National Emission Standards for Hazardous Air Pollutants for Wood Building Products (Surface Coating) Background Information for Final Standards

Summary of Public Comments and Responses

This page intentionally left blank.

EPA 453/R-03-003
January 2003

National Emission Standards for Hazardous Air Pollutants for Wood Building Products (Surface Coating) Background Information for Final Standards

Summary of Public Comments and Responses

Contract No. 68-D-01-079
Work Assignment No. 1-02
Project No. 97/12

U.S. Environmental Protection Agency
Office of Air Quality Planning and Standards
Emission Standards Division
Research Triangle Park, North Carolina 27711

Disclaimer

This report has been reviewed by the Emission Standards Division of the Office of Air Quality Planning and Standards, EPA, and approved for publication. Mention of trade names or commercial products is not intended to constitute endorsement or recommendation for use.

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

Page

TABLE OF CONTENTS (Continued)

Page

TABLE OF CONTENTS (Continued)

LIST OF TABLES

Chapter 1
Summary

On June 21, 2002, the U. S. Environmental Protection Agency (EPA) proposed national emission standards for hazardous air pollutants (NESHAP) for wood building products (surface coating) (67 FR 34548) under authority of Section 112 of the Clean Air Act (Act). Public comments were received from 21 sources consisting mainly of wood building products manufacturers, coating manufacturers, various industry trade associations, and Government agencies.

All of the comments that were submitted and the responses to these comments are summarized in this document. This summary is the basis for the revisions made to the standards between proposal and promulgation.

1.1 SUMMARY OF CHANGES SINCE PROPOSAL

Several changes have been made since the proposal of these standards. Major changes include: a revised definition of wood building product to exclude the weight of any glass components (as in doors and windows); additional language concerning specific products and coatings that are not subject to this final rule; reduction of calculation requirements for zero HAP coatings; additional language concerning the low coating usage limit; additional language pertaining to sources that could be subject to multiple source categories or subcategories of this subpart; inclusion of all moulding and trim as miscellaneous products; and changing the emission limit metric units from kilograms (kg) of HAP per liter of solids (kg HAP/liter of solids) to grams (g) of HAP per liter of solids (g HAP/liter of solids).

A summary of the major changes is presented in the following sections.

1.1.1 Applicability

Several commenters requested a clarification of zero-HAP coatings, thinners, and cleaning solvents. They cited the OSHA de minimis level for reporting HAP-containing materials as greater than 1 percent for noncarcinogens or greater than 0.1 percent for carcinogens. The use of this de minimis level for HAP reporting was implied because the data used to set the MACT floor was submitted under the same guidelines. Nevertheless, language has been added to the final preamble and rule to clarify that coatings with HAP contents below 1 percent for noncarcinogens and 0.1 percent for carcinogens are considered to be non-HAP materials.

Several commenters requested specific exclusions for products or coatings that may have been included in the MACT floor determination but do not fit into the wood building products surface coating source category. Specifically, commenters cited coatings called tempering oils (such as linseed, tall, tung, soy, otaseka and other drying oils or mixtures of such oils) which are regulated as part of the plywood and composite wood products NESHAP. In response to these comments, we excluded drying or tempering oils from the final rule. Refer to §68.4681(c)(1) for a listing of processes that will most likely be covered by the plywood and composite wood products NESHAP.

Some commenters referred to specific products that they believed should not be applicable to the requirements of the wood building products surface coating source category. These included asphalt-coated fiberboard and ceiling tiles. Commenters asserted that neither product is coated with HAP-containing materials and regulating such products would be burdensome for recordkeeping purposes.

We further evaluated the types of coatings and processes used to make asphalt-coated fiberboard, also called “builders board” or “insulation board,” and found that only a few facilities in the United States make these products, with varying manufacturing and coating processes. With regards to the coatings, the asphalt can be included as part of the emulsion used in the fiberboard manufacturing process, or the asphalt (mixed with mineral spirits) can be applied to the fiberboard substrate. Depending on the company and the process, the coating can be applied before the final dryer or after the final dryer with the product allowed to air dry, usually outdoors on racks.

Ceiling tiles are usually coated using slurries of titanium dioxide and various clays. Although non-HAP wetting agents or defoamers are occasionally added, there are no organic solvents used. These coatings cure by drying and not by chemical reaction and are considered durable only for dry, non-contact indoor exposure.

Because of the small number of facilities coating these products and the fact that most of the coatings associated with these types of products are applied during the substrate forming process (e.g., to the wet mat being formed) or prior to the final substrate drying operation, fiberboard coating operations (including those used in the manufacture of asphalt-coated fiberboard and ceiling tiles) will be covered under the plywood and composite wood products NESHAP when that rule becomes final. For this reason, these products will not be subject to the final rule for the surface coating of wood building products.

Several commenters requested more research concerning the low-coating usage cutoff, suggesting that the cutoff should be higher. The low-usage cutoff was based on the total annual coating usage of the smallest facility in the MACT floor database. All facilities in the database have annual coating usages above 4,170 liters (1,100 gallons). Available data indicate that the coating application processes and control technologies being considered are appropriate for all sources with at least this level of coatings usage. Considering that the surveyed sources in the database included a cross section of various companies, products, and locations, we do not believe that collecting additional data would raise this cutoff. Therefore, no changes have been made to the low-coating usage cutoff.

While we cannot justify raising the low usage amount or establishing a low usage amount for individual subcategories, language has been added to the final rule to exempt sources that are not commercial manufacturers of wood building products. The rule was intended to apply only to commercial manufacturers, which are the types of facilities represented in our database.

Several commenters requested exemptions for facilities that laminate paper or vinyl to composite wood products. Although we agree with the commenters that HAP emissions from wood laminating processes are typically low at the present time, an exclusion is not justified because future coating technologies could result in increased HAP emissions. To further clarify applicability, laminates applied prior to pressing of the substrate will be covered by the plywood

and composite wood products NESHAP and the laminates applied after pressing of the substrate are covered by the wood building products (surface coating) NESHAP.

Commenter IV-D-18 stated that the proposed definition of "wood building product" excludes the majority of the wooden doors and windows manufactured due to the weight characteristic. In response, we have revised the definition of "wood building product" to exclude the weight of glass components.

A wood building product is now defined as any product (excluding the weight of glass components) that contains more than 50 percent by weight wood or wood fiber and is used in the construction, either interior or exterior, of a residential, commercial, or institutional building.

As a result of comments received, the application of antifungal coatings was evaluated. Because these coatings can be applied during many different stages of production, we have clarified the applicability of the final rule to these coatings. Antifungal coatings will be covered by the wood building products surface coating NESHAP if they are applied after the substrate manufacturing process. Otherwise, these coatings will be covered by the plywood and composite wood products NESHAP.

1.1.2 Overlap with Other NESHAP

Many commenters were concerned about the large potential for the wood building products surface coating source category to overlap with other NESHAP, specifically the wood furniture manufacturing NESHAP and the miscellaneous metal parts and products coating NESHAP. Two commenters wanted some way to consolidate all coating operations in order to be subject to only one NESHAP. One of these two commenters stated that 97 percent of the coatings used by his company, a window manufacturing facility, are applied to metal (aluminum) windows, and the remaining 3 percent of the coatings are applied to wood components of the windows. The second commenter said that 95 percent of the coatings used by his facility are applied to wood furniture components, and the remaining 5 percent of the coatings are applied to interior panels.

In response to these comments, we have added a provision to the applicability section of the final rule. This new language states that an affected source that could be subject to more than one coating NESHAP, and that has one type of surface coating operation that accounts for at

least 95 percent of the total (annual) coating usage at the source, has the option of complying with the requirements of that predominant coating rule (including all applicable emissions limitations, operating limits, and work practice requirements) for all coating operations that would be subject to a NESHAP.

We are allowing the small amount of coating (less than 5 percent of the total usage) to be regulated at the same level(s) as the majority (at least 95 percent) of coating usage to simplify applicability determinations and recordkeeping and reporting for those sources. With this applicability provision, the two sources described above would be allowed to comply with the emission limits for the miscellaneous metal parts NESHAP and the wood furniture manufacturing NESHAP, respectively, for all of their coating operations.

According to our data, very few sources will be able to take advantage of this predominant activity option. For this reason, we expect any emissions increase that could occur (where the emission limits in the predominant NESHAP are less stringent than the limits in the other applicable NESHAP) to be very small.

1.1.3 Subcategories

Several commenters requested additional guidance on the correct classification of moulding and trim. Originally, mouldings were classified according to the final use of the moulding. Commenters stated that the same moulding or trim could go around windows and doors, be used as baseboards, as trim between ceilings and walls, or as chair railing. To eliminate the classification of different types of moulding and trim in different subcategories, we have decided to include all moulding and trim in one subcategory. This change also involved the renaming of two subcategories. The "Doors and Windows" subcategory has become the "Doors, Windows, and Miscellaneous" subcategory and will include all moulding, trim, millwork, and miscellaneous products that do not fit in the other subcategories. The "Exterior Siding, Doorskins, and Miscellaneous" subcategory has become the "Exterior Siding and Primed Doorskins" subcategory. As a result, the MACT floor emission limits were recalculated and are included in the final rule.

Several commenters were concerned with potential overlap among subcategories. According to our database, there are no facilities that are potentially subject to more than one

subcategory emission limit. Because subcategories were created to accommodate unique differences in performance criteria that indicated a need for different HAP contents (based on the information provided by the various industry segments in the database), we believe it is not appropriate to combine operations under separate subcategories. Therefore, we are not allowing a source to choose one emission limit based on the amount of coating used in a predominant subcategory and apply that same limit to another subcategory.

Several commenters requested re-evaluation of the MACT floors due to the addition of new products such as topcoated doorskins. These products require coatings with a higher level of HAP content or more layers of coatings than products used in the MACT analysis. Although separating these types of topcoated or finished doorskins from the "Exterior Siding and Primed Doorskins" subcategory could cause sources that coat doorskins to comply with two separate emission limits, we agree that finished doorskins, which require additional layers of coatings, are likely to have higher HAP emissions than primed doorskins. We also agree that finished doorskins have more demanding and stringent performance requirements than primed-only doorskins. In response, we have included finished doorskins in the "Doors, Windows, and Miscellaneous" subcategory where the exterior climate performance requirements associated with all doors and windows have been accounted for with the higher emission limits.

1.1.4 MACT Limits

Several commenters disagreed with the zero HAP emission limits that were established for the NESHAP. Specifically, the commenters felt that the MACT limits should contain at least two significant figures to account for the presence of a small amount of HAP in what we have described as non-HAP coatings. To address these concerns and to clarify that the MACT limits are not absolute zero for some new sources, the final rule includes a change in metric units from kg HAP/L solids to g HAP/L solids where the final emission limit is rounded to the nearest integer.

1.1.5 Test Methods

Commenter IV-D-01 noticed that some ASTM test methods have been updated. Most of the listed test methods have been updated and incorporated by reference into the final rule.

However, some of the standards are referenced as part of EPA Methods 24 and 311 and cannot be updated without evaluating the applicability of the Methods and MACT determinations.

Several commenters asked for clarification on using methods specified by the NESHAP for determining certain qualities of the coatings, thinners, and cleaning materials. In the case of styrene monomer content (using ASTM D4827-93 and ASTM D4747-02) and nonvolatile mass content (using ASTM D-2697 and ASTM D-6093), we added provisions to the final rule that owners or operators are allowed to submit an alternative technique if the test methods specified in the final rule are insufficient in determining the specified qualities. For mass fraction of organic HAP, the final rule has been modified to allow resolution of any discrepancies between the test methods for determining the mass fraction of organic HAP versus formulation data through consultation with the regulatory compliance authority.

Many commenters also expressed confusion at the use of Method 24 as an alternative to Method 311. According to the commenters, Method 24 requires that the water content of the coating be determined and subtracted from the total volatile content. This determination contains greater variability than the limit in the rule for existing and new sources that fall into the "Other Interior Panels" and the "Exterior Siding and Primed Doorskins" subcategories and new sources that fall into the "Interior Panels and Tileboard" subcategory. Therefore, the final rule includes the provision that Method 24 will not be used for those coatings with a water content that would result in an effective detection limit greater than the applicable emission limit.

Commenters IV-D-07 and IV-D-10 disagreed with the use of a helium gas pycnometer to determine the volume fraction of coating solids (which is required by ASTM D 6093). Section 63.4741(b) of the original proposal provided two options for determining the volume fraction of coating solids (nonvolatiles) for each coating: (1) use of either of the two referenced ASTM methods (D2697-86 (1998) or D6093-97); or (2) use of information from the supplier or manufacturer of the material. In response to the commenters concerns, a third option has been added to the final rule that allows the amount of coating solids to be calculated using the total volatile matter content of the coating and the average density of the volatile matter in the coating. If these values cannot be determined using one of the specified methods, the owner or operator may submit an alternative technique for determining their values for approval by the administrator.

Several commenters asked that the rule clearly specify whether compliance demonstration calculations are to be rounded or truncated to the number of decimal places specified in the emission limit. The commenters recommended that results be truncated to three digits after the decimal. In response, language has been added to the rule to specify that compliance is demonstrated by rounding the rolling 12-month emission rate (to two decimal places for English units and the nearest integer for metric units), and not by rounding the individual numbers used to determine the 12-month rolling average.

1.1.6 Cost and Economic Assumptions and Impacts

Due to changes in the MACT floor emission limits for the "Other Interior Panels" subcategory and changes to the number of estimated affected sources in the "Exterior Siding and Primed Doorskins" and "Doors, Windows, and Miscellaneous" subcategories, overall annual industry cost impacts have changed to $22.5 million.

1.1.7 Compliance Procedures

Several commenters noted a discrepancy between the proposed Section 63.4692(b)(ii) and (iii). Section 63.4692(b)(ii) reduces the data to block averages, but 63.4692 (b)(iii) maintains the 3-hour average combustion temperature at or above the limit. We made corresponding changes to Table 3 to Subpart QQQQ to read, "maintain the 3-hour block average" wherever warranted.

Three commenters disagreed with the omission of control devices other than thermal oxidation. The commenters recommended that provisions for biofilters and other innovation technologies be added to compliance Option 3. Compliance Option 3 does not preclude the use of biofilters or other control technologies. You can submit your request for any innovative control technology to the Administrator for approval. Plans for monitoring and recordkeeping requirements should be submitted along with such proposals. However, the proposed Plywood and Composite Wood Products rule (subpart DDDD) does include specific operating limits and compliance procedures for biofilters and can be used as examples when submitting a request for an alternative control technology.

Commenters questioned EPA's rationale for proposing to retain approval authority over the parameters to be monitored to demonstrate compliance. No language has been changed in the final rule because Section 63.4767 of the rule specifies which parameters are to be monitored for thermal oxidizers, catalytic oxidizers, carbon adsorbers, concentrators, and capture systems. We have retained the authority to approve any major alternatives to monitoring in Section 63.4780.

1.1.8 Control Device Operating Limit Requirements

Several commenters stated that the proposed rule does not specify how to account for equipment start ups, shut downs or malfunctions in the calculation of the 3-hour averages used to determine compliance with operating limits for add-on control devices. The commenters suggested that the rule specify that the operating data collected when the control device is "not receiving emissions" not be included in the 3-hour average calculations. We have added language to the final rule to exclude monitoring data from the 3-hour average calculation that was generated during periods when the control device was not receiving emissions.

Several commenters disagreed with the requirement for periodically adjusting the air-to-fuel ratio for catalytic oxidizers. The commenters stated that adding this requirement to the inspection and maintenance plan has no performance benefit. The purpose of the inspection and maintenance plan is to assure that the catalytic oxidizer operates at the conditions that will achieve or exceed the emission destruction efficiency for the control device demonstrated by the performance test. Based on our review, we concluded that a requirement for periodic adjustment of the air-to-fuel ratio is not needed to assure compliance of a catalytic oxidizer. We have removed the requirement for periodically adjusting the air-to-fuel ratio in the inspection and maintenance plan from the final rule.

1.1.9 Startup, Shutdown, and Malfunction (SSM)

Commenter IV-D-05 stated that bypass lines are often used in situations that are not considered malfunctions. In certain situations, operation of the control device is not always necessary to meet the emission limit. This situation can occur on a coating line that is used for different subcategories of products at different times. If the coatings used on one product comply with the applicable emission limit, the facility may prefer to bypass the control device to lower

annual expenses associated with operating the air pollution control system (e.g., fuel costs for oxidizers, extend activated carbon life for carbon adsorbers, electricity costs for condensers). This situation is not a malfunction and would not be addressed in the facility's SSM plan.

To address this issue, the final rule explicitly states that the requirements for the use of bypass lines apply during periods that *controlled* (emphasis added) coating operations are being conducted (see §§63.4763(d) and 63.4768(b)(2)). The language assures continuous compliance with the applicable emission limit at those sources electing Option 3 to comply with the emission limit and using a capture and control device system that is equipped with a bypass line.

1.1.10 Recordkeeping and Reporting

Several commenters requested fewer recordkeeping and calculation requirements for coatings that contain zero HAP content. We agree that is not necessary from the perspective of implementing and enforcing the rule to require an owner or operator to perform all of the compliance calculation, recordkeeping, and reporting requirements specified in the rule since the result will always be zero organic HAP per liter or gallon of coating solids. For such materials, the final rule specifies in Section 63.4741(a)(1)(i) and (a)(4) that no additional compliance calculations are required if the source is using the compliant material option and the organic HAP content of the coating equals zero. The following sections of the final rule pertaining to recordkeeping and reporting requirements were also revised to incorporate this provision: Sections 63.4710(c)(8)(i), 63.4720(a)(5)(ii), and 63.4730(c), (c)(2), (f), and (g).

1.1.11 Emission Limit Units

Commenter IV-D-03 disagreed with the expression of the MACT floor limits to two decimal places rather than two significant digits. In response, the final rule includes a change in metric units from kg HAP/L solids to g HAP/L solids. The new limits are listed below:

- Exterior Siding and Primed Doorskins (0.06 lb HAP/gal solids or 7 g HAP/L solids)
- Flooring (0.78 lb HAP/gal solids or 93 g HAP/L solids)
- Interior Wall Paneling and Tileboard (1.53 lb HAP/gal solids or 183 g HAP/L solids)
- Other Interior Panels (0.17 lb HAP/gal solids or 20 g HAP/L solids)
- Doors, Windows, and Miscellaneous (1.93 lb HAP/gal solids or 231 g HAP/L solids)

Several commenters argued that metric units should not be used to demonstrate compliance. The use of metric units instead of English units is based on Federal government policy (the Metric Conversion Act of 1975 as amended by the Omnibus Trade and Competitiveness Act of 1988). While metric units are included, compliance is not required to be demonstrated using metric units because the MACT floor determination used English units. Accordingly, we have added language stating that compliance can be demonstrated using either of the emission limit units.

1.1.12 Definitions

Commenter IV-D-18 stated that the current definition of wood building product excludes most windows and some doors since the glass is the heaviest component of the final product. Language has been added to the final rule to clarify that the applicability determination for windows and some doors will not include the weight of the glass. The weight criteria was originally added to differentiate between wood products and composite wood products that contain small amounts of wood or wood fibers.

Several commenters suggested that the rule define the term "facility" because the word is used interchangeably with "source." In the final rule, we corrected all of the rule language to be consistent with the revisions in the NESHAP General Provisions. In particular, we replaced the term "facility" that was used in the proposed rule with either the term "source" or "affected source" as appropriate to be consistent with meanings in the amended NESHAP General Provision definitions.

Several commenters disagreed with the definition of "total volatile hydrocarbon (TVH)" as the total amount of non-aqueous volatile organic matter determined according to certain methods, with TVH substituted for VOC. We do not agree with the commenters' concern and believe the definition for total volatile hydrocarbon (TVH) is appropriate for the intended use in the test methods.

Commenter IV-D-11 requested specific definitions for "millwork," "sheathing," and "solvent blends." The term "sheathing" is associated with one of the end-use applications for fiberboard products and such products are not covered by the final rule (see comment/response

2.2.3). We believe the term "solvent blends" as described in Tables 5 and 6 in the rule is easily understood. Therefore, only a definition for "millwork" has been added to the final rule.

Several commenters also requested a definition for "block average" as related to test data so as to avoid confusion with a rolling average emission limit calculation. To clarify, a new definition of "block average" has been added to the final rule in Section 63.4781. Block average is an average of data points collected over any specified, continuous 180-minute block of time (e.g., a 3-hour block could be noon to 2:59 p.m., with a subsequent total of eight 3-hour blocks within a 24-hour period).

1.1.13 Miscellaneous Comments

Several commenters noted typographical errors in the proposed rule. These have been corrected in the final rule and preamble.

1.2 SUMMARY OF IMPACTS OF PROMULGATED REGULATION

The final standards will reduce nationwide emissions of hazardous air pollutants (HAP) from wood building product surface coating operations by approximately 4,900 tons per year (tons/yr) (4,400 megagrams per year [Mg/yr]) from existing major sources. No significant adverse secondary air, water, or solid waste impacts are anticipated from the promulgation of these standards.

The implementation of this rule is expected to result in an overall annual cost of $22.5 million. The economic impact analysis shows that the economic impacts from these final standards are insignificant.

Chapter 2
Summary of Public Comments

A total of 21 letters commenting on the proposed standards and supporting technical memoranda for the proposed standards were received. Table 2-1 presents a list of commenters, their affiliations, and the EPA docket number assigned to their correspondence.

For the purpose of orderly presentation, the comments have been categorized under the following topics:

1. Applicability;
2. Overlap with other NESHAP;
3. Subcategories;
4. MACT Floor Determination;
5. MACT limits;
6. Test methods;
7. Cost and economic assumptions and impacts;
8. Compliance procedures;
9. Control device operating limit requirements;
10. Startup, shutdown, and malfunction (SSM);
11. Recordkeeping and reporting;
12. Emission limit units;
13. Definitions; and
14. Miscellaneous comments.

The following sections of this chapter contain discussions of the comments, the issues they address, and EPA's responses.

TABLE 2-1. LIST OF COMMENTERS ON PROPOSED STANDARDS OF PERFORMANCE FOR WOOD BUILDING PRODUCTS (SURFACE COATING)

Docket Item No.[a]	Commenter/Affiliation
IV-D-01	Ms. Janice Bardi Administrative Assistant ASTM International 100 Barr Harbor Drive P.O. Box C700 West Conshohocken, PA 19428-2959
IV-D-02	Dr. Robin M. Ridgway, Ph.D., P.E. Environmental Regulatory Consultant Purdue University REM/Utilities 1662 Civil Engineering Building B173 West Lafayette, IN 47907
IV-D-03	Ms. Allison Casey Masonite International Corporation 1955 Powis Road West Chicago, IL 60185
IV-D-04	Mr. David C. Foerter Deputy Director Institute of Clean Air Companies (ICAC) 1660 L Street, NW, Suite 1100 Washington, DC 20036
IV-D-05	Mr. Paul J. Vasquez Manager, Environmental Engineering Wood Products Georgia-Pacific Corporation 55 Park Place Atlanta, GA 30303
IV-D-06	Mr. Colby W. Benton EHS and Technical Manager CraftMaster Manufacturing, Inc. P.O. Box 311 Towanda, PA 18848
IV-D-07	Mr. John Bradfield VP, Regulatory Affairs Composite Panel Association 18922 Premiere Court Gaithersburg, MD 20879-1574

TABLE 2-1. (Continued)

Docket Item No.[a]	Commenter/Affiliation
IV-D-08	Ms. Allison Keane and Mr. Robert J. Nelson, Senior Director The National Paint and Coatings Association 1500 Rhode Island Avenue, NW Washington, DC 20005-5597
IV-D-09	Mr. Martin E. Rock, P.E., J.D. President & Senior Principal OMNI Professional Environmental Associates P.O. Box 13404 Research Triangle Park, NC 27709
IV-D-10	Mr. Louis Wagner Director of Technical Services American Hardboard Association 1210 W. Northwest Highway Palatine, IL 60067
IV-D-11	Mr. Ron C. Methier, Chief, Air Protection Branch Georgia Department of Natural Resources Environmental Protection Division 4244 International Parkway, Suite 120 Atlanta, GA 30354
IV-D-12	Ms. Dawn J. Krueger Senior Environmental Engineer 3M Environmental and Safety Services P.O. Box 33331 St. Paul, MN 55133-3331
IV-D-13	Mr. Kurt Bigbee APA – The Engineered Wood Association P.O. Box 11700 Tacoma, WA 98411-0700
IV-D-14	Mr. J. David Thornton Section Manager Policy & Planning Division Minnesota Pollution Control Agency 520 Lafayette Road, North St. Paul, MN 55155-4194

TABLE 2-1. (Continued)

Docket Item No.[a]	Commenter/Affiliation
IV-D-15	Mr. Gary D. Gramp Technical Director Hardwood Plywood & Veneer Association P.O. Box 2789 Reston, VA 20195-0789
IV-D-16	Mr. Louis Wagner, Director of Technical Services American Hardboard Association 1210 W. Northwest Highway Palatine, IL 60067
IV-D-17	Mr. Lawrence Otwell Senior Environmental Engineer Georgia-Pacific Corporation 133 Peachtree Street NE Atlanta, GA 30303
IV-D-18	Mr. Terry Noteboom Corporate Environmental Engineer Pella Corporation 102 Main Street Pella, IA 50219
IV-D-19	Mr. Louis E. Wagner Director of Technical Services American Hardboard Association 1210 W. Northwest Highway Palatine, IL 60067
IV-D-20	Mr. Louis E. Wagner Director of Technical Services American Hardboard Association 1210 W. Northwest Highway Palatine, IL 60067
IV-G-01	Mr. Dwayne Dayley Operations Manager Prefinish Division Woodgrain Millwork, Inc. 300 N.W. 16th Street P.O. Box 566 Fruitland, ID 83619

[a] The docket number for the wood building products (surface coating) NESHAP is A-97-52.

2.1 APPLICABILITY

2.1.1 Ceiling Board or Tiles

Comment: Commenters IV-D-07 and IV-D-10 questioned the applicability of this rule to coatings applied to ceiling board or tiles. The commenters stated the "other coatings" for fiberboard have traditionally been slurries of titanium dioxide and various clays. Occasionally, non-HAP wetting agents or defoamers are added. There are no organic solvents used. These slurries are often mixed on-site and cure by drying, not by chemical reaction. The products still produced using these coatings are ceiling board or tiles. These coatings can be scraped off with a fingernail and are considered durable only for dry, noncontact indoor exposure. With no HAP emissions and no recordkeeping systems in place, regulating these slurries causes burdens with no environmental improvement.

Both commenters also stated there is a much larger industry that produces ceiling products using the same slurries on a mineral fiber substrate. If wood fiberboard is regulated and the mineral fiberboard is not, then an unfair competitive advantage has been granted to the mineral fiber manufacturers.

Response: We collected information on any and all coatings applied to fiberboard and agree that the reported coatings do not contain or emit HAPs. Most fiberboard coatings are applied during the substrate (fiberboard) manufacturing process(es) while the wet mat is still being formed and/or dried. We agree with the commenters and have added fiberboard coatings (clay slurry and titanium dioxide) to the list in §63.4681(c)(1) of the final rule that are covered by the plywood and composite wood products (PCWP) MACT rule. As a result of that decision, we have removed the fiberboard coating facilities from the wood building products surface coating MACT database and recalculated the MACT floor for the "Other Interior Panels" subcategory. The recalculated emission limits are included in the final rule.

2.1.2 Wood Treatment and Fire Retardant Coatings

Comment: Commenters IV-D-05, IV-D-07, IV-D-10, IV-D-14, and IV-D-17 submitted comments related to wood treatment and fire retardant operations.

Commenters IV-D-05, IV-D-07, and IV-D-10 argued that some types of wood treatments and fire retardants are applied to panel products with roll coaters or spray booths after passing through the press. Other treatments may be added before hot pressing. Both of these processes should be covered under the plywood and composite wood products NESHAP, Subpart DDDD, and excluded from this subpart because they are part of the substrate manufacturing process.

Commenter IV-D-17 argued that the wood treatment and preservation operations should be covered by this subpart. Some operations apply similar materials, generally in far more dilute form, by nonpressure means as a temporary measure to protect against surface moisture absorption and/or bacterial/fungal growth. The activities occur primarily in dimensional lumber manufacturing and are not decorative in nature. Similar activities have already been recognized and exempted for wood panel manufacturing operations covered under the pending plywood and composite wood products NESHAP. These exemptions are further cited under this proposed rule but only with respect to panels. Commenter IV-D-17 suggested that the exemption of these activities with respect to solid wood/dimensional lumber manufacturing also be clearly stated within this proposed rule in order to avoid future confusion over applicability.

Commenter IV-D-14 was concerned that §63.4681(c)(5) of the proposed rule exempts the wood treatment process. The commenter reviewed data from two of the country's largest window manufacturers and found that a major portion of the HAP emissions from these facilities come from the wood treatment process. The commenter noted EPA should reconsider the exemption of this process and provided data showing actual emission inventory data for the two companies.

Response: A review of the coatings information in the MACT database showed that not all wood treatment coatings are applied during the wood substrate production process. Those wood treatment and fire retardant chemicals applied during the wood substrate manufacturing process (e.g., during blending or forming of the substrate) will be covered under the proposed plywood and composite wood products (PCWP) MACT rule. The PCWP rule does not state that

miscellaneous coating operations are exempt; the rule simply has no requirements for these specific surface coating processes, which include "edge seals" and "moisture sealants."

Such wood treatment processes as those at the two wood window manufacturing companies described by commenter IV-D-14 are not exempted from the wood building products (surface coating) MACT rule. The exemption described in §63.4681(c)(5) applies only to wood treatment operations that involve using a retort or other pressure vessel. The types of wood treatment operations used at most window and door facilities involve only dip tanks and do not use pressure to impregnate the wood product with the wood treatment chemicals. Therefore, the wood building products (surface coating) NESHAP applies to the wood treatment operations located at these facilities.

2.1.3 Laminates and Overlays

Comment: Commenters IV-D-05, IV-D-07, IV-D-10, and IV-D-15 requested varying types of exemptions involving laminating operations.

Three commenters (IV-D-05, IV-D-07, and IV-D-10) stated there should be an exemption for medium density overlay (MDO), high density overlay (HDO), and foil laminates that are part of the softwood plywood/oriented strandboard (OSB) production process. The application of MDO, HDO, and foil laminates to either softwood plywood or other engineered wood products such as OSB or laminated veneer lumber (LVL) is part of the production process for products from those facilities and should be covered under the plywood and composite wood products NESHAP, Subpart DDDD. Therefore, MDO, HDO, and foil laminates on these products should be added to the list at §63.4681(c)(1)(i) through (x) of operations to which this subpart does not apply.

Commenters IV-D-07 and IV-D-10 recommended specific exclusions for thermally fused melamine and polyester impregnated papers on wood substrates. They further stated that activities involving the treatment or impregnating of the paper with resins are covered under the paper and other web coating NESHAP, Subpart JJJJ.

Commenter IV-D-05 offered specific language to be added to the rule at §63.4681(c):

> "This subpart does not apply to surface coating and other operations that meet the criteria of paragraphs (c)(1) through (6) of this section."

and

"(6) Laminating activities involving the *bonding of dry layers to the substrate as a part of the substrate manufacturing process. Laminated wood products produced by bonding dry layers to the substrate include, but are not limited to, thermally fused melamine paper.*"

Commenter IV-D-15 requested that facilities that laminate paper or vinyl to composite wood products be exempted from this rule. The commenter referenced a meeting held after the initial evaluation of the ICR data during which participants were advised that paper and vinyl laminating facilities had very low- or no-HAP emissions and were not major sources.

Commenters IV-D-05, IV-D-07, and IV-D-10 suggested that EPA should discuss in the preamble and the final rule any information gathered related to laminating activities in the wood products industry.

Response: Although we agree with the commenters that HAP emissions from wood laminating processes are typically low at the present time, an exclusion is not justified because future coating technologies involving different solvents or adhesives could result in increased HAP emissions. To further clarify applicability, laminates applied prior to pressing of the substrate will be covered by the plywood and composite wood products NESHAP and the laminates applied after pressing of the substrate are covered by the wood building products (surface coating) NESHAP.

2.1.4 Incidental Coating Use

Comment: Commenters IV-D-07 and IV-D-10 felt that incidental users of wood building products coatings should be exempted.

Response: Incidental coating users can utilize the low coating-usage applicability cutoff included in both the proposed and final rules. Language has been added to the final rule to exempt sources that are not commercial manufacturers of wood building products. The rule was intended to apply only to commercial manufacturers, which are the types of facilities represented in our database.

2.1.5 Volatile Organic HAPs (VHAPs)

Comment: Commenters IV-D-05, IV-D-07, and IV-D-10 stated that the law requires that MACT rules be written to regulate emissions; therefore, the correct description for regulated HAPs in most MACTs is volatile organic HAPs or VHAPs. This requirement has been recognized many times by EPA by inclusion of Test Methods 24 and 311, and now American Society for Testing and Materials (ASTM) D2697 and D6093, as the ultimate in HAPs compliance. The commenters stated that the rule should be written so that the HAP limits apply only to HAPs that are emitted. This can be accomplished by working out testing procedures with coating suppliers. The commenters recommended that because of the exceedingly low MACT compliance numbers and the nonemission (or partial emission) characteristics of these four HAPs—styrene, dibutylphthalate, ethyleneimines (aziridines) and Bis 2-ethylhexyl phthalate (DEHP)—special compliance alternatives should be developed. The compliance alternatives would allow the nonvolatile portion for any of these HAP components in a finish to be exempted from required calculations.

Response: While we agree with the technical facts raised by the commenters, it is important to note that the data collection activities and subsequent MACT floor determinations were made using the assumption that all volatile organic HAP are emitted, i.e., organic HAP content of the coatings is equivalent to HAP emitted.

We realize that in a few cases, such as the four compounds identified by the commenters, our assumption is not totally accurate because a small fraction of the total HAP may be tied up in the coating. However, we believe that the 12-month rolling average emission limits provide an adequate time frame for such special coatings to be used and averaged in with the other coatings and still meet the emission limits.

Due to these reasons, we do not believe special compliance alternatives are warranted for a few compounds used in some coatings. Affected sources can use alternative test procedures to demonstrate a lower HAP emissions value for a particular coating.

2.1.6 Low Coating Use Cutoff

Comment: Commenters IV-D-05, IV-D-07, and IV-D-10 stated that EPA is proposing a source exemption for facilities that use less than 1,100 gallons (gal) per year. This decision was

based on the fact that 1,100 gal per year was the amount used at the smallest plant surveyed. Considering that less than one-third of the plants were surveyed, the commenters stated that this is a flawed method on which to base the rule. This plant also did not exceed the 10/25 ton potential to emit HAP requirement. The commenter recommended that the level be recalculated. For comparison, in the wood furniture manufacturing NESHAP, Subpart JJ, the low-volume source exemption is 3,000 gal per year. This level was set using 5 actual tons of HAP, taking the worst-case furniture coating, and determining the percent HAPs, which calculated to 3,000 gal of coating.

For the wood building product (surface coating) NESHAP, the commenters recommended using a similar thought process as one behind the wood furniture manufacturing NESHAP for each individual source category.

Response: Based on the commenters' arguments, we do not believe raising the low usage applicability limit or basing the low-usage limit on subcategories is justified. The low-usage cutoff was based on the total annual coating usage of the smallest facility in the MACT floor database. All facilities in the database have annual coating usages above 4,170 liters (1,100 gallons). Available data indicate that the coating application processes and control technologies being considered are appropriate for all sources with at least this level of coatings usage. Considering that the surveyed sources in the database included a cross section of various companies, products, and locations, we do not believe that collecting additional data would raise this cutoff. Therefore, no changes have been made to the low-coating usage cutoff.

2.1.7 Work Practice Standards

Comment: Commenters IV-D-05, IV-D-07 and IV-D-10 stated that EPA noted that emissions from surface preparation, storage, handling, and waste/wastewater operations are relatively small. Further, many facilities use work practice measures to minimize HAP emissions from mixing, cleaning, storage, and waste/wastewater handling procedures and thus to minimize worker exposure. The commenters noted that these procedures were never quantified by the agency during rule development. Because the hazard is minimal, emissions are small, and adding work practice standards would increase the complexity of compliance and the regulatory

burden, surface preparation, storage, handling, and waste/wastewater procedures should be exempted from requirements under the rule.

Response: Work practice standards apply only to those affected sources opting to use add-on control equipment (compliance Option 3) to comply with the applicable emission limit. When the control option is selected, the emissions covered by work practice standards are not completely accounted for in the control limit. However, the emissions from these sources are accounted for if the facility uses compliance Option 1 or compliance Option 2 because compliance for these options requires recordkeeping that accounts for the mass of all organic HAP materials used.

Based on the very small number of existing sources currently using add-on control equipment, any impact of these work practice standards is projected to be minimal.

2.1.8 Education and Teaching Activities

Comment: Commenter IV-D-02 stated that Purdue University is a major source of HAP emissions due to the size of their coal-fired boilers at their power plant. Various departments on campus have wood coating activities associated with undergraduate and graduate teaching using only a de minimis quantity of material annually on the order of 1 to 2 gal total. Under Indiana's title V permit program, education and teaching activities are insignificant sources of emissions and are specifically exempted from title V rules. The commenter requested that a similar exemption be added to the final wood building products MACT rule.

Response: Major sources using only a few gallons of coatings annually, such as the one described by the commenter, are encouraged to utilize the low coating-usage applicability cutoff criteria. Sources that coat wood building products but are not commercial manufacturers are not required to comply with the final rule. Sources that are commercial manufacturers are not required to comply with the final rule if the source uses less than 1,100 gal (4,170 liters) per year of surface coatings on wood building products.

2.1.9 Research and Development (R&D) Operations

Comment: Commenter IV-D-12 supported the inclusion of an R&D exemption in the rule. The commenter also supported the definition of "research or laboratory facilities" in the proposed rule.

Response: No response needed.

2.1.10 Doors and Windows

Comment: Commenter IV-D-18 stated that the proposed definition of "wood building product" excludes the majority of the wooden windows and doors his company manufactures. Because a window frame, without glass, is not a product, only very small windows and virtually no doors meet the proposed definition of wood building product. Glass is nearly always the heaviest component in the commenter's products. From the commenter's cost model data, wood comprised approximately 25 percent of the weight of the window. The commenter pointed out that this figure varies considerably with size, number of glazing panels, and special features. Based on the proposed rule, the commenter would need to follow this MACT rule for a very small portion of products, which could create substantial product tracking issues within the factory as well as a major undertaking to determine which window configurations meet the proposed definition. The commenter requested that EPA clarify the definition of "wood building product" and its applicability to the window/door subcategory.

Response: Language has been added to the final rule to clarify that the applicability determination for all wood building products (including windows and doors) will exclude the weight of any glass components. The weight criterion was originally added to differentiate between wood products and composite wood products that contain small amounts of wood.

2.1.11 Prefabricated and Mobile/Modular Homes

Comment: Commenter IV-D-11 stated §63.4681(c)(3) specifically exempts surface coating that occurs during the manufacture of prefabricated homes and mobile/modular homes. This exemption is not discussed anywhere in the proposed rule and does not appear to be justified. There are mobile home manufacturers that are major sources for HAPs that, because

they only assemble components on-site rather than finish them, do not fit into any other NESHAP category. In addition, the commenter identified a facility that finishes wall panels, moulding, and trim for use in mobile homes that is "major source" for HAPs. The commenter noted that this facility fits well into the Wood Building Product NESHAP for the products sold to mobile home manufacturers.

However, the moulding and trim are not easily categorized (or subcategorized) because they could go around windows and doors or be used as baseboards, trim between ceilings and walls, or chair railing. In addition, the same moulding and trim coating and laminating operations are also used for making picture frames and wall mirrors to be sold to retailers (the same adhesives and machines are used, only a different laminate is applied to a different-shaped wood trim). Commenter IV-D-11 wanted to know what NESHAP category applies to these products. Does one of the subcategories in the wood building product (surface coating) NESHAP apply to these products, should they be considered wood furniture products to which the wood furniture manufacturing NESHAP (Subpart JJ) applies, or do they require their own as-yet-unspecified category?

Response: Although many premanufactured homes meet the criteria (e.g., description) of a wood building product in the rule, the differences in emission points, the lack of thinning solvents, and overlap with multiple existing regulations suggest that premanufactured home manufacturing facilities are better suited if they are excluded from the source category. Affected sources with coating operations involving wood products used in or components of premanufactured homes are still covered.

There are at least two existing regulations that potentially cover a portion of the premanufactured home industry. The first regulation is the MACT standard for wood furniture manufacturing operations promulgated December 1, 1995 (40 CFR part 63, subpart JJ). The standard covers any facility engaged in the manufacture of "wood furniture or wood furniture components, including for example, drawersides, cabinet doors, and laminated tops." The premanufactured home industry uses many of these products in the production process, such as cabinet doors and laminated tops for counters. Any wood furniture or furniture components that are coated at a premanufactured home manufacturing facility are covered by the wood furniture manufacturing MACT limits.

Another existing regulation with potential overlap is the Architectural Coatings Rule (also known as the Architectural and Industrial Maintenance [AIM] rule), which addresses volatile organic compound (VOC) content of coatings. The AIM rule lists an architectural coating as a "coating recommended by the manufacturer for field application to the surface of a stationary structure, portable building, pavement, or curb to protect, decorate, or serve some other function." Architectural coatings include several categories that would apply to premanufactured housing, such as interior and exterior paints, as well as industrial maintenance coatings.

The data gathered from the wood building products industry survey show that premanufactured home manufacturers use primarily sealers, top coats, stains, and clear coats. The data also show that premanufactured home manufacturers claim to use no thinning solvents. In this case, the AIM rule is a national rule applying to the coating manufacturers or distributors and does not cover the end user (i.e., the person buying or applying the coating).

Finally, there is also the potential of overlap between the premanufactured home industry and other future regulations. Specifically, the proposed plywood and composite wood products (PCWP) MACT standard (40 CFR part 63, subpart DDDD) would potentially cover the manufacture of wood building products such as plywood, particleboard, OSB, medium density fiberboard (MDF), hardboard, and fiberboard. Many of these wood products are routinely used in premanufactured homes, and the PCWP MACT rule would therefore cover the HAP emissions emitted during manufacture of these products.

To eliminate the possible classification of different types of moulding and trim into different subcategories, we have also changed how "miscellaneous products" are to be subcategorized. The final rule has a "Doors, Windows, and Miscellaneous" subcategory that includes all moulding and trim, except for that associated with wood cabinets and other types of wood furniture (which are subject to the wood furniture manufacturing NESHAP, Subpart JJ). The proposed "Exterior Siding, Doorskins, and Miscellaneous" subcategory was changed to the "Exterior Siding and Primed Doorskins" subcategory in the final rule. The products mentioned by commenter IV-D-11 would be covered under the "Doors, Windows, and Miscellaneous" subcategory (except for picture frames and mirrors, which are not considered to be structural components of a building and are, therefore, not considered to be "wood building products" for purposes of the final rule).

2.2 OVERLAP WITH OTHER NESHAP

2.2.1 Other Surface Coating MACT Rules

Comment: Commenters IV-D-07 and IV-D-10 stated that the proposed rule anticipates overlap with other MACT rules, delineates applicability differences, and attempts to establish circumstances under which the different MACT rules apply. Commenters IV-D-03, IV-D-05, and IV-D-09 raised the issue of overlap between Subpart QQQQ and the wood furniture industry regulations covered by Subpart JJ. All commenters requested clarification as to which rule takes precedence if more than one rule could apply.

Commenter IV-D-18 stated that less than 3 percent of his company's window and door products have a surface coating applied to wood. The commenter's windows and doors are clad with aluminum. Most, but not all, wooden products are coated in distinct, isolated paint booths. The commenter requested language be added to the wood building products MACT rule and the miscellaneous metal parts and products coating MACT rule to reference "predominant usage" of a facility to determine which MACT applies.

Commenters IV-D-07 and IV-D-10 stated that the preamble needs to specifically address production units that, given the stated applicability definitions, may be subject to two different MACT rules. It is entirely possible that a plant that anticipated being completely covered by Subpart QQQQ will be partially or predominantly covered by Subpart JJ. Although this will not create a technical problem, the commenters were concerned about a noncompliance issue because Subpart JJ was finalized on December 12, 1995 and has had reporting requirements in place since November 21, 1997. The commenters suggested guidelines and guidance memos that will exempt facilities from inappropriate fines and penalties if they find themselves in this compliance dilemma.

Commenters IV-D-07 and IV-D-10 recommended that EPA offer more extensive applicability guidance for all MACT rules that could conflict in this manner. Conflicts with the miscellaneous metal parts and products coating NESHAP, Subpart MMMM, and the miscellaneous plastic parts and products coating NESHAP, Subpart PPPP, might possibly develop.

Commenter IV-D-03 recommended that industry should comply with the MACT that deals with the greatest total VHAPs emissions provided from each coating. Commenter IV-D-05

recommended that the preamble and the regulation should indicate that if more than 50 percent of the coatings (primary purpose) being purchased for a production unit fall under one MACT, the facility would have the opportunity to meet the applicable emission limits for only this MACT. Commenter IV-D-09 requested adding a de minimis exemption for facilities that have surface coating operations involving wood building products comprising less than 15 percent of annual production.

Response: We appreciate the commenters' overlap concerns and have tried to alleviate or minimize the compliance issues documented by the commenters. In response to these comments, we have added paragraph §63.4681 (d) to the applicability section of the final rule. This new language states that an affected source that could be subject to more than one coating NESHAP, and that has one type of surface coating operation that accounts for at least 95 percent of the total (annual) coating usage at the source, has the option of complying with the requirements of that predominant coating rule (including all applicable emissions limitations, operating limits, and work practice requirements) for all coating operations that would be subject to a NESHAP.

We are allowing the small amount of coating (less than 5 percent of the total usage) to be regulated at the same level(s) as the majority (at least 95 percent) of coating usage to simplify applicability determinations and recordkeeping and reporting for those sources. With this applicability provision, the source described by commenter IV-D-18 would be allowed to comply with the emission limits for the miscellaneous metal parts NESHAP for all of their coating operations.

2.2.2 Tempering Oils

Comment: Three commenters (IV-D-03, IV-D-07, and IV-D-10) stated that the application of linseed, tall, tung, soy, otaseka, and other drying oils or mixtures of such oils is clearly regulated as part of the plywood and composite wood products NESHAP. In drafts of that rule, control devices for hardboard bake ovens, the unit associated with tempering oils, are discussed explicitly. The use of these oils and the tempering process clearly should be exempted from this rule.

Response: We agree with the commenters and have excluded drying or tempering oils from the final rule. Refer to §68.4681(c)(1) for a listing of this and other processes that will most likely be covered by the plywood and composite wood products NESHAP.

2.2.3 Cellulosic Fiberboards

Comment: Four commenters (IV-D-03, IV-D-05, IV-D-07, and IV-D-10) stated that the application of asphalt and other coatings currently applied to cellulosic fiberboards is part of the fiberboard production process to be covered under the plywood and composite wood products NESHAP, Subpart DDDD. The commenters further stated that some asphalt coatings are applied to the wet mat at the forming machine after the head box, before the first set of press rolls, and before the fiberboard drying ovens. Other asphalt coating products are applied after the mat leaves the drying oven, which allows the melted asphalt to be pressed into fiberboard mat. In both circumstances, the board and asphalt are cooled to ambient temperature, the grade mark and company identification are printed on each piece, and the board is packaged for shipment. The commenters stated that fiberboard drying and cooling processes will be regulated under the plywood and composite wood products NESHAP, and these coatings should clearly be exempted from this rule.

Additionally, the asphalt products used are end products of the petroleum cracking process. Because they are produced late in that process, the volatile components have been driven off. Therefore, the emissions from these products are reported as being zero. Having to develop and maintain records showing no HAP would impose an unnecessary recordkeeping burden on both the asphalt producer and the fiberboard producer. The commenters recommended that fiberboard asphalt coatings be added to the list of operations to which this subpart does not apply (see §63.4681(c)(1)(i) through (x) of the proposed rule).

Response: We further evaluated these types of coatings and processes used to make asphalt-coated fiberboard, also called "builders board" or "insulation board," and found that only a few facilities in the United States make these products, with varying manufacturing and coating processes. With regards to the coatings, the asphalt can be included as part of the emulsion used in the fiberboard manufacturing process, or the asphalt (mixed with mineral spirits) can be applied to the fiberboard substrate. Depending on the company and the process, the coating can

be applied before the final dryer or after the final dryer with the product allowed to air dry, usually outdoors on racks.

The wood building products surface coating database contains no asphalt coatings. Because of the small number of facilities utilizing this technology and the fact that most of the coatings associated with these types of products are applied during the substrate forming process (e.g., to the wet mat being formed) or prior to the final substrate drying operation, fiberboard coating operations (including those used in the manufacture of asphalt-coated fiberboard) will be covered under the proposed plywood and wood composite MACT rule. For this reason these products will not be subject to the wood building products (surface coating) final rule (see 2.1.1 for related comment).

2.3 SUBCATEGORIES

2.3.1 Other Interior Panels

Comment: Commenters IV-D-05, IV-D-07, and IV-D-10 stated that the extremely low HAP level for the "Other Interior Panels" subcategory is based on a small set of products that are very dissimilar from others in the group. Commenters IV-D-07 and IV-D-10 recommended that the products in this subcategory be re-evaluated and understood and that products deserving their own subcategory might be so classified. Examples of dissimilar products currently listed in the subcategory include fiberboard sheathing and perforated panels. (EPA uses the term "pegboard," which is a registered trade name owned by Masonite International Corporation. The correct name for the generic product is "perforated panel.") That fiberboard sheathing is listed in this subcategory as an example illustrates a lack of understanding of the product because it is not truly coated.

Earlier communications in the docket from members of this coalition provide more background and data. Commenters IV-D-07 and IV-D-10 were concerned that EPA has simply established a catchall subcategory for miscellaneous and dissimilar products.

Response: According to the information in the MACT database, the products covered by the "Other Interior Panels" subcategory are used for interior applications other than wall paneling or tileboard and use fewer coating layers. Other interior panels typically are produced with a single color and have fewer coating steps, less stringent product performance requirements, and

some ultraviolet (UV) applications, which allow lower organic HAP contents and emission rates. Product specifications in the "Other Interior Panels" subcategory are not covered by consensus standards but are established between the buyer and seller. Primers and basecoats comprise 32 percent of all the coatings used on these products and average 1.8 pounds (lb) of HAP/gal solids; prefinishes (clearcoats, paints/inks, sealers, stains, and topcoats) make up 47 percent of the coating usage and average 1.7 lb HAP/gal solids.

As noted in earlier comment responses (2.1.1 and 2.2.3), we agree with the commenters concerning the differences associated with coating operations involving fiberboard products. Therefore, fiberboard coating operations have been removed from the wood building products surface coating MACT database and the MACT floor for the "Other Interior Panels" subcategory was recalculated. The existing source MACT floor emission limit for the "Other Interior Panels" subcategory changed from 0.01 lb HAP/gal solids (1 g HAP/liter of solids) to 0.17 lb HAP/gal solids (20 g HAP/liter of solids).

2.3.2 Product Groupings

Comment: Commenters IV-D-05, IV-D-07, and IV-D-10 stated several of the types of products grouped together in the current proposed rule need to be separated due to the nature of the coatings applied and the applications for the products. Separate categories will not significantly increase emissions but will in the long run make enforcement simpler.

In establishing subcategories, EPA considered factors such as process operation (types of process, raw materials, chemistry/formulation data, associated equipment, and final products), emissions characteristics (amount and type of HAPs), control device applicability, and opportunities for pollution prevention. The commenters agreed that EPA should consider the types of process, chemistry, and final product in more detail when selecting a subcategory. However, the commenters felt that despite the best efforts of EPA staff, the subcategorization work is incomplete because these criteria were not fully satisfied.

As an example, both commenters stated that the "Exterior Siding, Doorskins, and Miscellaneous" subcategory is poorly defined. The commenters were concerned that products that are actually dissimilar in emissions have been placed together and assigned the same subcategory.

Response: We do not agree with the commenters and believe the subcategorization scheme adopted for this source category is appropriate and complete. All subcategories were evaluated with respect to product performance requirements, associated coating usage, organic HAP emissions, coating application equipment, and control device applicability. Each subcategory showed technical differences within one or more of these criteria. For example, the renamed (in the final rule) "Exterior Siding and Primed Doorskins" subcategory has rigid product performance requirements due to environmental exposure. Most of the products included in this subcategory are either exposed to extreme exterior weather conditions or extreme interior conditions such as high humidity and frequent use. Also, these products have a high rate of primer use that must be compatible with all subsequent coating layers.

2.3.3 Topcoated Siding and Doorskin Products

Comment: Commenters IV-D-07 and IV-D-10 stated that since the MACT floor was determined, new topcoated products have come into the marketplace that have different levels of HAP in their coatings than the products that were simply primed. The MACT floor needs to be re-evaluated to reflect this change. Unless this mistake is corrected, the requirements for these subcategories will lead to curtailment of production of topcoated products.

Finished doorskins are a product quite unlike primed doorfacings, and the coating technology utilized in their manufacture is similar to that of tileboard/interior wall paneling. The product produced is generally molded in a hot press to produce a typical door panel design and has the same color-matching requirements as decorative wall paneling. The product performance is more demanding than that of decorative wall paneling due to stresses imposed by opening and closing the finished door as well as differential conditions from one room to the next, with product demands approaching those for tileboard. Keeping this requirement at the current level for doorskins will not reduce HAP emissions; higher-HAP products will be used in unregulated downstream construction applications (doorskin topcoat HAP levels are approximately 3.3 lb/dry gal of solids). Because primers and topcoats have such dramatically different HAP levels, EPA must consider distinguishing between these finishing stages within separate "Exterior Siding and Doorskins" subcategory in the final rule.

Response: Although separating these types of topcoated or finished doorskins from the "Exterior Siding and Primed Doorskins" subcategory could cause sources that coat doorskins to comply with two separate emission limits, we agree that finished doorskins, which require additional layers of coatings, are likely to have higher HAP emissions than primed doorskins. We also agree that finished doorskins have more demanding and stringent performance requirements than primed-only doorskins. We have decided to include finished doorskins in the "Doors, Windows, and Miscellaneous" subcategory where the exterior climate performance requirements associated with all doors and windows have been accounted for with the higher emission limits.

2.3.4 Interior Paneling and Tileboard

Comment: Commenters IV-D-05, IV-D-07, and IV-D-10 stated that "Tileboard Manufacturing" and "Interior Wall Paneling" should be two separate subcategories created with a MACT floor as defined by the information collected in the information request survey.

Response: Interior wall paneling and tileboard are the primary components of the "Interior Wall Paneling and Tileboard" subcategory of wood building products. Product specifications are established for these products by consensus standards. Interior wall paneling has more decorative coating requirements than do components of other subcategories and is typically manufactured at the same facilities as tileboard, although in much smaller quantities. Tileboard, a premium interior wall paneling, has even more stringent product performance requirements (i.e., adhesion and hardness standards, household stain, scrub and moisture resistence while maintaining a relative smooth surface) compared to standard interior wall paneling.

Decorative appearance (embossed, grooved, or grain printed) and performance of the intermediate and end products require multiple coating layers and coating steps far exceeding those in other subcategories. Production speeds of 30 to 35 boards per minute require that coalescent solvents that come out of the wet film without leaving cure blisters and without leaving residual solvent in the coating film or substrate be used. Residual solvents can cause product "blocking" (products sticking together) during storage. Tileboard and interior wall

paneling products utilize high-temperature aminoplast crosslinkable coatings that are used on substrates that can tolerate higher processing temperatures.

We do not believe that further subcategorization has been technically justified by the commenters, and any additional separation among these products would cause more issues and potential confusion since many facilities produce both types of products.

2.3.5 Color Coatings/Clear Coatings

Comment: Commenters IV-D-05, IV-D-07, and IV-D-10 stated that color coating and clear coatings should have separate MACT limits under the proposed "Interior Wall Paneling and Tileboard," "Other Interior Panels," and "Exterior Siding, Doorskins, and Miscellaneous" subcategories.

Response: Because the commenters offered no explanation for the differences between color and clear coatings, we can only consider the fact that business decisions were made to add color coatings. This alone is not a compelling technical reason to subcategorize differently or to change the MACT floors. The data used to determine subcategories and the applicable MACT floor level of control were the best information available to EPA at the time. Production is updated continuously for various reasons, and changing the MACT floor determination based on constantly changing conditions would not be appropriate.

2.3.6 Overlapping Subcategories

Comment: Commenters IV-D-05, IV-D-07, and IV-D-10 stated that allowing facilities to switch between coverage by one subcategory of coating and other subcategories is implicit in the proposed rule, and the commenters supported this flexibility in the rule. However, the mechanisms by which this could be accomplished with the appropriate compliance guidance need to be established, and guidance in the preamble on this subject is minimal or lacking. The commenters recommended that the preamble and the regulation should indicate that if the majority of the coatings being purchased for a production unit fall under the definition for a subcategory, then that subcategory applies to the unit. Thus, if a plant produced products from two subcategories, they would have the opportunity to request that the limits of the greatest HAP coating system apply. If they produced products from three or more subcategories, they would

have the opportunity to request that the limits of the majority HAP coating system apply. The rule should adopt this or similar approaches in developing its applicability determination advice for permitting authorities.

Commenter IV-D-16 had comments regarding Section E.2, Guidance for Switching Coverage Between Subcategories. The comment to have the opportunity to default to the subcategory for which the majority of the coatings are purchased was viewed as good by the commenter.

Commenter IV-D-08 raised the issue of overlapping subcategories. The commenter needed flexibility in complying with the regulations between subcategories, which represent significant differences in end products, substrate, finishing processes, and materials. The commenter wanted EPA to allow a manufacturer the flexibility to opt into or out of a certain subcategory to provide the necessary means to achieve performance and decrease the need for additional recordkeeping and reporting requirements.

Response: The commenters did not provide data or specifics on any known facilities. Issues related to coating requirements for various products were considered when we developed the five subcategories and served as the basis for many of those decisions. According to the project database, there are no facilities that are potentially subject to more than one subcategory emission limit. Because subcategories were created to accommodate unique differences in performance criteria that indicated a need for different HAP contents (based on the information provided by the various industry segments in the database), we believe it is not appropriate to combine operations under separate subcategories. Therefore, we are not allowing a source to choose one emission limit based on the amount of coating used in a predominant subcategory and apply that same limit to another subcategory.

These choices are included in the applicability section (§63.4681) and the emission limitations section (§63.4690) in the final rule. If you switch between compliance options for any coating operation or group of coating operations, you must document this switch as required by §63.4730(c), and you must report it in the next semiannual compliance report required in §63.4720.

2.3.7 Average Emission Limits

Comment: Commenter IV-D-16 suggested that facilities be allowed to average the emission limits for those that are producing products that fit in more than one subcategory. For instance, if a facility is producing 45 percent interior wall paneling, 45 percent other interior panels, and 10 percent doors, the average limit for this facility would be (1.53 x .45) + (.01 x .45) + (1.45 x .1) = 0.84 lb HAPs/gal solid. The limit could be established quarterly based on the previous quarter's actual production or paint usage in each subcategory. This would simplify the day-to-day recordkeeping.

EPA specifically states that "those affected sources coating multiple products covered by two or more subcategories must maintain product- or subcategory-specific records in order to demonstrate compliance with each applicable emission limit for all products coated at the affected source." The commenter claimed this will be a recordkeeping nightmare.

Response: We agree with the commenters that the recordkeeping and reporting will be more difficult and time consuming for those sources that coat products in multiple subcategories. However, allowing such sources to develop an "average or composite" emission limit would cause its own set of problems for both the affected source and the enforcement agencies. We opted for the 12-month rolling average compliance determination to provide flexibility to those sources with various coating requirements, especially those that can be either seasonal or client driven.

As summarized in response 2.3.7, the project database does not support the option of allowing sources to choose one emission limit based on the amount of coating used in a certain subcategory. Any potentially affected source will either choose to keep records for all applicable source categories and comply with each limit separately or choose to comply with the emission limit that is the most stringent.

These choices are included in the applicability section (§63.4681) and the emission limitations section (§63.4690) in the final rule.

2.3.8 Moulding and Trim

Comment: Commenter IV-D-11 believed the subcategories need to be more specifically defined and justified. For instance, the doors and windows subcategory specifically includes "the

moulding and trim that are assembled with doors and windows to create a fixture." However, the same moulding and trim manufactured for use on doors and windows could be used as trim between a ceiling and wall or as baseboards. Therefore, simply because the same moulding or trim was not affixed to a door or a window, the facility would have to comply with a significantly more stringent emission limit for a different subcategory for the same product. Similarly, would baseboards (typically attached to the wall rather than the floor, and they may be totally different from wood flooring products) be part of the "flooring" subcategory or the "other interior panels" subcategory? Commenter IV-D-11 requested that EPA be as specific as possible to define each category.

Response: To eliminate the classification of different types of moulding and trim in different subcategories, we have decided to include all moulding and trim in one subcategory except for that associated with wood cabinets and other types of wood furniture (which are subject to the wood furniture manufacturing NESHAP, Subpart JJ). This change also involved the renaming of two subcategories. The "Doors and Windows" subcategory has become the "Doors, Windows, and Miscellaneous" subcategory and will include all moulding, trim, and miscellaneous products that do not fit in the other subcategories. The "Exterior Siding, Doorskins, and Miscellaneous" subcategory has become the "Exterior Siding and Primed Doorskins" subcategory.

2.3.9 Miscellaneous Products

Comment: Commenter IV-D-11 stated the rule should specify if the "miscellaneous" part of the "Exterior Siding, Doorskin, and Miscellaneous" category is specifically only for exterior wood building products or if it is a catchall for all interior and exterior products not specifically named in any other subcategory.

Commenter IV-D-05 stated guidance should be developed that would allow permitting authorities to place "other" or miscellaneous products into the appropriate subcategory on a case-by-case basis regardless of whether those products were intended for interior or exterior applications.

Response: Miscellaneous products include all products that meet the definition of a wood building product and that do not fit into any of the descriptions of the other subcategories. This

classification includes all moulding and trim, and the subcategory is now called "Doors, Windows, and Miscellaneous."

2.3.10 Exterior Siding and Doorskins

Comment: Commenter IV-D-05 requested the "Exterior Siding and Doorskins" be separated into different subcategories and that new MACT floor levels be calculated.

Response: The renamed "Exterior Siding and Primed Doorskins" subcategory in the final rule was developed based on the coatings data and information that showed that the majority of these products are primed and then sold. Exterior products are also similar in performance and durability requirements. According to the data, most of the topcoats are applied in the field, where they are matched with other exterior coatings.

2.3.11 Finished Doorskins

Comment: Commenters IV-D-06 and IV-D-08 raised the issue of subcategories related to primed doorfacings and finished doorskins. The commenters stated that finished doorskins utilize a coating technology similar to that of tileboard and interior wall paneling. Because primers and topcoats have dramatically different requirements and HAP levels, the commenter asked EPA to consider distinguishing between the finishing stages within separate "Exterior Siding and Doorskins" subcategories.

Response: Although separating these types of topcoated or finished doorskins from the "Exterior Siding and Primed Doorskins" subcategory could cause sources that coat doorskins to comply with two separate emission limits, we agree that finished doorskins, which require additional layers of coatings, are likely to have higher HAP emissions than primed doorskins. We also agree that finished doorskins have more demanding and stringent performance requirements than primed-only doorskins. We have decided to include finished doorskins in the "Doors, Windows, and Miscellaneous" subcategory where the exterior climate performance requirements associated with all doors and windows have been accounted for with the higher emission limits.

2.4 MACT FLOOR DETERMINATION

2.4.1 Closed Facilities

Comment: Commenter IV-D-03 stated that the fiberboard manufacturing facility in Pilot Rock, OR, closed in December 1999. The facility was surveyed, reported 0.01 lb HAP/gal solids, and was included in the MACT floor determination for the "Interior Wall Paneling and Tileboard" subcategory. The facility in Ukiah, CA, produced doorskins and exterior siding and closed in June 2001. Exterior siding production at the Laurel, MS, facility was included in the MACT floor determination for exterior siding, and those operations ceased in May 2001. The commenter stated that these facilities should be removed from the floor determination as they no longer represent the industry.

Response: The data used to determine subcategories and the applicable MACT floor level of control were the best information available to us at the time. Facilities close for a number of various reasons all the time, and changing the MACT floor determination based on issues not related to the regulatory development process would not be appropriate. The coatings and control technologies used at the time the information was reported (1997) are valid regardless of the closure status of the various facilities.

2.4.2 Area Sources Included in MACT Floor Determination

Comment: Commenter IV-D-15 requested that EPA re-evaluate the information collected in the ICR responses to ensure that no area sources are included in the calculations for the MACT floor in each subcategory.

Response: In reviewing the responses to the ICR, we found that several of the facilities did not provide good or sufficient data to make definitive determinations as to their major source status. Most facilities provided only actual emissions information and did not consider their potential to emit. We followed up with several of the respondents in an attempt to determine or confirm the major source status of the wood building products surface coating operations. We used the best information available (reported) to us and tried to verify it. We also had to consider potential to emit for those facilities that made no attempt to estimate potential emissions data. We based our list of major sources on these estimates and the facility-reported status.

2.4.3 Wood Furniture Component Facility

Comment: Commenter IV-D-15 stated that Facility 1 in Segment B of the MACT floor summary memo (Table 1) should not be included in the wood building products MACT floor because all finished production is sold to the furniture industry (therefore, the coatings used at the facility are covered by the wood furniture manufacturing NESHAP) and only a no-HAP (100 percent UV) topcoat is applied. No stains or colors are used at the facility, and the option to color or stain wood is essential to the hardwood plywood industry.

Response: The referenced facility, Columbia Forest Products in Chatham, Virginia, was not used to determine the MACT floor(s) in the wood building products (surface coating) NESHAP. The facility was also not considered to be an affected source. More details are located in Document II-C-52 of Docket A-97-52.

2.5 MACT LIMITS

2.5.1 Average Equals Median

Comment: Commenters IV-D-07 and IV-D-10 stated that the selection of subcategories should be based on the average emission limitation achieved by the best-performing 12 percent of existing sources (or the best-performing five existing sources for categories or subcategories with fewer than 30 sources) for which they have information. The EPA goes on to say that for two of the five subcategories, the existing source MACT floor was based on the top 12 percent of the facilities because the subcategories were projected to have more than 30 sources. The existing source MACT floor for the other three subcategories was based on the top five facilities because the subcategories were projected to have fewer than 30 sources. The "average" emission rate for each subcategory was interpreted as the "median" emission rate. EPA goes on to say that the median emission rate was selected rather than the mean or mode because it is associated with an actual emission rate being achieved by a real facility. This explanation or justification for using the median instead of the average cannot be supported by the information collected by EPA in the industry survey.

The commenters stated that EPA's use of the median as a measure of central tendency arbitrarily lowers the MACT floor. The EPA acknowledges that the cost effectiveness estimates

for some of the subcategories covered by the proposed rule suggest that achieving the MACT floor will be expensive considering the volume of organic HAP controlled. Because of the choice of median, going beyond the floor is not economically justified. Given the economic impact of the proposed rule, commenters IV-D-07 and IV-D-10 recommended that the average be used particularly in any subcategory for which the median leads to a more stringent standard.

Commenter IV-D-15 questioned EPA's interpretation of "average emission rate" as the "median emission rate." The commenter requested that EPA revise the MACT floor calculations using the average emission rate for each subcategory.

Response: In a *Federal Register* notice published on June 6, 1994 (59 FR 29196), the EPA announced its conclusion that Congress intended "average," as used in Section 112(d)(3), to mean a measure of mean, median, mode, or some other measure of central tendency. The EPA concluded that it retains substantial discretion, within the statutory framework, to set MACT floors at appropriate levels and that it construes the word "average" (as used in Section 112(d)(3)) to authorize EPA to use any reasonable method, in a particular factual context, of determining the central tendency of a data set. Therefore, the use of median is an acceptable means of setting the MACT floor.

2.5.2 Incorrect Data – Interior Wall Paneling and Tileboard

Comment: Commenters IV-D-05, IV-D-07, and IV-D-10 stated that one of the data points used to calculate the MACT floor was incorrect. Emissions-related information for the Georgia-Pacific Savannah Hardwood Plywood facility used to determine the MACT floor for the "Interior Wall Paneling and Tileboard" subcategory appear to be in error. Georgia-Pacific reviewed the information submitted to EPA to determine the MACT floor, estimated that the calculated pounds of HAPs per gallon of solids should be 0.79, not 0.56. The commenter submitted a sample calculation of the revised emission rate. If correct, it should cause an adjustment in the MACT floor from 1.53 to 3.2 lb of HAP per gal of solids based on the average of the best-performing five existing sources.

Response: We do not agree with the commenter's calculation of the average HAP emission rate from the Georgia-Pacific Savannah Hardwood Plywood facility. The calculations we received from Mr. Paul Vasquez of Georgia-Pacific do not match the data that were

submitted by the facility. Specifically, Product Numbers 4 (PN-4) and PN-6 have significantly higher HAP emissions than were reported by the Savannah facility. Because the data was received in 1998 and no corrections were submitted until the rule was proposed, we consider our calculations correct.

Although there is a discrepancy between the two data sets, the MACT floor determination would not change even if the emission rate for the Savannah facility is 0.79 lb HAP/gal solids. The median facility and the corresponding emission rate would not change for this subcategory.

2.6 TEST METHODS

2.6.1 Method 25 vs. Method 25A

Comment: Commenters IV-D-07 and IV-D-10 stated that there are few sampling companies capable of performing EPA Method 25 because the analysis is time consuming and costly. Many creditable testing firms are available that can cost effectively perform EPA Method 25A testing for VOCs.

Commenters IV-D-07 and IV-D-10 stated that EPA Method 25 is a difficult procedure, and its results show a high degree of variability. The variability inherent in the method requires that at least duplicate samples be taken for each sampling run to validate that results are consistent and eliminate statistical outliers. The high degree of variability in sampling results makes compliance determination uncertain. Conversely, EPA Method 25A does not exhibit these problems.

Response: The final rule allows the use of either Method 25 or Method 25A. The guidance regarding the use of these methods for measuring VOC concentration was reviewed in Emission Measurement Center Guideline Document GD-033 (EMC GD-033). The document states, "The EPA mandates the use of Method 25 for measuring gas stream VOC concentration when determining the destruction efficiency (DE) of afterburners. It also allows the use of Method 25A, in lieu of Method 25, under any of the following circumstances: (1) when the applicable regulation limits the exhaust VOC concentration to less than 50 ppm; (2) when the VOC concentration at the inlet of the control system and the required level of control are such to result in exhaust VOC concentrations of 50 ppm or less; or (3) if, because of the high efficiency of the control device, the anticipated VOC concentration at the control system exhaust is 50 ppm

or less, regardless of the inlet concentration." The document further states, "if a source elects to use Method 25A under option 3, above, the exhaust concentration must be 50 ppm or less and the required DE must be met for the source to have demonstrated compliance. If the Method 25A test results show that the required DE apparently has been met, but the exhaust concentration is above 50 ppm, this is an indicator that Method 25A is not the appropriate test method and that Method 25 should be used."

2.6.2 Method 25A – Low Concentrations

Comment: Commenters IV-D-05, IV-D-07, and IV-D-10 stated that EPA Method 25A is a suitable method for determining the destruction and removal efficiency (DRE) at all HAP concentrations. It works equally well at both high and low VOC concentrations. There is no reason to specify its use at low concentrations only. The commenters stated that facilities need to perform preliminary stack tests to determine whether the emission concentrations are above or below 50 parts per million (ppm) to select which test method to use for compliance testing. If the control device outlet concentration is close to 50 ppm, the facility will need to test with both methods and use the one that meets the requirements of the regulation or risk repeated compliance tests until the right test method is used. This difficulty could be eliminated by allowing, but not requiring, the use of EPA Method 25 at concentrations above 50 ppm and allowing the use of EPA Method 25A at all concentrations.

Response: Guidelines have been established in Emission Measurement Center Guideline Document GD-033 (EMC GD-033) for use of Method 25A. The language in the wood building products (surface coating) MACT rule is consistent with other MACT rules concerning the required use of Method 25 and Method 25A. The wood building products (surface coating) MACT rule is also consistent with other rules concerning flexibility around the 50 ppm cutoff by using the language "expect the total gaseous organic concentration as carbon to be 50 ppm or less."

2.6.3 Supplier Information vs. Method 311 and Method 24

Comment: Several commenters (IV-D-05, IV-D-06, IV-D-07, IV-D-10, and IV-D-15) stated that the MACT floor for this rule was set on the basis of finishing supplier information

provided in a §114 survey of wood product facilities. The supplier information was based on finish formulations, not Methods 311 and 24 tests. However, the proposed rule sets the test methods as the ultimate measure of compliant coatings. This change is not supported by any information/data contained in the docket. If supplier tests indicate different HAP levels than do the formula-based levels used in the surveys that created the MACT floor, the MACT floor will need to be recalculated.

EPA has indicated in communications since the proposal that test flexibility within Method 311 can address these industry concerns. However, without test data for verification, too much uncertainty remains. If adjustments to the Method 311 protocol prove to be sufficient to resolve this issue, EPA will still need to work with industry to develop the appropriate guidance for permitting authorities regarding this test.

Following the publication of the rule, commenters IV-D-07 and IV-D-10 requested an extension of the comment period for the explicit purpose of developing data to address our concerns. In the denial of the commenters' request, EPA stated that "testing some of the coatings that were included in the floor facilities is unlikely to affect the MACT floor determinations for primarily two reasons. Data were collected in 1998 and represent the base year 1997, so it would be difficult to extrapolate any test results conducted on coatings in use at the present time. Also, testing a portion of the coatings represented in the floor data base would not allow for comparisons between the test data and all the remaining coatings in the floor data."

Many of the coatings that established the floor are still in use, thus the commenters did not agree with this analysis. The commenters planned to pursue comparison data collection. If those data indicate discrepancies that affect the MACT floor calculations, the commenters recommended that EPA consider any such information before the proposed rule is finalized.

Response: For the types of coatings described by the commenters, you may use Method 24 to determine the mass fraction of nonaqueous volatile matter, which you can then use as a substitute for mass fraction of organic HAP. You may use Method 311 for determining the mass fraction of organic HAP, along with other methods described in §63.4741(a)(1) through (a)(5). The final rule has been changed to clarify that discrepancies between the methods for determining the mass fraction of organic HAP must be resolved through consultation with the regulatory compliance authority.

2.6.4 Cure Volatiles

Comment: Commenters IV-D-05, IV-D-07, and IV-D-10 stated some of the coatings used in the wood building products (surface coating) MACT produce cure volatiles when analyzed by Method 311. If the cure volatile is not an intentionally added ingredient subject to Occupational and Safety Health Administration (OSHA) quantity reporting requirements, Method 311 is not a problem. In other cases, methanol and free formaldehyde may be intentional ingredients, but Method 311 will produce amounts larger than the formulation amount.

Per the commenters, the EPA steward for the wood furniture manufacturing MACT has allowed industry to state that the reportable VHAP content comes from formulation data because no approved Method 311 test condition for VHAP content of the wet coating exists where cure volatiles are possible. Commenters IV-D-07 and IV-D-10 recommended that this language content be incorporated into this rule where possible Method 311 exceedances come from cure volatiles.

Response: Cure volatiles are the HAPs that are formed and emitted by chemical reaction when certain waterborne or powder coatings are cured or dried at elevated temperatures. These HAPs are contrasted with the volatile HAPs that are added to a liquid coating when it is manufactured (and are listed in the formulation data). The subject of cure volatiles is complex, and data are limited and sometimes conflicting.

At the time that we requested data on coatings from industry, there was no consensus method for quantifying emissions of cure volatiles. The EPA's Method 311, for example, specifically excludes these emissions and notes that a "separate or modified" test procedure must be used to measure cure volatiles. Because coating-specific data were unavailable, we did not consider cure volatiles as emissions contributors for the purpose of developing the proposed emission limits. As a result, cure volatiles need not be measured or reported in a facility's compliance calculations.

You may use Method 311 for determining the mass fraction of organic HAP, along with other methods described in §63.4741(a)(1) through (a)(5). If you choose to use formulation data, note that the final rule states that discrepancies between the methods must be resolved through consultation with the regulatory compliance authority.

2.6.5 UV Coatings

Comment: Commenters IV-D-05, IV-D-07, and IV-D-10 stated that styrene monomer can be a significant component of radiation-cured coatings for some wood building products sources. Method 311 specifically states that ASTM 4827-93 or ASTM D 4747-87 can be used for styrene determination. These methods are designed to determine small quantities of residual styrene in latex coatings. The interlab precision is 71 percent and 59 percent, respectively.

Obviously, the precision values make these test methods unsuitable for source categories with extremely low compliance values, such as the subcategories in the proposed rule.

The commenters recommended that EPA continue to be active in the development of the ASTM test method and reference it in this standard in the future.

Response: Both ASTM D4827-93 ("Standard Test Method for Determining the Unreacted Monomer Content of Latexes Using Capillary Column Gas Chromatography") and ASTM D4747-02 ("Standard Test Method for Determining Unreacted Monomer Content of Latexes Using Gas-Liquid Chromatography") are the recommended test methods for styrene monomer content determination, incorporated by reference from Method 311. If these values cannot be determined using these test methods, the owner or operator may submit an alternative technique for determining their values for approval by the administrator.

2.6.6 Helium Gas Pycnometer

Comment: Commenters IV-D-07 and IV-D-10 stated that ASTM D 6093 requires the use of a helium gas pycnometer. This instrument, which comes from a single source, is priced at approximately $5,000. Not a single instrument is available at the coating manufacturers who supply the wood building products industry. The test has not been evaluated for the wood building products industry. This is not surprising because both ASTM D 2697 and D 6093 do not approach the numbers in the test methods precision and bias statements for coatings formulated above the critical pigment volume concentration (CPVC). The volume of coatings used in the wood building products industry is heavily weighted towards coatings above the CPVC. Analytical chemists from ASTM have shown that for high-CPVC coatings, the volume measured can be easily 10 percent greater than the theoretical volume. Because the measured volume goes in the denominator of the equation, this higher value calculates to a lower

compliance result. Although this discrepancy works in favor of the source, it is not in the best interest of rulemaking to promulgate faulty regulation that ignores technical difficulties.

Response: Helium gas pycnometers are commercially available from several vendors. We were able to locate three vendors that offered eight different pycnometer models through Internet searches. The price range for pycnometers and helium gas pycnometers, as identified in our search, varied from manufacturer to manufacturer and ranged from $4,280 to $18,000. The cost of the instrument relates to that of similar analytical instruments required in the conduct of normal business practices.

The test methods do measure coverages of coatings in both low and high pigmented volume coatings. The difference between the test methods is their ability to measure nonvolatile matter in the normal pigment volume concentration range (Method D-2697) and at the high pigment volume concentration range (Method D-6093). Therefore, an analyst can determine which test method is suitable for the coating in question.

A third option has been added to the final rule that allows the amount of coating solids to be calculated using the total volatile matter content of the coating and the average density of the volatile matter in the coating. If these values cannot be determined using one of the specified methods, the owner or operator may submit an alternative technique for determining their values for approval by the Administrator.

2.6.7 ASTM D2697 and D6093

Comment: Commenters IV-D-07 and IV-D-10 stated that the preparation of the solid coating film for actual measurement by either ASTM D 2697 or D 6093 presents significant difficulties for coating types used in the wood building products industry. Also, ASTM D 2697 and D 6093 are not applicable as currently written for the volume of solids measurement of radiation-cured coatings.

The commenters stated that film preparation in ASTM D 6093 requires a bake of 110°C for 1 hour. The cure would be inadequate for many building products coatings, and the film would not "shrink" to a size represented by the source's cure parameters. This would lead to higher volume solids measurements.

The commenters stated that ASTM D 2697 requires the use of mercury in some cases. Mercury is a material that, for health reasons, is not allowed to be used in most industrial labs and presents a significant disposal problem. In place of mercury, ASTM D 2697 suggests the use of water. Many of the coatings used by the wood building products industry contain technology that does not allow the coating surface to be uniformly wet by water (the water forms beads). The ASTM D 2697 also suggests that a little surfactant in the water provides uniform wetting of these types of surfaces. This is true, but one of the most important tests for accelerated performance of a coating on a wood building products substrate is ASTM D 5795, "Determination of Liquid Permeability of Applied Coatings on Hardboard and Other Composite Wood Products via Cobb Ring Apparatus," which uses surfactant water placed on a coated surface and calculates the weight gain per standard area. It appears a suitable liquid medium is not available for using ASTM D 2697 with wood building products coatings. The ASTM D 2697 also has inadequate cure conditions for many building products coatings, which will greatly affect the weight pick up.

The commenters believed that for safety concerns, test inaccuracies on many coatings, and general lack of proven knowledge about the test methods, all methods should be allowed in determining the volume fraction of coating solids, but that none of these options should take precedence over the others.

Response: Both ASTM D2697 and ASTM D6093 have been used in three previous final rules: boat manufacturing, large appliance coating, and metal coil coating. The provision that facilities may rely upon either the ASTM methods or formulation data without one prevailing over the other was made in the metal coil coating NESHAP. The large appliance coating NESHAP also does not specify that ASTM methods will govern over formulation data for volume solids. Therefore, we have revised the final rule to indicate that neither of these options takes precedence over the other.

If these values cannot be determined using the specified methods, the owner or operator may submit an alternative technique for determining their values for approval by the administrator.

2.6.8 VOCs (Method 24) vs. HAPs (Method 311)

Comment: Commenters IV-D-07 and IV-D-10 stated that Section 63.4741 allows an option of using EPA Method 24 as an alternative to Method 311. This method provides a lower-cost method to demonstrate that HAPs meet the required limit by showing that the total VOC content of a coating is less than the proposed limit for HAP content in the coating. In this demonstration, all VOCs are assumed to be HAPs, and if the VOC content of the coating meets the limits, then the HAP content meets the limit. The commenters appreciated having an alternative method available.

However, Method 24 requires that the water content of the coating be determined and subtracted from the total volatile content. The variability of this determination is greater than the limit proposed by this rule. Therefore, the method is of no practical use. For example, the between-laboratory variability of determining the water content of a coating is 7.5 percent, and the variability in determining the total volatile content is 4.7 percent. A coating may be 50 percent water by weight and have a density of 9 lb/gal. The variability in measuring the water content of the coating would be 9 lb/gal x 0.5 lb water/lb coating x 0.075 = 0.34 lb/gal. This variability is the effective detection limit of the method. If the HAP content of the coating is less than that of the detection level, the method is incapable of distinguishing a coating that meets the proposed HAP content limit from one that does not.

Method 24 can be used only to assess compliance with the limit for "Doors and Windows," "Flooring" for new and existing facilities, and "Interior Wall Paneling and Tileboard" for existing facilities.

An alternative method to Method 24 would be useful. The EPA Method 25D can also determine the volatile content of a material. The results are reported as carbon but could be adjusted to reflect other molecular weights. Commenters IV-D-07 and IV-D-10 suggested that EPA also allow use of Method 25D measurements of volatile content of a coating to demonstrate that coating's lack of volatile content.

Response: We agree with the commenters concerning the use of Method 24. Therefore, the final rule includes the provision that Method 24 be used only for the following subcategories:

- Doors, Windows, and Miscellaneous;
- Flooring; and

- Interior Wall Paneling and Tileboard (existing sources only).

Guidelines have been established in Emission Measurement Center Guideline Document GD-033 (EMC GD-033) for use of Method 25A in lieu of Method 25; there appears to be no similar guideline for using Method 25D in lieu of Method 24. While Method 24 has been used in several (nine) previous final MACT standards for a variety of source categories, including printing and publishing industry, large appliance coating, metal coil coating, shipbuilding and ship repair, and wood furniture manufacturing operations, Method 25D is not appropriate for the categories for which Method 24 does not work well. However, affected sources have the option of submitting alternative test methods under Section 63.7(f) of the General Provisions.

2.6.9 Test Method Data Truncation Procedure

Comment: Commenters IV-D-05, IV-D-07, and IV-D-10 stated that some limits in the proposed rule are expressed as 0.00 kg/L (0.00 lb/gal). The commenters stated that EPA should express the intended floor emission limit to two significant digits (not to two decimal places) at the value justified by the database.

The commenters cited the compliance test method data truncation procedure specified in Method 311. According to the procedure, the zero limits are effectively 0.00099 lb/ton or 0.00099 kg/L, which are not consistent with each other, as per "significant digits." These emission limits are clearly below the detection levels of the compliance demonstration methods and are likely below the floor because the data used to set the floor were handled differently. If the "zero" is to be interpreted as meaning absolutely no HAPs—not even one molecule—in the coating, then they are impossible to comply with and are well beyond the floor.

The commenters also noted the use of both metric and English units expressed with two digits after the decimal point. For some of the categories, there is only one significant digit in the limit which could be confusing because a source may demonstrate compliance with one set of units but not with the other set of units. The metric equivalents should list an additional significant digit because the proposed rule has the mathematical effect of rounding down the English units, which were the basis for the MACT floor calculation.

The commenters concluded that the rule should clearly specify whether compliance demonstration calculations are to be rounded or truncated to the number of decimal places

specified in the emission limit. The commenters recommended that results be truncated to three digits after the decimal.

Response: The provision in Method 311 to truncate values to three decimal places was not found. There are specifications that carrier gas purity be 99.995 percent or higher and that coating sample weights are to be determined with a balance capable of weighing to 0.1 mg (0.0001g). This value is used in calculations (corrected weight of reference material equals the weight of the reference material multiplied by the purity); however, this does not mandate that the analyst should truncate calculations of material weights to three decimal places.

The emission limit (metric) units have been changed from kg HAP/liters of solids to g HAP/liters of solids. Also, language has been added to the preamble to specify that compliance is demonstrated by rounding the rolling 12-month HAP emission rate. Affected sources can comply with either the English units (lbs HAP/gal solids) or the metric units (g HAP/ liters of solids).

2.6.10 Metric Versus English Units

Comment: Commenters IV-D-05, IV-D-07, and IV-D-10 cited the difficulty of using metric units for compliance. Two difficulties arise with this requirement. Americans in general do not understand metric measurements even though conversion tables are readily available. Secondly, paint calculations and data terminology are laborious for experienced coating chemists using English units and sometimes difficult to understand even though these calculations are now done by computer. The commenters specifically cited densities and the amount of HAP as two of the most difficult conversions.

Finally, the commenters cited the determination of total volume of coating solids. No source in this MACT category tracks solid coating volume, only the wet gallons. Unless alternatives are created, the commenters believed that the largest reporting discrepancies in the industry will occur in this calculation.

Industry requests that calculating and reporting be done in English units for all compliance options in order to improve the overall understanding of the rule and the accuracy of all compliance reports.

Response: It is a Federal government policy (the Metric Conversion Act of 1975 as amended by the Omnibus Trade and Competitiveness Act of 1988) to use metric rather than English units in regulations. While metric units are included, compliance is not required to be demonstrated using metric units because the MACT floor determination was conducted using English units. Affected sources may demonstrate compliance using either of the emission limit units.

2.6.11 Solvent Blend Technical Data

Comment: Commenter IV-D-11 claimed that §63.4741(a)(5) states that when test data and manufacturer's data for solvent blends are not available, you may use the default values for the mass fraction of organic HAP in these solvent blends listed in Table 5 or 6 of this subpart. However, commenter IV-D-11 knew of no reason why manufacturer's data should be unavailable. This allowance makes it too easy for a facility to not even look for manufacturer's data.

Response: When developing the standards, we found that many solvent suppliers only provide a range of contents in certain products such as solvent blends due to variability of raw materials (e.g., petroleum) and process steps. This solvent blend provision is included in other promulgated MACT rules (e.g., the large appliance coating MACT and the boat manufacturing MACT) and has also been included in several other proposed MACT rules including miscellaneous metal parts coating NESHAP and metal furniture coating NESHAP. Solvent blend data should only be used when no other information is available. While the use of the tables is allowed, states have the discretion to be more stringent and may require sources to locate manufacturer's data for solvent blends.

2.6.12 Updated ASTM Standards

Comment: Commenter IV-D-01 informed us that several of the ASTM standards referenced in the proposed rule have been updated: D1475-90 is now D1475-98, D2369-95 is now D2369-01, D3792-91 is now D3792-99, D4017-96a is now D4017-02, D4457-85 is now D4457-02; D1979-91 is now D1979-97, D4747-87 is now D4747-02, and PS9-94 has been withdrawn without replacement.

Response: The EPA thanks the commenter for this information. The commenter offered ASTM standards that have been updated by ASTM since being listed in the proposal. Section 12(d) of the National Transfer Technology Transfer and Advancement Act (NTTAA) of 1995 (Public Law No. 104-113; 15 U.S.C. 272 note) directs the EPA to use voluntary consensus standards in their regulatory and procurement activities unless doing so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards developed or adopted by one or more voluntary consensus bodies. The EPA conducts searches to identify standards compatible with EPA Methods, in this case EPA Methods 24 and 311.

The ASTM Standard D-3154-00 is not an acceptable alternative in lieu of EPA's standard reference method. We removed reference to PS9-94 and replaced it with ASTM D5910-96.

The ASTM D1475-90, ASTM D2369-95, ASTM D3792-91, ASTM D4457-85 (Reapproved 91), and ASTM D1979-91 are incorporated by reference into EPA Method 24. ASTM D1979-91, ASTM D3432-89, ASTM D4747-87, ASTM D4827-93, and ASTM PS9-94 are incorporated by reference in EPA Method 311. These standards are already acceptable procedures that were actually incorporated by reference in Method 24 as they were established at the time of EPA review.

Therefore, for those standards already incorporated into EPA Methods 24 and 311, the standards cannot be changed to reflect the dates specified by the commenter. The EPA cannot cite the new dates of the updated standards because it has not been able to determine if these updated versions are technically the same as the previously incorporated versions. If the updated versions of these methods were technically different from the previously incorporated versions, their use might change the applications of the Methods. This might in turn affect the stringency of the emission limits that use Methods 24 and 311 to determine compliance.

2.7 COST AND ECONOMIC ASSUMPTIONS AND IMPACTS

2.7.1 Compliant Coatings Costs

Comment: Commenters IV-D-05, IV-D-07, and IV-D-10 stated that there are many compliance activities that are part of title V that overlap and are duplicated in the proposed rule for the industry. If all of the 205 affected major sources identified choose solvent substitution

and/or change to non-HAP compliant coatings, the estimated cost impact may be $2 to $5 (conversion to non-HAP coatings or water-based coatings) per gal.

In most cases, the larger percentage of major sources that surface coat their products use a greater quantity of coatings on an annual basis and therefore would incur a higher material cost. As the industry consolidates, this would support more coating being used at locations that have acquired volume at the expense of those sources that have exited the industry.

Response: The cost estimates were based on information from each individual facility in the project database including the total amount of annual coating usage, the presence of add-on control equipment, and the overall size of the facility/corporation. This analysis is contained in the Background Information for Proposed Standards, dated May 2001 (Document EPA-453/R-00-003) and contains more details, including the specific assumptions that were made.

Compliance costs have been updated slightly for the promulgation version of the regulation. However, the cost assumptions used in Document EPA-453/R-00-003 were maintained, with changes made to the number of affected sources and the emission limits applicable to the "Other Interior Panels" subcategory and the "Doors, Windows, and Miscellaneous" subcategory. As a result, the overall industry costs have changed to $22.5 million. Overall, we believe that the costs to change to low- or no-HAP coatings should be close to our estimates.

According to the economic analysis, this rule is not expected to have a significant impact on the industry so few, if any, sources are expected to close as a result.

2.7.2 Title V Costs

Comment: Commenters IV-D-05, IV-D-07, and IV-D-10 claimed that if a source already incurs fees for emissions from title V or their annual emission rate (e.g., for VOC), HAP emission would already be a part of the annual fee, and therefore the sources should not incur duplication fees. If the EPA enforces a fee solely for HAP emissions, it should allow plants to separate HAP from VOC and not pay an additional fee because VOC fees already include HAP.

Recordkeeping for labor hours to collect, assemble, and report on usage data is a part of existing compliance activities, but additional time and resource allocation will be required to

comply with MACT recordkeeping and reporting. Initially, this added cost will be front loaded as recordkeeping and reporting procedures are developed.

The EPA can reduce and consolidate costs by directing the States to derive as much of the MACT performance, monitoring, data collection, recordkeeping, and reporting as possible from existing title V requirements.

Response: The cost analysis included only costs incurred through MACT recordkeeping and reporting. If existing compliance activities include some of these overlapping requirements, these costs will not be duplicated. Therefore, the actual facility costs could be lower than the calculated cost analysis under certain circumstances.

2.7.3 Monitoring Costs

Comment: Commenters IV-D-07 and IV-D-10 stated that monitoring costs to confirm ongoing performance of control devices will undoubtedly increase operating costs because system upgrades may be necessary for some sources to attain data to support continuous compliance with the MACT criteria.

Response: All estimated costs are based on EPA's Cost Manual and provide an estimate of the average costs; therefore, some components may be higher in reality than in the estimate. Other components, however, may be lower than estimated, such as performance tests, which the commenters stated were conducted as part of title V permit requirements. Overall, we believe the actual monitoring costs to the industry should be close to these estimates.

2.7.4 Economic Impacts

Comment: Commenters IV-D-07 and IV-D-10 felt the statement made regarding economic impacts assumes marginal loss for small and large sources in terms of the representative median profit margin. This assumption may hold true in some categories, but companies operating already on low-margin scenarios should not be forced into a lesser profitable position, which will happen because this is a nonvalue-adding standard. Without some degree of relief assistance in terms of fee restructuring or emission reduction credits, industry consolidation will likely occur.

Response: The reduction in profit margin provided in the preamble is a result of applying an economic model and uses economic and financial data that reflect the affected industries and their markets. The application of this model is not predicated on any assumptions other than those found in standard economic theory. Also, this economic model presumes the producers receive the full impact of the regulation and have no ability to pass through any costs to consumers. In that sense, the estimated economic impacts are likely to overstate the actual economic impacts associated with the proposed rule. It should be noted that the reduction in profit margin is only 0.1 percent, hence it is likely that even those firms experiencing a greater reduction in margin should not experience a large fall in profits. It also should be noted that this MACT standard is proposed at the least stringent level of control and burden allowed by the Act. Most regulations such as this one are likely to be, but not always, "nonvalue adding" in the sense that pollution control activities may not lead to increases in profits. Finally, given the low level of impact estimated for this proposal, the likelihood of additional industry consolidation spurred by this rule seems minimal.

2.7.5 Capture and Add-On Control Equipment Costs

Comment: Commenter IV-D-04 stated that EPA's cost estimate for the "capture and add-on control" (capture and control) technology option appear, even with limited information, to be inaccurate. The EPA estimated that the currently available emissions capture and control technologies would reduce HAP emissions by approximately 5,300 tons each year. The EPA also estimates that 205 facilities would be affected by the proposed rule. On average, this would result in almost 26 tons per year per facility in emission reductions from utilizing the more aggressive capture and control option identified and considered in the proposed rule, or alternatively, the average amount of HAP per facility that would continue to be emitted under the proposed NESHAP. Coincidentally, 25 tons is also the threshold that determines a major source under the NESHAP/MACT requirements of the Act. The EPA estimates the cost of the capture and add-on control option at $25,300 per each ton of HAP reduced. Although this estimate seems high, it is still within the upper range of cost effectiveness that regulators consider for reducing VOC emissions that contribute to tropospheric ozone formation. Combining this estimate with EPA's cost estimate of $25,300 per ton of HAP reduced via the capture and control

option would yield a cost of approximately $650,000 per 26-ton-controlled facility incurred each year. These estimates are well beyond any normal or typical cost of combined capture and control systems. Given that EPA has rejected the option of requiring "add-on controls" solely on the basis of cost, the Institute of Clean Air Companies (ICAC) invites EPA to contact it to better characterize the true cost of capture and control of HAP emissions from this industry.

Response: The cost estimate includes more than the regenerative thermal oxidizer (RTO). The estimate includes equipment purchase, foundation, installation, labor, engineering, construction, and operation, according to the EPA cost manual. It also includes a cost for permanent total enclosures (PTEs), which are built around an emission source to ensure 100 percent capture of organic HAP emissions. In addition, recordkeeping and reporting costs, computer equipment purchase costs, and performance testing costs are included. Equipment costs (for PTEs and computer equipment) were annualized over a 5-year period with an annual interest rate of 7 percent.

There are many facilities that will not be able to comply with the emission limits through the use of add-on control devices. Only a control device operating at extremely high efficiencies can meet any low emission limit. Therefore, it is incorrect to average the amount of HAP reduction over all subcategories. Depending on the subcategory, cost effectiveness was estimated to be as low as $1,900 per ton of HAP ("Interior Wall Paneling and Tileboard" subcategory) and as high as $29,300 per ton of HAP removed ("Exterior Siding and Primed Doorskins"). This is due to the MACT emission limits and some subcategories having less HAP available for removal.

2.7.6 Health and Environmental Risk

Comment: Commenter IV-D-04 stated that the health and environmental impacts and risks to HAP emissions from the wood building products industry has been well documented by EPA, particularly within the context of the NESHAP/MACT program requirements. The typical emissions of HAP from the wood building products source category include organic HAP such as xylenes, toluene, ethyl benzene, ethylene glycol butyl ether (EGBE), glycol ethers, methyl ethyl ketone (MEK), methyl isobutyl ketone (MIBK), methanol, styrene, and formaldehyde, as well as inorganic HAP, including chromium, manganese, and antimony compounds. In addition to direct

health impacts from exposure to HAP, many of these HAP emissions are also VOC emissions that continue to contribute to the persistent formation of tropospheric ozone that is a health problem across the United States, particularly in heavily populated areas. Although the commenter generally disagreed with any proposal (Section III, D) to defer a health and environmental risk evaluation, any additional benefit, either qualitative or quantitative, would ensure that implementation of the capture and control option would be a higher priority. In addition, any avoided health or environmental cost would also show the capture and add-on control option as being that much more cost effective.

Response: No response needed.

2.7.7 High-Velocity Low-Pressure (HVLP) Spray Guns

Comment: Commenter IV-D-11 believed that the reduction in waste and volatile HAP emissions from limiting the use of conventional spray guns (similar to restrictions in Subpart JJ) justifies doing so in this subpart, even if only a small number of facilities use spraying versus roll coating or other coating technologies for wood building product finishing. In the commenter's experience, most facilities find it cost effective to use HVLP spray guns due to materials cost savings but may not have explored this option without regulatory incentive.

Response: Based on the information we collected on the wood building products industry, spray coating is currently used only at a few facilities for specific applications; therefore, the cost of changing to spraying would most likely represent an increase in cost with only a minimal reduction in emissions. We have decided that this is not a viable option for the wood building products NESHAP.

2.8 COMPLIANCE PROCEDURES

2.8.1 Pollution Prevention Initiatives

Comment: Commenters IV-D-05, IV-D-07, and IV-D-10 stated that simplicity and flexibility could be added to the rule by proposing a fourth compliance option. The commenters stated there are no specific provisions in the proposed rule to encourage either the use of pollution prevention initiatives to reduce HAP emissions, or the use or application of alternative

technologies including control devices, to minimize the overall impact of HAP emissions on the environment. The proposed rule should address the use of on-site existing combustion devices that could be used for the treatment of contaminated gases.

Response: The emission limit(s) that the affected source must meet are in §63.4690 of the final rule. Compliance Option 3 allows the use of add-on control devices and is described in sections §§63.4760 through 63.4768. Compliance Option 3 does not preclude the use of on-site existing combustion devices. However, you must submit any request for innovative control technology to the Administrator for approval. Plans for monitoring and recordkeeping requirements should be submitted along with such proposals.

2.8.2 Inadvertent Use

Comment: Commenters IV-D-05, IV-D-07, and IV-D-10 stated there should be allowances made for inadvertent or unavoidable use of HAP-containing thinners/cleaners. The commenters recommended this be done in two ways. First, allow the use of a "de minimis" volume of such materials. Second, create an easy procedure that would allow a facility to switch from the compliant coating Option 1 for limiting HAP to Option 2, which would allow some degree of HAP in the thinners/cleaners.

Response: Major sources using only a few gallons of coatings annually, such as the one described by the commenters, are encouraged to utilize the low coating-usage applicability cutoff criteria. Sources that coat wood building products but are not commercial manufacturers are not required to comply with the final rule. Sources that are commercial manufacturers are not required to comply with the final rule if the source uses less than 1,100 gal (4,170 liters) per year of surface coatings.

A source that uses HAP-containing cleaning and thinning materials can choose Option 2 to comply with the standard. Option 1 would also be available to a source that uses non-HAP cleaning and thinning materials and complies with the emission limits under that option.

If you switch between compliance options for any coating operation or group of coating operations, you must document this switch as required by §63.4730(c), and you must report it in the next semiannual compliance report required in §63.4720.

2.8.3 Approval Authority for Monitored Parameters

Comment: Commenters IV-D-05, IV-D-07, and IV-D-10 did not understand EPA's rationale for proposing to retain approval authority over the parameters to be monitored to demonstrate compliance. They were not aware of any other MACT standard in which EPA retains the authority to approve these parameters. Among the proposed MACT standards, Subpart QQQQ represents the least controversial MACT standard, and therefore it should not be made the most stringent. The references should be deleted.

Response: Section 63.4767 of the rule specifies which parameters are to be monitored for the following types of control devices: thermal oxidizers, catalytic oxidizers, carbon adsorbers, concentrators, and emission capture systems. For example, if a source plans to use a thermal oxidizer as part of their compliance strategy, the rule requires them to monitor the combustion temperature as the operating parameter. Section 63.4780(a) states that the rule can be implemented and enforced by us, the EPA, or a delegated authority such as States, local, or tribal agencies. As specified in Section 63.4780(c), we have retained approval authority for alternatives to the work practice standards, major alternatives to the test methods, major alternatives to monitoring, and major changes to recordkeeping and reporting. Therefore, we would only have approval authority over the parameters to be monitored associated with a (alternative) control technology not included in the rule.

2.8.4 Biofilters and Other Innovations

Comment: Commenters IV-D-05, IV-D-07, and IV-D-10 stated that, for facilities using compliance Option 3 through the use of add-on controls, the provisions are exclusively geared towards thermal oxidation. The commenters recommended that provisions for biofilters and other innovation means be added to compliance Option 3.

Response: Compliance Option 3 is geared toward the use of thermal oxidation because almost all data that were collected and analyzed for the rule involving add-on controls focused on thermal oxidation. We also tried to be consistent with other surface coating MACT rules for those affected sources with overlapping requirements. However, compliance Option 3 does not preclude the use of biofilters or other control technologies. You can submit your request for any

innovative control technology to the Administrator for approval. Plans for monitoring and recordkeeping requirements should be submitted along with such proposals.

Because of the type and level of HAP emissions at most wood building product surface coating operations, we do not consider biofilters to be a likely control technology to be applied to such emission sources. Therefore, we have not added specific operating limits and compliance procedures for biofilters to the final rule. However, other recent rules, such as the proposed Plywood and Composite Wood Products (PCWP) rule, include specific operating limits and compliance procedures for biofilters which can be used as examples when submitting your request for an alternative control technology.

2.8.5 Control Device – Data Handling Guidance

Comment: Commenters IV-D-05, IV-D-07, and IV-D-10 stated that data handling guidance needs more consistency. The limits for five of the seven listed control devices shown in Table 3 are in terms of 3-hour block averages. Data are collected at least once every 15 minutes. This is interpreted to mean that every hour a 3-hour average is recalculated (as opposed to recalculating more or less frequently, say every 15 minutes or once every 3 hours). In Table 3, be consistent in the use of block averages. For example, for thermal oxidizers, proposed rule Section 63.4692(b)(ii) specifies "to reduce the data to block averages," and (iii) specifies "to maintain the 3-hour average combustion temperature at or above the limit." Subsection (iii) should read "to maintain the 3-hour block average combustion temperature at or above the limit."

Language should be added to the definition sections that specifies how often the 3-hour averages are calculated so no reader has to make assumptions. Some permitting authorities use "block" to mean fixed blocks (e.g., noon, 3 pm, 6 pm, etc.), and "rolling" to mean an hourly recalculation, which may lead to some confusion.

Response: We agree with the commenters. We made corresponding changes to Table 3 to Subpart QQQQ to read, "maintain the 3-hour block average" wherever warranted. In this case, the data are the values collected at least every 15 minutes over a 3-hour period. Block average is an average of data points collected over a specified, continuous block of time (e.g., a 3-hour block might be noon to 2:59 p.m., with a subsequent total of eight 3-hour block average periods in a 24-hour period).

2.8.6 Catalytic Oxidizer – Minimum Operating Temperature

Comment: Commenters IV-D-07 and IV-D-10 stated that establishing a minimum operating temperature of a catalytic oxidizer as the 3-hour average combustion temperature during the initial performance test is inappropriate. For a facility to assure continuous compliance with this requirement, it will need to operate the catalytic oxidizer at a temperature lower than the anticipated actual operating or design temperature during the compliance test to establish a margin of safety to allow for variation in combustion chamber temperature.

Commenters IV-D-07 and IV-D-10 stated that the idea behind this monitoring method is that a temperature rise resulting from combustion of the VOCs heating the catalyst will indicate that the catalyst is operating properly. Compliance is demonstrated by maintaining the temperature rise across the catalyst greater than the amount established during the initial performance test. This approach to monitoring catalytic systems has several fallacies.

The temperature rise across the catalyst is a function of the organic loading to the catalyst. Any time the inlet loading of VOCs to the catalyst drops below that which occurred during the performance demonstration test, the result will be a reduced temperature increase across the catalyst. The unit would be considered to be out of compliance any time the coating operation would be operated at any condition other than full load. The only way a mill could rely on this method to demonstrate compliance would be to continually feed supplemental organic fuel to the catalyst to maintain the temperature rise at all times—an approach that negates the monitoring approach concept because automatic controls would just increase the supplemental fuel flow if the catalyst efficiency decreased.

In many cases, the organic loading to the catalyst will be too low to create a measurable temperature rise across the catalyst. The VOC concentration in the gas would need to be greater than 360 ppm to cause a 6°F temperature rise across the catalyst. The minimum thermocouple sensitivity required by the rule is 6°F for a catalytic system operating at 800°F.

In summary, this compliance monitoring technique is incapable of demonstrating compliance with a percent removal requirement. This option should be removed from the rule. To keep it in the proposed rule may result in permit writers inappropriately including the provision in draft permits and issuing of permits with which compliance is impossible to facilities unaware of the difficulties in these methods.

Response: We included an alternative operating limit for catalytic oxidizers in §63.4767(b)(3) and (4) of the proposed rule. If the facility develops and follows an on-site inspection and maintenance plan for the catalytic oxidizer, the facility can monitor only the temperature before the catalyst bed.

2.8.7 Control Device – Operating Parameter Deviation

Comment: Commenters IV-D-05, IV-D-07, and IV-D-10 stated that regarding the discussion of operating parameter deviation in Section 63.4762(c)(2) of the proposed rule, assuming that the efficiency of an add-on control device drops to zero if the monitoring parameters deviate from the conditions experienced during the compliance demonstration test is not reasonable. The rule should be modified to allow the facility to re-establish the removal efficiency of the unit at the conditions that deviated from the initial compliance demonstration and use the newly established HAP removal rate in calculating the annual average HAP emissions per volume of coating.

Commenter IV-D-05 stated that the rule should be modified to allow the facility to re-establish the control device HAP removal efficiency at the new operating condition rather than using a 0 percent removal efficiency.

Response: If the monitored parameter deviates from the acceptable range and in the absence of any supporting performance test data (results) for the control unit at the conditions under which the deviation occurred, an assumed zero percent control efficiency must be used for all HAP emission calculations associated with the duration of the deviation. This language is consistent with other surface coating rules with similar emission sources and control devices, such as the metal coil coating NESHAP and the large appliance coating NESHAP. However, sources can opt to run performance tests at various conditions (e.g., lower temperatures) to have such information available to support the lower HAP removal efficiency that could be used in the calculations for determining the 12-month rolling average HAP emission rate. Also, the rule provides flexibility to sources with their startup, shutdown, and malfunction plan (SSMP) which could also be used to support what HAP emission removal efficiency can be used for a time period associated with an operating parameter deviation.

2.8.8 Thermal Oxidizer Performance Test Issues

Comment: Commenters IV-D-07 and IV-D-10 stated that in Section 63.4767 (a)(2) on thermal oxidizer minimum combustion temperature, establishing a minimum operating temperature of a thermal oxidizer as the 3-hour average combustion temperature during the initial performance test is inappropriate. For a facility to assure continuous compliance with this requirement, it will need to operate the thermal oxidizer at a temperature lower than the anticipated actual operating or design temperature during the compliance test to establish a margin of safety to allow for variation in combustion chamber temperature. If a facility is required to operate the unit at the temperature established during the last compliance test in future compliance tests, it will have to continuously raise the operating temperature of the unit. Establishment of minimum operating temperature of thermal oxidizers is inappropriate.

Furthermore, a study of thermal oxidizer destruction efficiencies by the National Council of the Paper Industry for Air and Stream Improvement (NCASI) shows that HAP destruction is not affected by the oxidizer temperature over the normal range of operation. (In some cases HAP emissions may increase with combustion temperature. Combustion processes produce HAPs such as formaldehyde.) Minimum thermal oxidizer temperatures are selected to minimize carbon monoxide emissions.

The rule should be reworded to allow the facility to operate the thermal oxidizer at a temperature not less than 50°F below the average established during the compliance test. This would allow the owner of the control device to operate it at the design specifications during the compliance test rather than at some special condition for compliance testing purposes.

Response: Establishing the add-on control device operating limit at the level demonstrated during the performance test is appropriate. The operating limit is based on a 3-hour average (rather than an instantaneous or 15-minute value, for example) to accommodate normal variation during operation. In general, selection of the representative operating parameters for both the process and the control device for conducting the performance test is an important, and sometimes complex, task. The facility does have the option of operating the oxidizer at a lower set-point during the performance test in order to provide a margin of safety during normal operation.

The commenter stated that if they are required in future compliance tests to operate the unit at the temperature established during the last compliance test, the facility will have to continuously raise the operating temperature of the unit. This is not correct; the facility simply would need to operate at the same temperature as previously demonstrated. This would be true even if the facility had lowered the operating temperature for the purpose of achieving an operating limit lower than the normal operating temperature (i.e., a margin of compliance). For example, assume the facility normally operates the incinerator at 1600° F (i.e., the auxiliary burner set point is 1600° F) but decided to lower the set point to 1580° F during the performance test, resulting in an 3-hour average temperature of 1575° F. The operating limit is 1575° F. After the performance test, the facility chooses to reset the incinerator operating set point to 1600° F to provide a margin of safety. There is nothing to prevent the facility from resetting the setpoint to the lower value for the next performance test, thereby maintaining the same operating conditions as previously demonstrated. Furthermore, under this regulation, the facility could establish a new, lower operating limit by conducting future (or additional) performance tests which demonstrate control device efficiency at lower operating temperatures. Of course if a performance test is going to be conducted at a temperature lower than the existing operating limit, it is prudent to assure that this is clearly noted in the test plan submitted to the permitting agency and their approval obtained.

2.8.9 Temperature Monitoring Location

Comment: Commenters IV-D-07 and IV-D-10 stated that in Section 63.4767 (b)(1) the proposed rule requires installation and monitoring of a gas temperature monitor in the gas stream immediately before the catalyst bed in catalytic oxidizers. This requirement may be applicable to recuperative catalytic oxidizers but is not practical for most RCOs.

Most RCOs have two catalyst sections, with supplemental gas heating located in-between. The direction of the gas flow changes periodically to affect the recuperative heat recovery. The temperature rise of gases flowing across the catalyst is constantly changing. In a regenerative catalytic oxidizer (RCO), the catalyst bed is also acting as part of the heat exchange mechanism. Each time the gas flow direction is reversed in an RCO, heat is deposited in part of the catalyst bed and picked up in other parts of the bed. The temperature differential across the

bed is very complex, with a lower temperature at the catalyst outlet than at the inlet at the beginning of the cycle, and the opposite at the end of the cycle. In situations in which part of the VOC combustion occurs in the heat exchange medium prior to entering the catalyst, the inlet temperature to the catalyst will always be higher than the outlet temperature. If monitoring is required at the inlet, two sets of monitors will be required with data recording switched with flow direction.

Response: The commenters properly indicated that most RCOs have two catalyst sections with supplemental gas heating located in-between. The purpose of the supplemental gas heating in-between is to provide the necessary heat input during start-up as well as assure that the minimum temperature necessary to initiate the combustion reaction on the catalyst is maintained during operation, i.e., that a minimum catalyst inlet temperature is maintained. Supplemental gas heating may or may not be necessary to achieve the minimum catalyst inlet temperature during operation, depending upon the solvent loading to the RCO. The intention is to monitor this "minimum" temperature of the gas entering the catalyst to assure that the minimum temperature is maintained at the operating level during which compliance was demonstrated. This can be accomplished by measuring the temperature in the regenerative chambers at one or more locations. There is no intention to require the separate measurement of each "inlet" temperature by switching the data recording back and forth to coincide with the flow direction into the bed. The facility can select the appropriate location(s) for monitoring temperature indicative of a minimum inlet temperature during the performance test. The monitoring location(s) selected may depend on the operating conditions (i.e., VOC loading to the unit) during the performance test and how the unit is expected to be operated in the future.

The rule has been reworded to clarify that the facility can select the specific location(s) for monitoring temperature(s) indicative of the inlet temperature to the catalyst bed(s) for an RCO. The agency intends to issue additional explanation clarifying these measurements as part of the implementation materials for this, and other MACT rules.

The agency recognizes that the temperatures in the regeneration chamber will depend upon the solvent loading to the incinerator. Consequently, the operating temperature established during specific operating conditions during the performance test may not be achievable for all process operating conditions, i.e., at low production levels (low solvent loading to the oxidizer),

the facility may have difficulty meeting an operating limit for the temperature established under high production (high solvent loading) conditions. Multiple performance tests at different process operating conditions may be necessary to demonstrate compliance at an operating temperature that provides flexibility in process operating conditions (also see response to comment 2.8.8).

2.8.10 Conventional HAP Control Technologies

Comment: Commenters IV-D-07 and IV-D-10 had comments on the use of conventional HAP control technologies. The proposed NESHAP does not take advantage of currently available and proven technologies that would substantially reduce emissions from the surface coating of the wood building products industry despite well-documented health information on exposure to HAP emissions typical of this industry. Both the types of HAP emissions that would be controlled and the capture and control technologies are "typical" in the air pollution control industry. For example, oxidizer technologies are commonly and successfully used in many other analogous industries and often in industries with similar HAP emission profiles. In general, there appears to be nothing extraordinary that would preclude utilizing conventional capture and control technologies to reduce HAP emissions from the wood building products industry. The proposal is affirming of this fact such that EPA regards the combination of capture and control systems as technically feasible.

Response: When we collected information from wood building products surface coating operations, only three facilities reported using add-on controls. We agree with the commenters in that oxidizer technologies can be (and are) used by this industry. We also included add-on controls as part of our evaluation of beyond the floor in determining MACT for each of the subcategories. However, the use of low- and no-HAP coatings is a preferable compliance approach from a pollution prevention perspective. We acknowledged the likely use of oxidizers (and other types of add-on controls) by some facilities, and that compliance approach is included in compliance Option 3.

2.8.11 Low-Coating Usage Cutoff

Comment: Commenter IV-D-11 claimed that §63.4681(b) states that a source is subject to this subpart if it uses 4,170 liters (1,100 gal) per year, or more, of coatings (paraphrased). Because the intent of the MACT, as stated in the preamble, is to reduce the emissions of HAPs, the commenter believed that specifying "HAP-containing" coatings would be appropriate to establish a de minimis level for regulation. In this way, some facilities could opt out of regulation by this subpart entirely by material substitution. In addition, the commenter believed that because cleaning materials and thinners are included in emissions calculations, this de minimis level should include HAP-containing cleaning materials and thinner usage (when they are used in the finishing or lamination of any wood building product) as well.

Response: The low-usage cutoff included as part of the applicability criteria for affected sources was based on the total annual coating usage of the smallest (in terms of annual coating usage) facility in the MACT floor database. All facilities in the MACT database have annual coating usages above 4,170 liters (1,100 gallons). When we were evaluating coatings data submitted by the industry, there was some confusion about HAP-content levels that had to be reported, especially for those coatings containing solvents such as mineral spirits, naphthas, and Stoddard solvent. We did not specify HAP-containing coatings in the applicability language to avoid the same issues and confusion. Available data indicate that the coating application processes and control technologies being considered are appropriate for all sources with at least this level of coatings usage.

2.8.12 Work Practice Standards Applicability

Comment: Commenter IV-D-11 stated that not requiring work practice standards for every source, including those using the compliant coatings option, appears unjustifiable. The work practice standards listed (closing containers, cleaning up spills of HAP-containing materials, transporting HAP-containing materials in closed containers, keeping mixing containers closed, and generally just minimizing HAP emissions) are what they would expect a facility to do to comply with §63.6(e)(1)(i) in that they are minimal expectations for good air pollution control practices for minimizing emissions. If the NESHAP is going to specify these minimal expectations, then they should be specified for every source.

Response: Emissions from the activities covered by work practice standards are accounted for in compliance Options 1 and 2 (as compliance for these options requires recordkeeping and reporting that accounts for the mass of all organic HAP used). Compliance Option 3 does not account for emissions from the operations covered by work practice standards.

The purpose of the work practice standard is to minimize losses of coating volatiles prior to and after the surface coating operations, which is already a goal of wood building products manufacturing facilities in their efforts to reduce costs and optimize the production process. Thus, we believe that sources will seek opportunities to apply this standard to their own processes in the best way.

2.8.13 Combination Compliance Option

Comment: Commenter IV-D-05 stated EPA should provide regulatory flexibility and encourage resource effectiveness by proposing a fourth compliance option. This option would allow industry to use a combination of any of the three currently proposed compliance options (i.e., material compliance, emission rate without add-on controls, and add-on controls) to meet the respective emission limits. This option would allow for add-on control emissions from specific performance-required finishing coatings without compromising product substitution strategies for other components.

Response: We agree with the commenter, and such provisions were included in the proposed rule to address these concerns. As stated in the proposed rule, Section 63.4691, an affected source can opt to demonstrate compliance with the required emission limits using any combination of compliance options: "You may apply any of the compliance options listed in paragraphs (a) through (c) of this section. You may apply any of the compliance options to an individual coating operation or to multiple coating operations as a group or to the entire affected source. You may use different compliance options for different coating operations or at different times on the same coating operation."

2.8.14 Pollution Control Projects

Comment: Commenter IV-D-05 stated that EPA should provide clarifying language stating that projects undertaken in order to comply with the MACT rule should, as a matter of routine, be recognized as pollution control projects (PCPs).

Response: Emission control projects initiated by major sources to comply with this MACT rule do not require EPA, as a matter of routine, to qualify this action as a pollution control project. Similarly, replacement of an existing emissions control unit with a new or different one (albeit more efficient and less polluting) or the reconstruction of an existing emissions control unit would not automatically qualify as a pollution control project.

In EPA guidance, permitting authorities are allowed to evaluate emission control projects to qualify as a PCP. Also, permitting authorities may evaluate any pollution control procedures that were reasonably designed to reduce emissions but also were designed to increase capacity, decrease production costs, or improve product marketability as a PCP. Generally, before a permitting authority review pending PCP, it is required that the source provide data on the air quality impacts and changes to the emissions profile of the source. A PCP must, on balance, be "environmentally beneficial," and the permitting authority must ensure that the project will not cause or contribute to violations of other applicable rules.

2.8.15 Permanent Total Enclosure (PTE)

Comment: Commenter IV-D-05 stated that the proposed MACT standards propose the use of EPA Method 204 to demonstrate compliance with the proposed applicable emission limitations when using a PTE as a capture system with control devices. The rule should not explicitly require 100 percent capture efficiency (CE) in capture systems because the value of 100 percent CE referenced in EPA Method 204 is simply an assumption. In addition, the proposed MACT rule should allow the use of alternative methods for determining CE in partially enclosed systems.

Response: Section 63.4765 of the rule provides the procedures and test methods for determining the emission capture system efficiency. The rule does not require 100 percent capture efficiency; the rule simply provides an option for assuming 100 percent capture efficiency. A capture efficiency of 100 percent can be assumed if the capture system is designed

and operated to meet the PTE criteria of Method 204. You can use a partial enclosure (an enclosure that does not meet the PTE criteria) and can demonstrate the capture efficiency of the system using the measurement procedures in Method 204 (Sections 63.4765(b-d)). Furthermore, Section 63.4765 (e) specifically allows you to use an alternative protocol to determine the capture efficiency of the system: "you may determine capture efficiency using any other capture efficiency protocol and test methods that satisfy the criteria of either the DQO or LCL approach as described in Appendix A to subpart KK of this part."

2.8.16 De Minimis Level for HAP Thinners/Cleaners

Comment: Commenter IV-D-03 stated that compliance Option 1 in the proposed rule should allow for de minimis level HAP-containing thinners and cleaners to be used. The commenter argued that the zero-HAP thinner/cleaner requirement in compliance Option 1 makes this option unachievable for many facilities that would otherwise meet its requirements.

Response: Compliance Option 2 is available to a source that uses HAP-containing thinners and cleaning materials and complies with the emission limits under that option.

2.8.17 De Minimis Level for HAP Coatings

Comment: Commenter IV-D-08 requested that EPA establish a volume exemption for noncompliant coatings under compliance Option 1. The commenter noted there is precedence for this under the wood furniture manufacturing MACT rule. The commenter recommended that noncompliant "fixative" coatings be allowed under Option 1 in an amount up to 200 gal per application, not to exceed 1,000 gal per year.

Response: Compliance Option 2 is available to a source that uses noncompliant (with the applicable emission limit) coatings. Compliance Option 1 was included as a simple, straight-forward compliance approach which involves all compliant materials and reduced recordkeeping and reporting requirements.

2.8.18 New Source Review (NSR) Requirements

Comment: One commenter (IV-D-08) requested that EPA make clear in the final rule that the installation and use of capture and control technology (compliance Option 3) is exempt from NSR requirements. A facility that chooses to use compliance Option 3 might otherwise trigger NSR under the "major modification" provisions of the Act.

Response: We expect that some wood building products facilities impacted by today's final rule will install capture and control technology to comply with the final HAP control requirements. However, in some instances, some capture and control technology may generate NO_x emissions during normal operations. If NO_x emission increases are great enough, they may trigger the need for preconstruction permits under the non-attainment new source review (NSR) or prevention of significant deterioration (PSD) program. During the development of today's final rule, commenters requested that we consider projects designed to comply with MACT requirements and reduce HAP emissions to be a pollution control project (PCP). We believe the commenters wants their projects defined as PCP within the context of PSD and NSR, such that with the installation of add on controls meeting the final rule would qualify for an exemption from NSR/PSD.

In 1992, we adopted an explicit PCP exclusion for electric utility steam generating units (57 FR 32314). In a July 1, 1994 guidance memorandum, we provided guidance to permitting authorities on the approvability of PCP exclusions for source categories other than electric utilities. In that guidance (available on the TTN: see "Pollution Control Projects and New Source Review (NSR) Applicability" from John S. Seitz, Director, OAQPS, to EPA Regional Air Division Directors), we indicated that add-on controls and fuel switches to less pollution fuels may qualify for an exclusion from major NSR as a PCP. To be eligible to be excluded from otherwise applicable major NSR requirements, a PCP must, on balance, be "environmentally beneficial," and the permitting authority must ensure that the project will not cause or contribute to a violation of the NAAQS or PSD increment, or adversely affect visibility or other air quality related balues (AQRV) in a Class I area, and that offsetting reductions are secured in the case of a project which would result in a significant increase of a nonattainment pollutant. The permitting authority can make these determinations outside of the major NSR process. The 1994 guidance did not supercede existing NSR requirements, including approved State NSR programs, nor void

or create an exclusion from any applicable minor source preconstruction review requirements in an approved SIP. Any minor NSR permitting requirements in a SIP would continue to apply, regardless of any exclusion from major NSR that might be approved for a source under the PCP exclusion policy.

In the July 1, 1994 guidance memorandum, we specifically identified RTOs as an example of an add-on control that is an appropriate candidate for a case-by-case exclusion from major NSR as a PCP. We believe that the current guidance on the PCP exclusion adequately provides for the possible exemption from major NSR for PCP resulting from today's proposed rule. Permitting authorities should follow that guidance to the extent allowed under the applicable SIP in order to determine whether the installation of an RTO in a given circumstance qualifies as a PCP. Projects that qualify for the exclusion would be covered under minor source regulations in the applicable SIP, and permitting authorities would be expected to provide adequate safeguards against NAAQS and increment violations and adverse impacts on AQRV in Federal Class I areas. Only in those areas where potential adverse impacts cannot be resolved through the minor NSR programs or other mechanisms would major NSR apply.

2.8.19 Zero-HAP or Non-HAP Coating Requirements

Comment: Commenters IV-D-05, IV-D-07, and IV-D-10 stated that the background information document (BID) for the large appliance coating NESHAP, Subpart NNNN, indicates (page 3-20) that for non-HAP coatings the source is not required to determine the volume fraction of coating solids and density, or to calculate the organic HAP content. Other notification, reporting, and recordkeeping sections of the large appliance coating NESHAP are to be revised to be consistent with the exemption. This language should also apply to the wood building products (surface coating) NESHAP. Non-HAP coatings eligible for this exemption should be defined as those not exceeding the OSHA de minimis threshold values of 1 percent and 0.1 percent as supplied or as applied if some HAP fixative agents are allowed for use as volume exemptions as discussed in other parts of these comments.

Response: We agree with the commenters. Coatings with HAP contents below 1 percent for noncarcinogens and 0.1 percent for carcinogens are considered to be non-HAP and should be treated as no-HAP or zero-HAP coatings for calculation and recordkeeping purposes. We have

made the suggested changes to the final rule (see §§63.4741(a)(1)(i) and 63.4741(a)(4)). In addition, recordkeeping and reporting requirements for zero HAP coatings have been reduced in the final rule (see §§63.4710(c)(8)(i), 63.4720(a)(5)(ii), and 63.4730(c), (c)(2), (f), and (g)).

2.8.20 Initial Performance Tests

Comment: Commenters IV-D-07 and IV-D-10 stated that when the wood building product (surface coating) NESHAP goes into effect, utilizing the most recent test data described in FR page 42405 and 42406 would be reasonable if the source is an existing title V facility. Conducting new performance testing solely for MACT would be redundant.

Response: We agree that the most recent test data can be used to establish the operating limits required by this rule, as long as the previous test data meets the performance test requirements detailed in the final rule. However, depending on the actual timing of the most recent performance test, you would need to discuss the need for new test data with your enforcement authority and include such information in your initial notification.

2.9 CONTROL DEVICE OPERATING LIMIT REQUIREMENTS

2.9.1 Operating Limit Averaging Period

Comment: Three commenters (IV-D-05, IV-D-07, and IV-D-10) stated that the proposed 3-hour average period is not an adequate time span to compensate for variations in the measurement of the control device monitoring parameters such as temperature. The commenters recommended that readings be recorded every 15 minutes and then put into a 12-hour block average.

Response: The averaging period should be short enough to observe significant changes in control device performance, and to allow early detection of problems so that timely corrective action is possible. At the same time, averaging periods should not be so short that minor perturbations as a result of normal variations result in a deviation. We believe a 3-hour period is a sufficient amount of time to allow for normal variations in control device parameters such as temperature. The 3-hour average is consistent with the demonstration of performance during the

three 1-hour performance test runs. Furthermore, the 3-hour period is consistent with averaging times for other surface coating rules with similar emission sources and control devices.

2.9.2 Control Device Downtime Allowance

Comment: Three commenters (IV-D-05, IV-D-07, and IV-D-10) stated that the rule should have a control device downtime allowance appropriate for the control technology. The proposed rule under §63.4692 would require that operating limits for capture and control equipment be established during the performance tests, and the owner or operator must meet these limits at all times thereafter. The commenters claimed that this is not a practical requirement because it does not recognize the inherent problems associated with the reliability of the control device as shown by information gathered by EPA pursuant to development of the Plywood and Composite Wood Products (PCWP) MACT that supports a downtime allowance for RTOs. The commenters state that the inherent problems associated with RTO technology include the deterioration of heat transfer media over time, and due to the presence of sticky materials, corrosive compounds, the trapping or accumulation of inorganic particles, frequency of bakeouts to maintain adequate destruction efficiency, etc. The commenters state the procedures necessary to respond to these issues and maintain control efficiency are often disallowed as "malfunctions." The commenters propose that a 0.5% down time allowance be allowed in addition to any downtime due to SSM conditions.

Response: The information gathered by EPA pursuant to the plywood and composite wood products (PCWP) MACT has been reviewed. The focus of this information was on control devices installed on dryers and presses in the PCWP industry (out of 72 process units included in the survey data, one unit was a "rotary strand dryer/paint oven.") The PCWP emission sources addressed in the survey data are different; they emit particulate matter and sticky materials, as noted by the commenter. Insufficient data are available from units controlling surface coating operations to support the need for such a downtime exemption. In the absence of supporting data, the norm is that an affected source is required to meet the limits at all times the emission source is operating. Note that other MACT rules for surface coating operations (e.g., 40 CFR 63 subpart KK – National Emission Standards for the Printing and Publishing Industry) that utilize regenerative oxidizers (both RTOs and RCOs) do not include such a downtime allowance.

Therefore, no downtime allowance for any control technologies were added to the wood building products surface coating rule.

2.9.3 Off-the-Hour Monitoring Periods

Comment: One commenter (IV-D-05) stated that facilities should have the option of establishing off-the-hour monitoring periods depending on the timing of the shift changes, settings on data capture/archiving systems, the situations in which shift employees spend an amount of time at the end of the shift preparing reports on production, and emission control equipment.

Response: The time periods for conducting the 3-hour block averages are not definite. The definition of "3-hour block average" added to the final rule states that it can be any specified, continuous 180-minute time period. The beginning times can vary according to any of the events referenced above. As long as the 3-hour blocks do not overlap, affected sources have the option of choosing the time period for the 3-hour block average.

2.9.4 Control Device Bypass Requirements

Comment: Two commenters (IV-D-07 and IV-D-10) stated that at many surface coating operations, owners and operators may use compliant coatings for certain applications in conjunction with coatings that contain HAP in either an upstream or downstream operation. The commenters requested that operating flexibility be written into the rule to allow the owner or operator to bypass thermal oxidizers when "compliant coatings" are used.

Response: We agree with the commenters and, as proposed, the rule provided for such operating flexibility. An affected source could opt to demonstrate compliance with the required emission limits using any combination of compliance options. We have clarified language in the final rule to address these concerns. The final rule includes explicit requirements that apply to the use of bypass lines on *controlled* (emphasis added) coating operations (see Section 63.4763(d)). The language assures continuous compliance with the applicable emission limit at those sources electing to conduct coating operations that require a capture and control device system (e.g., Option 3) or, alternatively, conduct coating operations that do not require add-on controls (e.g., compliant coating operations).

2.9.5 Terminology Consistency with Other MACT Standards

Comment: One commenter (IV-D-08) noted that, historically, the EPA has differentiated control device exceedances or excursions from SSM events in other MACT standards (e.g., wood furniture manufacturing). In the proposed rule, EPA uses the term "deviations" in place of "exceedances" or "excursions," and defines "deviations" to include SSM events. The commenter believed that the switch in terminology in the proposed rule creates inconsistencies between the rule and other existing MACT standards.

Response: We do not agree with the commenter that the definition of "deviation" is the same as the previous definitions used for exceedance and/or excursion. For all NESHAP, we use a consistent approach for assuring continuous compliance with the relevant standards applicable to a source. Each NESHAP requires that affected source owners and operators monitor, record, and report any time a requirement or obligation established by the NESHAP is not met. This includes startup, shutdown, or malfunction, whether or not such failure is allowed by a NESHAP. This requirement applies to all affected sources.

The term "deviation" is explicitly defined to mean any instance in which an affected source subject to this subpart or an owner or operator of such a source fails to meet any of the following: (1) any requirement or obligation established by this subpart, including, but not limited to, any emission limitation (including any operating limit) or work practice standard; (2) any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or (3) any emission limitation (including any operating limit) or work practice standard in this subpart during startup, shutdown, or malfunction, whether or not such failure is permitted by the rule. A given deviation is not necessarily a violation of the NESHAP. The EPA or the agency with delegated authority to implement and enforce the rule makes a determination if a deviation is a violation of the NESHAP.

2.9.6 Consistency with Title V Requirements

Comment: Three commenters (IV-D-05, IV-D-07 and IV-D-10) stated that for facilities complying with Option 3 provided under the proposed rule (i.e., compliance based on an emission rate with add-on controls), the operating limit requirements need to be consistent with the deviation reporting requirements for title V permitted facilities (40 CFR Part 70 or Part 71). The commenters recommended that a time element be established to define a malfunction or deviation under the rule.

Response: Because this is an enforcement issue, questions concerning a time element definition for malfunction or deviation should be directed to the operating title V permit authority. We recommend that you be as specific as possible when documenting and defining malfunctions as part of your startup, shutdown, and malfunction plan. A given deviation is not necessarily a violation of the NESHAP. The EPA or the agency with delegated authority to implement and enforce the rule makes a determination if a deviation is a violation of the NESHAP.

2.10 STARTUP, SHUTDOWN, AND MALFUNCTION (SSM)

2.10.1 SSM Periods in Compliance Averaging Calculations

Comment: Two commenters (IV-D-07 and IV-D-10) stated that the proposed rule does not specify how to account for equipment startups, shutdowns, or malfunctions in the calculation of the 3-hour averages used to determine compliance with operating limits for add-on control devices. The commenters suggested that the rule specify that the operating data collected when the control device is "not receiving emissions" not be included in the 3-hour average calculations. Otherwise, the commenters claimed, situations will arise in which the only way to avoid a violation of the applicable operating limit will be to shut down the coating line for a period while operating the control device at its normal operating conditions (i.e., operating conditions established during the performance test).

Response: We agree with the commenter and have included language in the rule excluding monitoring data from the 3-hour average calculation that was generated during periods when the control device was not receiving emissions.

2.10.2 Addressing Control Device Bypass System Requirements in SSM Plan

Comment: One commenter (IV-D-05) stated that the proposed rule's monitoring requirements for situations in which emissions bypass the control device should be addressed in the SSM plan. The commenter stated that, at a minimum, these requirements are unnecessary and may be problematic if compliance with them creates contradictions with the SSM plan.

Response: Owners and operators electing to use compliance Option 3 (compliance based on the applicable emission limit with add-on controls) are required to continuously monitor operation of the add-on control device, and where equipped with a bypass line, to assure that the bypass line is closed and secured. However, there may be times when the bypass line is open, such as a coating line or control device malfunction. In those cases, the corrective actions are addressed by the facility's SSM plan. However, there may be times when the owner or operator intends for the bypass valve to be open because continuous operation of the control device is not needed in order for the facility to comply with the applicable emission limit. For example, the coating line might be used to coat products with a noncompliant coating (i.e., coating with organic HAP content greater than the applicable emission limit), and other times be used to coat products with a compliant coating (i.e., zero or low organic HAP content coating that meets the applicable emission limit). In the latter case, the operator may prefer to bypass the control device to lower annual expenses associated with operating the air pollution control system. This situation is not a malfunction and would not be addressed in the facility's SSM plan.

The final rule includes explicit requirements that apply to the use of bypass lines on *controlled* (emphasis added) coating operations (see §63.4763(d)). The language assures continuous compliance with the applicable emission limit at those sources electing to conduct coating operations that require a capture and control device system (e.g., Option 3) or, alternatively, conduct coating operations that do not require add-on controls (e.g., compliant coating operations). These requirement included in the final rule do not contradict the general requirements for SSM of the coating operation or the air pollution control device.

2.10.3 Inclusion of SSM in Definition of "Deviation"

Comment: One commenter (IV-D-08) stated that the definition for "deviation" used in the proposed rule specifically includes periods of SSM even though these periods are already exempted from compliance under the rule. The commenter stated that the definition of "deviation" used for the rule should be revised to exclude SSM periods because events that occur during a deviation and events that occur during an SSM period are different types of events. The commenter stated that these two types of events can be addressed in the same compliance report as long as the information is in separate sections.

Response: For all NESHAP, we use a consistent approach for assuring continuous compliance with the relevant standards applicable to a source. Each NESHAP requires that facility owners and operators monitor, record, and report any time a requirement or obligation established by the NESHAP is not met. This includes startup, shutdown, or malfunction, whether or not such failure is allowed by a NESHAP. This requirement applies to all affected sources.

The term "deviation" is explicitly defined to mean any instance in which an affected source subject to this subpart or an owner or operator of such a source fails to meet any of the following: (1) any requirement or obligation established by this subpart, including, but not limited to, any emission limitation (including any operating limit) or work practice standard; (2) any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or (3) any emission limitation (including any operating limit) or work practice standard in this subpart during startup, shutdown, or malfunction, whether or not such failure is permitted by the rule. A given deviation is not necessarily a violation of the NESHAP. The EPA or the agency with delegated authority to implement and enforce the rule makes a determination if a deviation is a violation of the NESHAP.

Periods of SSM for a wood building products coating operation are not exempted from compliance with the NESHAP. We recognize that air emissions from any process can vary during process startups and shutdowns and when there is an equipment failure, process upset, or other type of malfunction. We also believe that, to a reasonable extent, many of these events can be anticipated and corrective actions implemented that will reduce air emissions. Therefore, as a

general provision for all NESHAP source categories, we require under §63.6(e) that owners and operators develop and implement a written SSM plan that describes the procedures for operating and maintaining the source during SSM events and the corrective actions that will be taken during a process or air pollution control equipment malfunction. Assuming an acceptable SSM plan is in place for a facility, compliance with the NESHAP during SSM periods is determined by whether the owner or operator implemented the appropriate actions necessary to meet the applicable requirements specified in §63.6(e)(3). We consider SSM events to be deviations to assure that owners and operators continuously comply with the relevant standards in §63.6(e)(3).

To minimize reporting requirements associated with SSM events to the extent possible, we allow owners and operators to include information in their semiannual compliance reports on those SSM events during which actions taken were consistent with their SSM plan. A separate report for a particular SSM event is required only if actions taken were not consistent with the SSM plan.

2.10.4 Use of Environmental Management Systems to Meet SSM Plan Requirements

Comment: Two commenters (IV-D-07 and IV-D-10) stated that facilities using Environmental Management Systems (EMS) will already have in place standard operating procedures that include detailed operating conditions pertaining to SSM conditions. For these sources, the commenters requested that the rule allow the work practices described in an EMS to meet the requirements for the SSM plan.

Response: Section 63.6(e) of the NESHAP General Provisions in 40 CFR 63 Subpart A allows owners and operators to use a standard operating procedures manual, an OSHA plan, or another plan to satisfy the requirement to prepare and maintain an SSM plan, provided the existing plan includes all of the information required for the SSM plan by the applicable NESHAP.

2.11 RECORDKEEPING AND REPORTING

2.11.1 Duplication of Recordkeeping Requirements

Comment: Several commenters (IV-D-05, IV-D-06, and IV-D-07) supported the "streamlining" of the rule's recordkeeping requirements to avoid overlap and duplication with other MACT rules. They recommended combining the records that duplicate other Act requirements. In particular, they stated that the recordkeeping and monitoring requirements in the proposed rule duplicate requirements for title V permits for VOC standards.

Response: Title V of the Act establishes the minimum requirements for State operating permit programs. Under title V, sources subject to a NESHAP must also have an approved permit to operate that meets the requirements in 40 CFR part 70. However, many sources that are not subject to a NESHAP are required to have an approved operating permit that meets the requirements in 40 CFR part 70. In developing the wood building products (surface coating) NESHAP, we recognize the potential for regulatory overlap of this rule with certain requirements for sources subject to the title V permitting requirements. Therefore, the recordkeeping requirements in the rule were selected to fulfill all obligations we must meet under Section 112 yet, to the maximum extent practicable and consistent with Act provisions, avoid duplication or overlap with recordkeeping requirements under title V. Although these provisions address many potential overlap situations that can be anticipated, special or unique site-specific situations do still exist in which a surface coating operation is subject to requirements under both the NESHAP and title V.

Whenever the information required by a title V permit is the same as that required by the NESHAP, duplicate records are not required. The same is true for reporting requirements in which the information needed is the same.

2.11.2 Records and Reporting for Zero HAP Coatings

Comment: Four commenters (IV-D-05, IV-D-06, IV-D-07, and IV-D-10) requested that less burdensome reporting requirements be added to the rule to exempt zero-HAP coatings. Consistent with the large appliance coating NESHAP, the rule should not require calculations of the HAP content and records or reports of the volume fraction of coating solids and density or the

organic HAP content. The commenters believed that keeping purchase receipts for 1 year is sufficient to demonstrate compliance.

Response: We agree with the commenters and have made language changes in the final rule to reduce the calculation, reporting, and recordkeeping requirements for zero-HAP coatings (see response to comment 2.8.19).

As to the comment on the record retention periods required by the rule for zero-HAP coatings, the minimum record retention periods required for all source category NESHAP are specified in the General Provisions specified in 40 CFR 63 Subpart A. An owner or operator is required to retain all records for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The records for the most recent 2 years must be retained on-site; records for the remaining 3 years may be retained off-site but must still be readily available for review. The files can be retained on microfilm, microfiche, a computer, or magnetic disks. There are no special circumstances that justify shortening these minimum record retention periods for the wood building products surface coating source category.

2.11.3 Initial Notification Requirements

Comment: One commenter (IV-D-08) requested that the final rule exempt facilities from the initial notification requirement if they have already submitted an initial notification for the Part 1 application under Section 112(j).

Response: The General Provisions specified in 40 CFR 63 Subpart A apply to all NESHAP source categories in Part 63. Under §63.9(b), the owner or operator of a facility subject to a NESHAP for a given source category must submit an initial, written notification to the EPA within the applicable time period identifying the facility and the specific NESHAP subpart to which the facility is subject. In this case, the owner or operator of a facility with wood building products surface coating operations subject to the NESHAP is required to prepare and submit an initial notification. Section 112(j) of the Act requires owners and operators of major sources within a source category to apply for a title V permit should the EPA fail to promulgate emission standards for that source category by the date specified in the regulatory schedule established through Section 112(e) of the Act. The application requirements are specified under

40 CFR 63 Subpart B. Although the Subpart B application requirements include some of the same information required for the Subpart A initial notification (e.g., facility name, address, brief description of source), the two documents serve different administrative purposes under the NESHAP program. Therefore, it is not appropriate to provide an exemption as requested by the commenter in the final rule.

2.11.4 Recordkeeping for Facilities Subject to Multiple Emission Limits

Comment: One commenter (IV-D-17) requested that recordkeeping requirements for affected sources coating multiple products covered by two or more subcategories be reduced. The proposed rule requires records demonstrating compliance with each applicable limit for all products. This requirement can be simplified by allowing facilities to average the emission limits for each quarter based on the previous quarter's actual production or coating usage.

Response: As summarized in response 2.3.7, the project database does not support the option of allowing sources to choose one emission limit based on the amount of coating used in a certain subcategory. Any potentially affected source will either choose to keep records for all applicable source categories and comply with each limit separately or choose to comply with the emission limit that is the most stringent.

Allowing facilities to average the emission limits for each 3-month period based on the previous month's actual production or coating usage is not appropriate for the compliance determinations. For a given coating operation, production rates and coating usage very likely do not remain constant from month to month. Instead, we expect that production rates and coating usage for most wood building products surface coating operations vary each month due to a variety of site-specific factors. These factors include monthly variations in the types and sizes of products made (e.g., the dimensions of wood windows manufactured and coated varies depending on consumer orders and inventory needs), the production rates of these products (e.g., the numbers of each product coated change due to scheduled and unscheduled suspension of coating operations because of holidays, facility-wide shutdowns, or production line maintenance or repairs), and product specifications (e.g., different color products are offered for sale requiring coatings with different formulation, or some versions of a product line are sold coated with a

primer only). Thus, to reliably determine the actual organic HAP emissions from a given coating operation requires the recording of the necessary data on a continuous basis.

2.12 EMISSION LIMIT UNITS

2.12.1 Use of Coating Solids Volume for Emission Limits

Comment: Many commenters (IV-D-03, IV-D-05, IV-D-06, IV-D-07, and IV-D-10) recommended that the format of the emission limit standards be changed to pounds of VHAP per pound of solids instead of the proposed emission format of mass of coating per solid volume. The commenters explained that all industry reportable data are on a weight basis (lb) or wet volume basis (gal). Use of another format requires an additional calculation and increases chance for error. Commenter IV-D-07 added that EPA's reasons for not using the lb VHAP/lb solids format in the large appliance coating NESHAP are not applicable to the wood building products industry because (1) average dry coating film thicknesses are not constant (requirements range from 0.1 mil to 3.0 mil), and (2) use of mass of solids in the denominator does not penalize operations using lower density pigment coatings and provides an advantage to users of high density coatings. The commenter provided example calculations to compare both formats for three types of formulations.

Response: In developing the proposed rule, we decided the emission limits would be expressed in units of mass of organic HAP per volume of coating solids. The performance-based nature of this format gives flexibility in complying with the emission limits. We specifically selected volume of coating solids as a component of the emission limit to normalize the rate of organic HAP emissions across all sizes and types of facilities within a subcategory. Volume of coating solids used is directly related to the surface area coated and, therefore, provides an equitable basis for all of the coating operations subject to a given subcategory emission limit, regardless of any differences in coating densities. In selecting the format for the emission limit, we considered using mass of organic HAP in the coating per mass of coating solids. Although we recognize that the mass of the solids in a coating is simpler to determine than the volume of solids, a major disadvantage to using this format to establish air emission limits is that the weight of an equal volume of solids varies depending on the pigments and other additives in the coating.

An emission limit expressed as mass of organic HAP per mass of coating solids potentially would allow some coatings to emit more organic HAP than other coatings on a per unit basis.

We addressed coating thickness variations as well as other coating parameter variations between different types of wood building products by establishing separate subcategories of wood building products based on products having similar coating and performance requirements. After selection of these subcategories, we then developed individual emission limit values specifically for each subcategory based on the coating data we collected for the subcategory. In general, within each of the subcategories we believe that manufacturers use coatings with similar formulation and application requirements. For example, all manufacturers of wood frame windows apply similar types of primers and finish coatings. Given that we are establishing emission limits individually for each subcategory and that the facilities within each subcategory share similar coating requirements, we believe that it is appropriate to continue to use volume of coating solids as a component of the emission limits established for the rule. Therefore, the emission limits in the final rule are expressed in terms of mass of organic HAP in the coating per volume of coating solids.

2.12.2 Expression of "Zero" HAP Emission Limits

Comment: One commenter (IV-D-03) stated that the HAP emission limits for certain subcategories are expressed in the proposed rule as "0.00 HAP levels." Compliance with an emission limit expressed in such terms is impractical because HAP detection capabilities improve continually and de minimis contamination from unexpected source is possible even in a coating that is a zero-HAP coating in its formulation. The commenter also stated that zero-HAP coatings should be defined as those not exceeding the OSHA de minimis threshold values of 1 percent and 0.1 percent as supplied or applied.

Response: The results of our MACT floor analysis show that MACT for some subcategory sources is use of coatings with formulations that contain very low amounts of organic HAP. We recognize that with the test methods and laboratory instrumentation available today, very low trace amounts of specific organic compounds can be detected and quantified in a test sample. Therefore, we have added a provision to the final rule that coatings with HAP contents below 1 percent for noncarcinogens and 0.1 percent for carcinogens are considered to be

non-HAP and should be reported as no-HAP. To show that the emission limits expressed in metric units are greater than absolute zero and are consistent with the accuracy levels associated with the English units, the metric units of the HAP emission limits have been changed from kg/L solids to g/L solids.

2.12.3 Use of Significant Digits for Emission Limits

Comment: One commenter (IV-D-03) stated that EPA should express the MACT floor limits to two significant digits, not to two decimal places, at the value justified by the database.

Response: We developed individual emission limit values specifically for each subcategory based on the coating data we collected for the subcategory. The emission limit for each subcategory was then rounded up to two decimal places(using English units).

We agree that the emission limits should be consistent among both types of emission units. The final rule includes a change from kg/L solids to g/L solids to make the metric units consistent with the required accuracy of the English units. The emission limits are expressed to two decimal places for English units and to the nearest integer for metric units (e.g., 1.53 lbs HAP/gal solids (183 g HAP/liter solids)).

2.12.4 Use of Metric Units in Emission Limit Compliance Equations

Comment: Many commenters (IV-D-03, IV-D-05, IV-D-07 and IV-D-10) opposed the use of metric units in compliance equations. Reasons cited by commenters for their opposition to using metric units included (1) Americans in general do not understand metric measurements; (2) the wood building products industry keeps measurement data in English units, and having to convert these data to metric units will lead to mistakes and discrepancies in reporting; and (3) using the rounded metric equivalents sets the MACT floor at a level below the true floor. Alternatively, the metric equivalents in the proposed rule need to list an additional significant digit because the proposal has the mathematical effect of rounding down the English units listed parenthetically.

Response: For many years, EPA has routinely used metric units to express the ambient air quality and air emission standards established by its rulemakings. In some cases, we have chosen to express a given standard in both metric and English units. For this rule, the emission

limit values for each subcategory are expressed in English units and an equivalent value in metric units.

The commenters are incorrect in stating that the rounded metric equivalents set the MACT floor at a level below the "true floor." In developing and selecting the emission limit levels for each of the subcategories, the data we used for the MACT floor determination were expressed in the English units. After the emission limit values were selected, we then converted the English unit values to the approximately equivalent metric unit values by multiplying the English unit value by the appropriate conversion factors and rounding the answer to two decimal places.

The rule does not require an owner or operator who already maintains the facility's coating records in English units to convert these data to metric units for the purpose of determining compliance with the rule. Because each subcategory emission limit value is explicitly stated in the rule in English units and in metric units, the facility owner or operator may choose either of the values to use for the compliance demonstration.

2.12.5 Rounding of Compliance Calculation Values

Comment: One commenter (IV-D-05) stated that the rule should specify whether compliance demonstration calculations are to be rounded or truncated to the number of decimal places specified for the applicable emission limit. If Method 311 is used, the compliance procedure specified in the proposed rule indicates that the value of the total mass fraction of organic HAP determined using Method 311 is to be truncated to three decimal places. The commenter requested that EPA explicitly indicate that enforcement will be demonstrated using results of the calculations truncated to three digits after the decimal.

Response: Method 311 is the reference test method for EPA analysis of HAP compounds in paints and coatings by direct injection into a gas chromatograph. The method is used to determine the mass fraction of individual HAP compounds in a given paint, coating, or related test material. Method 311 is one of several test methods an owner or operator may elect to use under the wood building products surface coating NESHAP to determine the mass fraction of organic HAP in each coating, thinner, and cleaning material used for a coating operation. In applying Method 311 to the compliance determinations for the NESHAP, we specify in the rule

(see §63.4741(a)(1)(11)) that the individual HAP compound mass fractions determined using Method 311 first be summed to obtain a total mass fraction of organic HAP in the tested coating, thinner, or cleaning material, and that this answer then be truncated to three places after the decimal point. The resulting total mass fraction organic HAP value is one of the many input values subsequently used for the compliance calculations to determine the overall coating operation organic HAP emission rate value that is compared with the applicable emission limit.

We agree that the emission limits should have at least two significant digits. The final rule includes a change from kg/L solids to g/L. Compliance with the applicable emission limit is determined by the calculated value for the coating operation organic HAP emission rate rounded to two decimal places when using English units or the nearest integer when using metric units, g/L solids.

2.13 DEFINITIONS

2.13.1 Definition of "Building Products"

Comment: Three commenters (IV-D-05, IV-D-06, and IV-D-07) noted that a number of products based on agricultural fiber, cement binders, and plastic binders share the same Standard Industrial Classification/North American Industry Classification System (SIC/NAICS) code as products covered by the proposed rule. Unless the definition of "building products" is revised, plants coating these other types of products will be subject to case-by-case MACT determinations. The definitions need to specify that agricultural fiber, cement-bonded fiber, and wood plastic composite-based products meeting specific SIC/NAICS codes are exempt.

Response: A facility's SIC or NAICS code is not one of the conditions used to determine applicability of the rule to a wood building product surface coating operation. One of the conditions that is used to determine rule applicability is the wood or wood fiber content of the building products manufactured at a facility. This applicability condition applies to composite building products regardless of the other types of materials the products contain. Even though the products mentioned by the commenter share the same SIC/NAICS codes as traditional wood building products, if the product does not contain 50 percent wood or wood fiber (excluding any glass components), it is not considered to be a wood building product.

2.13.2 Definition of "Total Volatile Hydrocarbon"

Comment: Three commenters (IV-D-05, IV-D-06, and IV-D-07) opposed using the definition of "total volatile hydrocarbon (TVH)" as the total amount of non-aqueous volatile organic matter determined according to certain methods, with TVH substituted for VOC. The commenters did not believe Methods 204 and 204A through 204F were the correct methods for determining TVH.

Response: We do not agree with the commenters' concern and believe the definition for total volatile hydrocarbon (TVH) is appropriate for the intended use in the test methods. Methods 204 A through F are the correct methods for determining capture efficiency. All of these methods rely on the use of a flame ionization analyzer (FIA) as the analytical technique. This rule does not change or modify the methods except to change the terminology of the compounds measured by the (FIA) from "VOC" to "TVH."

If the concern is not regarding the terminology but, in fact, is a belief that Methods 204A through F are not the appropriate methods for determining capture efficiency (or wish to modify the methods in some way), the owner/operator can apply for the use of an alternative method under the provisions of §63.4765 (e).

2.13.3 "Facility" Used Interchangeably with Source

Comment: Three commenters (IV-D-05, IV-D-06, and IV-D-07) suggested that the rule define the term "facility" because the word is used interchangeably with "source."

Response: We recently promulgated revisions to the General Provisions in 40 CFR 63 Subpart A that are applicable to all of the individual source category NESHAP. These revisions included revised language to address confusion with the use of terms such as "facility," "source," and "affected source" in the rules. The term "affected source" was revised to mean "the collection of equipment, activities, or both with a single continuous area and under common control." In the final rule, we corrected all of the rule language to be consistent with the revisions in the NESHAP General Provisions. In particular, we replaced the term "facility" that was used in the proposed rule with either the term "source" or "affected source" as appropriate to be consistent with meanings in the amended NESHAP General Provision definitions.

2.13.4 Undefined Terms

Comment: One commenter (IV-D-11) stated that definitions for the terms "millwork," "sheathing," and "solvent blends" should be added to the final rule.

Response: We have added a new definition to the final rule: "Millwork means lumber that has been remanufactured into a wood building product or component such as door, window, or staircase parts, or decorative trim." We believe the term "solvent blends"as described in Tables 5 and 6 in the rule is easily understood. The term "sheathing" is associated with one of the end-use applications for fiberboard products, and such products are not covered by the final rule (see comment/response 2.2.3). Therefore, we have not defined the terms "solvent blends" or "sheathing" in the final rule.

2.14 MISCELLANEOUS COMMENTS

2.14.1 Catalytic Oxidizer Inspection and Maintenance Plan Requirements

Comment: Several comments were received (commenters IV-D-07 and IV-D-10) regarding the proposed inspection and maintenance plan requirements for catalytic oxidizers under §63.4767(b)(4). The commenters stated that the requirement for periodically adjusting the air-to-fuel ratio should be removed from the proposed inspection and maintenance plan requirements because it has no performance benefit. The commenters also stated that the phrase "consistent with the manufacturer's recommendation" should be removed from proposed inspection and maintenance plan requirements because, according to the commenters, the manufacturers of this equipment have not stayed in business sufficiently long to be able to make recommendations. Finally, the commenters stated that the catalyst test procedures should be worked out between the facility and the catalyst test provider, not the manufacturer or supplier as specified in the proposed inspection and maintenance plan requirements.

Response: The rule does not require an owner or operator to use a catalytic oxidizer. The requirements for catalytic oxidizers under the rule apply only to those owners and operators that elect to comply with the rule using compliance Option 3 (compliance based on the applicable emission rate with add-on controls) and also choose to use a catalytic oxidizer as the add-on control device. Also, owners and operators that comply with the rule using Option 3 are not

limited to using catalytic oxidizers. An owner or operator may select from a variety of control device types that remove or destroy the organics in a captured gas stream as best suited to meet the technical requirements of the facility operations and the preferences of the facility owner or operator.

We disagree with the assertion by commenters that manufacturers of catalytic oxidizers have not been in business long enough to recommend inspection and maintenance procedures. Catalytic oxidation is a proven organic emission control technology. It has been used successfully in many industrial applications to control organic emissions in captured gas streams. These applications include emission sources with captured gas stream characteristics similar to those that could be present in a captured gas stream from wood building product surface coating operations. Catalytic oxidizer manufacturers and the catalyst suppliers have the technical expertise and field experience to properly assist the facility owners or operator in designing, operating, and maintaining a catalyst oxidizer for a given application.

We reviewed all requirements for catalytic oxidizers in the proposed rule and particularly the provisions for the inspection and maintenance plan for which we received comments. The purpose of the inspection and maintenance plan is to help assure that the catalytic oxidizer continues to be operated at the conditions that will achieve or exceed the emission destruction efficiency for the control device demonstrated by the performance test. A regular inspection and maintenance program is essential for early detection of potential control device malfunctions or unusual operating conditions so that the proper corrective actions can be taken in a timely manner. Based on our review, we decided that two revisions to the rule requirements for the inspection and maintenance plan were warranted. We concluded that a requirement for periodic adjustment of the air-to-fuel ratio is not needed to assure compliance of a catalytic oxidizer. We have removed the requirement for periodically adjusting the air-to-fuel ratio in the inspection and maintenance plan from the final rule. We also agree that the catalyst test providers should be consulted while determining catalyst test procedures to follow during the performance test.

2.14.2 Errors in *Federal Register* Proposal Notice

Comment: One commenter (IV-D-11) identified the following errors in the text and tables of the proposed preamble and rule as published in the *Federal Register* notice on June 21, 2002

(67 FR 424000): (1) under the preamble description to the emission limits for compliance Option 1 on Page 42406 of the proposed rule, the second occurrence of the word "coating" should be "cleaning"; (2) in Table 3, the word "and" should follow item 2.a. for clarity; (3) in Table 3, the reference to §63.4768(f)(1) and §63.4768(f)(2) should be to §63.4768(g)(1) and §63.4768(g)(2), respectively, for item 5.a.1 of the table; (4) in Table 3, the reference to §63.4747(e) should be to §63.4767(f) in item 6.a. of the table; (5) in Table 3, the reference to $63.4768(f) should be to §63.4768(g) in item 6.a.i. of the table; (6) in Table 3, the reference to §63.4767(g) should be to §63.4767(d) in item 7.a. of the table (in addition, this item should be followed by the word "and" for clarity); (7) in Table 3, the reference to §63.4768(g) should be to §63.4768(f) in item 7.a.i. of the table; (8) item 7.b. Table 3 states that the average pressure drop must not fall below the limit established according to §63.4767(g), whereas §63.4767(e) states that this pressure drop must be a maximum (this item should state that the pressure drop must not "exceed the limit established according to §63.4767(e)," and the word "above" in item 7.b.iii. should be changed to "below"); and (9) in Table 3, the reference to §63.4768(g) should be to §63.4768(f) in item 7.b.i. of the table.

Response: For those comments related to the specific regulatory language in the proposed rule, we corrected all of the language and citation errors identified by the commenter that were relevant to the language in the final rule.

This page intentionally left blank.

TECHNICAL REPORT DATA

(Please read Instructions on reverse before completing)

1. REPORT NO.	2.	3. RECIPIENT'S ACCESSION NO.
EPA 453/R-03-003		

4. TITLE AND SUBTITLE	5. REPORT DATE
National Emission Standards for Hazardous Air Pollutants for Wood Building Products (Surface Coating) – Background Information for Final Standards Summary of Public Comments and Responses	January 2003
	6. PERFORMING ORGANIZATION CODE
7. AUTHOR(S) H. Lynn Dail, ESD:CG	8. PERFORMING ORGANIZATION REPORT NO.
9. PERFORMING ORGANIZATION NAME AND ADDRESS Emission Standards Division Office of Air Quality Planning and Standards U.S. Environmental Protection Agency Research Triangle Park, NC 27711	10. PROGRAM ELEMENT NO.
	11. CONTRACT/GRANT NO. 68-D-01-079
12. SPONSORING AGENCY NAME AND ADDRESS Office of Air and Radiation U.S. Environmental Protection Agency Washington, DC 20460	13. TYPE OF REPORT AND PERIOD COVERED Final (8/02 – 1/03)
	14. SPONSORING AGENCY CODE

15. SUPPLEMENTARY NOTES

16. ABSTRACT

On June 21, 2002, the U. S. Environmental Protection Agency (EPA) proposed national emission standards for hazardous air pollutants (NESHAP) for wood building products (surface coating) (67 FR 34548) under authority of Section 112 of the Clean Air Act (Act). Public comments were received from 21 sources consisting mainly of wood building products manufacturers, coating manufacturers, various industry trade associations, and Government agencies. All of the comments that were submitted and the responses to these comments are summarized in this document. This summary is the basis for the revisions made to the standards between proposal and promulgation.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Air pollution Carbon adsorber Coating Monitoring Thermal oxidizers Volatile organic compounds Wood building products	Air Pollution Control Flatwood Hazardous Air Pollutants NESHAP Surface Coating Wood Building Products	

18. DISTRIBUTION STATEMENT	19. SECURITY CLASS *(Report)*	21. NO. OF PAGES
Release Unlimited	Unclassified	103
	20. SECURITY CLASS *(Page)*	22. PRICE
	Unclassified	

United States
Environmental Protection
Agency

Office of Air Quality Planning and Standards
Air Quality Strategies and Standards Division
Research Triangle Park, NC

Publication No. EPA 453/R-03-003
January 2003