressed in two sets of equivalent units. Either set of limits may be used for the compliance procedure described in §63.785(c)(1), but only the limits expressed in units of g/L solids (nonvolatiles) shall be used for the compliance procedures described in §63.785(c)(2)-(4).

<sup>b</sup>VOC (including exempt compounds listed as HAP) shall be used as a surrogate for VOHAP for those compliance procedures described in §63.785(c)(1)-(3).

<sup>c</sup>To convert from g/L to lb/gal, multiply by (3.785 L/gal)(1/453.6 lb/g) or 1/120. For compliance purposes, metric units define the standards.

<sup>d</sup>VOHAP limits expressed in units of mass of VOHAP per volume of solids were derived from the VOHAP limits expressed in units of mass of VOHAP per volume of coating assuming the coatings contain no water or exempt compounds and that the volumes of all components within a coating are additive.

<sup>e</sup>These limits apply during cold-weather time periods, as defined in §63.782. Cold-weather allowances are not given to coatings in categories that permit over a 40 percent VOHAP content by volume. Such coatings are subject to the same limits regardless of weather conditions.

TABLE 3 TO SUBPART II. SUMMARY OF RECORDKEEPING AND REPORTING REQUIREMENTS <sup>a,b,c</sup>

Requirement	All Opts.		Option 1		Option 2		Option 3	
	Rec	Rep	Rec	Rep	Rec	Rep	Rec	Rep
Notification (§63.9(a)-(d))	X	X						
Implementation plan (§63.787(b)) <sup>d</sup>	X	X						
Volume of coating applied at unaffected major sources (§63.781(b))	X							
Volume of each low-usage-exempt coating applied at affected sources (§63.781(c))	X	X						
ID of the coatings used, their appropriate coating categories, and the applicable VOHAP limit	X	X						
Determination of whether containers meet the standards described in §63.783(b)(2)	X	X						
Results of M-24 or other approved tests	X	X						
Certification of the as-supplied VOC content of each batch	X							
Certification of the as-applied VOC content of each batch			X					
Volume of each coating applied			X	X				
Density of each thinner and volume fraction of solids in each batch					X		X	
Maximum allowable thinning ratio(s) for each batch					X	X	X	X
Volume used of each batch, as supplied					X	X	X	X
Total allowable volume of thinner					X	X	X	X
Actual volume of thinner used					X	X	X	X
Identification of each group of coatings and designated thinners							X	X

<sup>a</sup>Affected sources that comply with the cold-weather limits must record and report additional information, as specified in §63.788(b)(3)(ii)(C), (iii)(C), and (iv)(D).

<sup>b</sup>Affected sources that detect a violation must record and report additional information, as specified in §63.788(b)(4).

<sup>c</sup>OPTION 4: the recordkeeping and reporting requirements of Option 4 are identical to those of Options 1, 2, or 3, depending on whether and how thinners are used. However, when using Option 4, the term "VOHAP" shall be used in lieu of the term "VOC," and the owner or operator shall record and report the Administrator-approved VOHAP test method or certification procedure.

<sup>d</sup>Major sources that intend to become area sources by the compliance date may, in lieu of submitting an implementation plan, choose to submit a statement of intent as specified in §63.787(b)(4).

APPENDIX A TO SUBPART II OF PART 63  
VOC DATA SHEET:<sup>1</sup>

PROPERTIES OF THE COATING "AS SUPPLIED" BY THE MANUFACTURER<sup>2</sup>

Coating Manufacturer: \_\_\_\_\_

Coating Identification: \_\_\_\_\_

Batch Identification: \_\_\_\_\_

Supplied To: \_\_\_\_\_

Properties of the coating as supplied<sup>1</sup> to the customer:

A.

Coating Density:  $(D_c)_s$  \_\_\_\_\_ g/L

ASTM D1475-90\*  Other<sup>3</sup>

B.

Total Volatiles:  $(m_v)_s$  \_\_\_\_\_ Mass Percent

ASTM D2369-93\*  Other<sup>3</sup>

C.

Water Content:

1.  $(m_w)_s$  \_\_\_\_\_ Mass Percent

ASTM D3792-91\*  ASTM D4017-90\*  Other<sup>3</sup>

2.  $(v_w)_s$  \_\_\_\_\_ Volume Percent

Calculated  Other<sup>3</sup>

D.

Organic Volatiles:  $(m_o)_s$  \_\_\_\_\_ Mass Percent

E.

Nonvolatiles:  $(v_n)_s$  \_\_\_\_\_ Volume Percent

Calculated  Other<sup>3</sup>

F.

VOC Content  $(VOC)_s$ :

1. \_\_\_\_\_ g/L solids (nonvolatiles)



2. \_\_\_\_\_ g/L coating (less water

and exempt compounds)

G.

Thinner Density:  $D_{th}$  \_\_\_\_\_ g/L

ASTM \_\_\_\_\_ [ ] Other<sup>3</sup>

Remarks: (use reverse side)

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

\*Incorporation by reference--see §63.14.

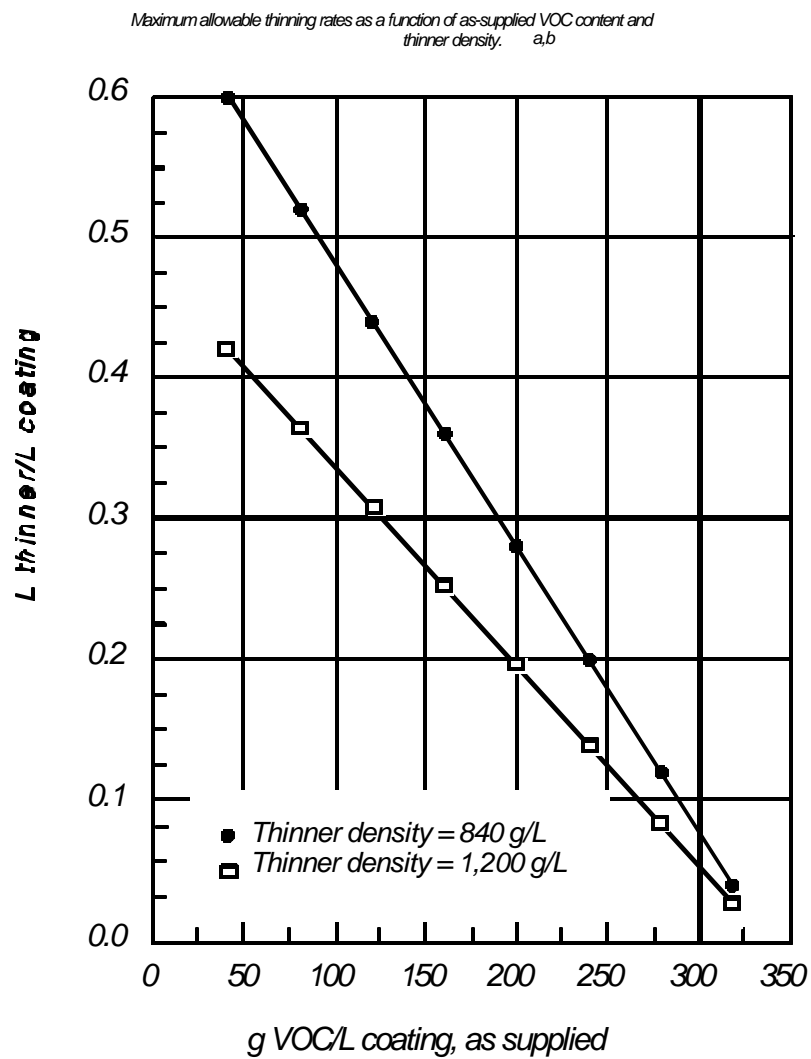
<sup>1</sup>Adapted from EPA-340/1-86-016 (July 1986), p. II-2.

<sup>2</sup>The subscript "s" denotes each value is for the coating  
"as supplied" by the manufacturer.

<sup>3</sup>Explain the other method used under "Remarks."



## APPENDIX B TO SUBPART II OF PART 63



<sup>a</sup> These graphs represent maximum allowable thinning ratios for general use coatings without water or exempt compounds.

<sup>b</sup> The average density of the volatiles in the coating was assumed = 840 g solvent/L solvent.

Billing code 6560-50-P