



# Federal Register

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**Thursday,  
February 16, 2006**

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## **Part II**

# **Environmental Protection Agency**

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**40 CFR Part 63**

**National Emission Standards for  
Hazardous Air Pollutants: Plywood and  
Composite Wood Products; List of  
Hazardous Air Pollutants, Lesser Quantity  
Designations, Source Category List; Final  
Rule**

**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Part 63**

[OAR-2003-0048; FRL-8028-9]

RIN 2060-AN05

**National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products; List of Hazardous Air Pollutants, Lesser Quantity Designations, Source Category List**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Final rule, amendments; notice of final action on reconsideration.

**SUMMARY:** On July 30, 2004, EPA promulgated national emission standards for hazardous air pollutants (NESHAP) for the plywood and composite wood products (PCWP) source category. The Administrator subsequently received a petition for reconsideration of certain provisions in the final rule. In addition, following promulgation, stakeholders expressed concern with some of the final rule requirements including definitions, the emissions testing procedures required for facilities demonstrating eligibility for the low-risk subcategory, stack height calculations to be used in low-risk subcategory eligibility demonstrations, and permitting and timing issues associated with the low-risk subcategory eligibility demonstrations. In two separate **Federal Register** notices

published on July 29, 2005, we announced our reconsideration of certain aspects of the final rule, and we proposed amendments to the final rule. In the notice of reconsideration, we requested public comment on the approach used to establish and delist a low-risk subcategory of PCWP affected sources, as outlined in the final rule, and on an issue related to the final rule's startup, shutdown, and malfunction (SSM) provisions. In the proposed amendments notice, we proposed simplifying the requirements for the low-risk demonstrations (LRD) and allowing additional time for facilities to submit them. We also requested comment on whether to extend the MACT compliance date. We also clarified some common applicability questions. In this action, we are promulgating amendments to the PCWP NESHAP and providing our conclusions following the reconsideration process.

**DATES:** February 16, 2006. The incorporation by reference of one publication listed in this final action is approved by the Director of the Office of the Federal Register as of February 16, 2006.

**ADDRESSES:** *Docket.* The EPA has established a docket for this action under Docket ID No. OAR-2003-0048 and Legacy Docket ID No. A-98-44. All documents in the docket are listed on the *www.regulations.gov* Web site. Although listed in the index, some information is not publicly available, e.g., confidential business information

(CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *www.regulations.gov* or in hard copy at the Air and Radiation Docket and Information Center, EPA/DC, EPA West, Room B102, 1301 Constitution Ave., NW, Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Air and Radiation Docket and Information Center is (202) 566-1742.

**FOR FURTHER INFORMATION CONTACT:** For information concerning applicability and rule determinations, contact your State or local representative or appropriate EPA Regional Office representative. For information concerning rule development, contact Ms. Mary Tom Kissell, Sector Policies and Program Division, (Mailcode: C439-03), EPA, Research Triangle Park, NC 27711; telephone number: (919) 541-4516; fax number: (919) 541-0246; e-mail address: *kissell.mary@epa.gov*.

**SUPPLEMENTARY INFORMATION:**

**Regulated Entities**

Categories and entities potentially affected by today's action include:

Category	SIC code <sup>a</sup>	NAICS code <sup>b</sup>	Examples of regulated entities
Industry .....	2421	321999	Sawmills with lumber kilns.
	2435	321211	Hardwood plywood and veneer plants.
	2436	321212	Softwood plywood and veneer plants.
	2493	321219	Reconstituted wood products plants (particleboard, medium density fiberboard, hardboard, fiberboard, and oriented strandboard plants).
	2439	321213	Structural wood members, not elsewhere classified (engineered wood products plants).

<sup>a</sup> Standard Industrial Classification.  
<sup>b</sup> North American Industrial Classification System.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by today's action. To determine whether your facility is affected by today's action, you should examine the applicability criteria in § 63.2231 of the final rule. If you have questions regarding the applicability of today's action to a particular entity, consult Ms. Mary Tom Kissell listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

**Worldwide Web (WWW)**

In addition to being available in the docket, an electronic copy of today's action also will be available on the Worldwide Web (WWW) through EPA's Technology Transfer Network (TTN). Following the Administrator's signature, a copy of this action will be posted on the TTN's policy and guidance page for newly promulgated rules at *http://www.epa.gov/ttn/oarpg*. The TTN provides information and technology exchange in various areas of air pollution control.

**Judicial Review**

Under section 307(b)(1) of the CAA, judicial review of the final rule amendments to the NESHAP is available by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit by April 17, 2006. Under section 307(d)(7)(B) of the CAA, only those objections that were raised with reasonable specificity during the period for public comment may be raised during judicial review. Under section 307(b)(2) of the CAA, the requirements that are the subject of the

final rule amendments may not be challenged later in civil or criminal proceedings brought by EPA to enforce the requirements.

## Outline

The information presented in this preamble is organized as follows:

- I. Background
- II. Comments and Responses on Low-risk Option
  - A. Legal Basis
  - B. Background Pollution and Co-located Emission Sources
  - C. Ecological Risk
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  - E. Appendix B to 40 CFR Part 63 Subpart DDDD Requirements
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  - G. Emission Testing Requirements in Appendix B to 40 CFR Part 63 Subpart DDDD
  - H. Compliance Date for Existing Sources
  - I. Low-Risk Demonstration Submittal Dates for Existing Sources
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  - K. Low-Risk Demonstration Submittal Dates for New Sources
  - L. Legal Issues With Title V Implementation Mechanism
  - M. Timing of Title V Permit Revisions
  - N. Permit Conditions
  - O. Costs and Benefits of Establishing a Low-Risk Subcategory
- III. Responses to Comments on the Proposed Amendments and Clarifications for Subpart DDDD
  - A. Definitions
  - B. Applicability of the PCWP Rule to Lumber Kilns Drying Utility Poles
  - C. Capture Efficiency Determination
  - D. Incorporation by Reference of NCASI Method ISS/FP-A105.01
- IV. Responses to Comments on SSM Issues
- V. Statutory and Executive Order Reviews
  - A. Executive Order 12866: Regulatory Planning and Review
  - B. Paperwork Reduction Act
  - C. Regulatory Flexibility Act
  - D. Unfunded Mandates Reform Act
  - E. Executive Order 13132: Federalism
  - F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments
  - G. Executive Order 13045: Protection of Children From Environmental Health and Safety Risks
  - H. Executive Order 13211: Actions That Significantly Affect Energy Supply, Distribution, or Use
  - I. National Technology Transfer and Advancement Act
  - J. Congressional Review Act

## I. Background

We proposed NESHAP for the PCWP source category on January 9, 2003 (68 FR 1276). The preamble for the proposed rule requested comment on

how and whether we should incorporate risk-based approaches into the final rule to avoid imposition of regulatory controls on facilities that pose little risk to public health and the environment. Fifty-seven interested parties submitted comments on the proposed rule during the comment period. The final rule (subpart DDDD in 40 CFR part 63) was published on July 30, 2004 (69 FR 45944) after consideration of these comments. We adopted a risk-based approach in the final rule by establishing and delisting a low-risk subcategory of PCWP affected sources based on our authority under section 112(c)(1) and (9) of the Clean Air Act (CAA). Under this approach, PCWP affected sources may submit for EPA approval proposed demonstrations that they meet certain risk-based criteria and, therefore, are eligible to join the low-risk subcategory and avoid applicability of the PCWP NESHAP. The methodology and criteria for PCWP affected sources to use in demonstrating that they are part of the delisted low-risk subcategory were promulgated in appendix B to subpart DDDD of 40 CFR part 63. Sources whose LRD EPA approves then must seek permit revisions under title V of the CAA that incorporate their low-risk parameters as enforceable terms and conditions in order to ensure they remain low-risk and remain exempt from otherwise applicable PCWP NESHAP requirements.

Following promulgation of the final PCWP rule, the Administrator received a petition for reconsideration filed by the Natural Resources Defense Council (NRDC) and Environmental Integrity Project (EIP) pursuant to section 307(d)(7)(B) of the CAA.<sup>1</sup> The petition requested reconsideration of nine aspects of the final rule: (1) Risk assessment methodology, (2) background pollution and co-located emission sources, (3) dose-response value used for formaldehyde, (4) costs and benefits of the low-risk subcategory,

(5) ecological risk, (6) legal basis for the risk-based approach, (7) maximum achievable control technology (MACT) compliance date for affected sources previously qualifying for the low-risk subcategory, (8) SSM provisions, and (9) title V implementation mechanism for the risk-based approach. The petitioners stated that reconsideration of the above issues is appropriate because they claimed that the issues could not have been practicably raised during the public comment period. The petition for reconsideration also requested a stay of the effectiveness of the risk-based provisions.

In a letter dated December 6, 2004, EPA granted NRDC's and EIP's petition for reconsideration and declined the petitioners' request that we take action to stay the effectiveness of the risk-based provisions. On July 29, 2005 (70 FR 44012), we published a notice of reconsideration to initiate rulemaking by requesting comments on the issues in the petition for reconsideration, including the full content of appendix B to subpart DDDD.

In a separate notice published on July 29, 2005 (70 FR 44012), we proposed amendments to subpart DDDD and both of the appendices to subpart DDDD. We proposed amendments to appendix B to subpart DDDD to reduce the number of emissions tests required while ensuring that emissions from all PCWP process units at the relevant source are considered when demonstrating eligibility for the low-risk subcategory. For emission points that would still require emission tests, we proposed that the emissions tests may be conducted after the LRD is submitted. We also proposed that physical changes necessary to achieve low-risk status may be completed after the LRD is submitted. We proposed to alter the way the stack height is calculated for a look-up table analysis and to clarify some timing issues related to LRD, including the deadline for submitting LRD. We also requested comment on whether the MACT compliance date should be extended for sources submitting LRD or for all sources. Furthermore, we proposed to amend subpart A to 40 CFR part 63, subpart DDDD of 40 CFR part 63, and appendix B to subpart DDDD to allow use of a new test method developed by the National Council of the Paper Industry for Air and Stream Improvement (NCASI) for measuring hazardous air pollutants (HAP).

For 40 CFR part 63, subpart DDDD, we proposed several changes to ensure that the rule is implemented as intended: (1) Amend the sampling location for coupled control devices, (2) amend language to clarify rule

<sup>1</sup> In addition to the petition for reconsideration, four petitions for judicial review of the final PCWP rule were filed with the U.S. Court of Appeals for the District of Columbia by NRDC and Sierra Club (No. 04-1323, D.C. Cir.), EIP (No. 04-1235, D.C. Cir.), Louisiana-Pacific Corporation (No. 04-1328, D.C. Cir.), and Norbord Incorporated (No. 04-1329, D.C. Cir.). The four cases have been consolidated. In addition, the following parties have filed as interveners: American Forest and Paper Association (AF&PA), Hood Industries, Scotch Plywood, Coastal Lumber Company, Composite Panel Association, APA-The Engineered Wood Association, American Furniture Manufacturers Association, NRDC, Sierra Club, and EIP. Finally, the Formaldehyde Council, Inc. and the State and Territorial Air Pollution Program Administrators and Association of Local Air Pollution Control Officials (STAPPA/ALAPCO) are participating in the litigation as amicus curiae.

applicability during unscheduled startups and shutdowns, (3) add language to clarify rule applicability for affected sources with no process units subject to compliance options or work practice requirements, and (4) amend selected definitions. A minor numbering error was proposed to be corrected in appendix A to 40 CFR part 63, subpart DDDD. We also clarified some common applicability questions, and we requested comments on whether to extend the deadline for compliance with the rule's requirements for all subject sources.

We received public comments from nine stakeholders on the reconsideration issues during the comment period. Although some commenters on the 2005 reconsideration referred to previous comments they submitted following the 2003 proposal, we have not included the previous comments in the summary presented here unless they are directly relevant to the reconsideration. However, the previous comments are included in the docket for this final rulemaking or the background information document (BID). Our responses to comments today are intended to respond to the comments specifically submitted on our proposed reconsideration notice and to any relevant incorporated comments. We received public comments from 12 stakeholders on the proposed amendments during the comment period. We received supporting comments only (or no comments) on a number of the proposed amendments, including the proposed amendment to the: (1) Sampling location for coupled control devices; (2) definitions of "molded particleboard," "plywood and composite wood products manufacturing facility," and "plywood"; (3) requirements for affected sources with no process units subject to the compliance options or work practice requirements; (4) numbering of paragraphs referenced in 40 CFR 63.2269; (5) test methods for benzene; (6) criteria for assuming zero for Method 29 non-detect measurements; and (7) numbering of appendix A to 40 CFR part 63, subpart DDDD. We have promulgated these amendments as proposed based on the rationale provided in the proposed rule (70 FR 44012, July 29, 2005), and no further discussion of these amendments is presented here. We are also promulgating a revised compliance deadline for sources subject to the rule, which is one year later than the date originally promulgated. The new compliance deadline is October 1, 2008.

Our rationale for this revision is contained in our responses below.

## II. Comments and Responses on Low-risk Option

### A. Legal Basis

*Comment:* Several commenters stated that there are numerous ways in which the risk-based exemptions contravene the language, structure, and history of the 1990 CAA amendments and EPA's past policies. The commenters noted that technology-based standards should precede risk-based standards, that creating a subcategory based on risk is illegal, that delaying the compliance date to allow the risk-based standards is contrary to the CAA, that not setting emission standards is generally not authorized, that considering sources in the low-risk subcategory when establishing MACT floors is not allowed by the CAA, and that the CAA does not authorize EPA to delist subcategories (versus categories) of sources of carcinogenic emissions.

Other commenters stated there is ample legal basis for establishing and delisting the low-risk PCWP subcategory and supported retaining the low-risk option.

*Response:* After considering the 2003 proposed PCWP NESHAP and the public comments submitted thereon, the 2004 final PCWP NESHAP, the petition for reconsideration of the final PCWP NESHAP, the 2005 notice of final PCWP NESHAP reconsideration and the comments submitted in response to that notice, EPA stands by the legal rationale for the PCWP low-risk approach explained in the 2004 final PCWP NESHAP (69 FR 45983–45991, July 30, 2004) and incorporates that rationale by reference.

Regarding the comments on the proposed reconsideration that raised new points or elaborated on points previously made, the explanation for why risk may be an appropriate criterion for distinguishing between sources in establishing source categories and subcategories has been clearly set forth in the general policy rationale for the final PCWP NESHAP and today's final action on reconsideration. CAA section 112(c)(9) shows that Congress intended that EPA be able, either in advance of or following the promulgation of emission standards under section 112, to remove source categories and subcategories from regulation under section 112 "whenever" relevant risk-based findings are made.

We disagree that the risk-based approach causes a delay in the compliance date for MACT in

contravention of section 112(d)(1) and 112(i). This is because the PCWP sources that remain in the MACT category must meet emission standards by the promulgated MACT deadline, and any sources that wish to join the low-risk subcategory and avoid MACT at the compliance deadline must, on that date, either comply with MACT or have been approved as a member of the low-risk subcategory. While we have in today's final rule revised the MACT compliance deadline to fall one year later than was originally promulgated, this revision is not a result of the mere inclusion of the action we have taken under section 112(c)(9). Rather, it is a result of the significance of the changes we have made to the PCWP NESHAP overall, as well as changed expectations about the scope of MACT-subject and would-be low-risk sources who will need to obtain, install, and certify emissions controls. It is also true that a source that is low-risk and exempt from MACT at the compliance date may later undergo changes that subject it to MACT for the first time, and that the PCWP rule in some cases allows such a source to comply with MACT 3 years after it has lost its low-risk status. This is consistent, however, with how we treat area sources that change status to major sources and thereby join a MACT-regulated category for the first time.

We also disagree that once EPA lists a category or subcategory, it is absolutely required by section 112(c)(2) and 112(d)(1) to set emission standards for that category or subcategory. Section 112(c)(9) itself depends upon the identification of a "category" or "subcategory" as identifying the set of major sources that may be deleted from the list of sources to be regulated, and indeed by its terms assumes that the category or subcategory may be "on the list" (and possibly already regulated) before EPA determines that the risk-based criteria to justify its removal have been met.

As we previously explained in the 2004 final PCWP NESHAP, the approach we have taken for the low-risk PCWP subcategory is not the source-by-source granting of risk-based exemptions rejected by Congress in the 1990 CAA amendments. That approach would have allowed any source, in any source category, to seek an exemption from section 112 standards, without demonstrating that it qualified under previously established criteria to join an already existent delisted subcategory, and without subsequent compliance responsibilities such as having to incorporate its parameters reflecting low-risk eligibility into federally enforceable permit terms and

conditions. The PCWP approach, instead, operates more like the applicability determination process that a source uses to discover which set of multiple sets of applicable requirements under the CAA it must comply with. If a PCWP source is not low-risk, it must meet MACT; but if it meets the low-risk criteria, it must still meet specific, enforceable requirements that can be enforced through the title V permit to the same extent as otherwise applicable MACT standards. Our approach is not the same as the rejected "de minimis" exemption since sources must specifically show that they meet the statutory criteria of section 112(c)(9) that define the low-risk PCWP source category, criteria that are explicitly enumerated in the statutory language itself, rather than based on a legal doctrine allowing exemptions from statutory requirements notwithstanding the absence of express statutory language for such exemption.

We are surprised by the commenter's assertion that our MACT floors for non-low-risk PCWP sources may not be based, in part, on emissions limitation achieved by sources that subsequently show they are eligible for inclusion in the low-risk PCWP subcategory. When we develop MACT standards, we necessarily start at a step where we do not already know what the scope of the final standards' requirements will ultimately be. In identifying the MACT floors for new and existing sources under section 112(d)(2) and 112(d)(3), it is simply not possible to know with certainty exactly which sources will have to meet MACT requirements. In fact, it is always possible that any major source will change its emissions or operations prior to the compliance date such that it is no longer major and, therefore, not subject to the final standards. In the case of PCWP, our approach presumes that nearly all sources are in the MACT category at the outset and that sources may join the non-MACT subcategory over time, but it would be impossible at the MACT floor determination stage to estimate the ultimate population of low-risk sources, just as it is impossible to estimate the number of major sources that may become "area" sources before the MACT compliance dates. In both cases, it would not be administratively feasible—nor is it legally required—to adjust the MACT floor determination over time as the MACT category population changes. There is no indication in the CAA that such an approach, especially to the extent it excluded better-performing sources from floor determinations and thereby weakened technology-based

standards, would be consistent with Congress's overall purpose in basing section 112(d) standards on the emissions levels achieved in practice by the best-performing sources.

Regarding the issue of whether EPA may delist only "categories" of sources that emit carcinogens, but not "subcategories," EPA agrees with the commenters that suggest there is functionally no difference between the two terms, and that it is unnecessary to resolve the debate over whether Congress committed a "scrivener's error" raised by other commenters. In section 112(c), Congress provides EPA with broad discretion in not only defining the criteria to be used to identify individual categories and subcategories, but in deciding when one group of sources might constitute a "category" versus a "subcategory," there is literally no statutory definition of either term, and the use of one over the other to define a group of sources is merely a semantic distinction with no legal difference.

Regarding the commenter's objections to EPA's discussion regarding congressional intent related to our authority to establish and delist source categories and subcategories, we conclude that it is not necessary, or even possible, to resolve the debate over what Congress may or may not have silently intended, given the clear statutory language in section 112(c)(1) and 112(c)(9). The plain language of section 112(c)(1) explicitly states that nothing in that subsection " \* \* \* limits the Administrator's authority to establish subcategories under this section, as appropriate[,] \* \* \*" and given that Congress created express authority to delist categories and subcategories under section 112(c)(9) when the specified risk-based criteria are satisfied, it is clearly appropriate for EPA to establish categories and subcategories in a way that best enables the use of the authority provided by section 112(c)(9) when the agency identifies source groups that demonstrate they present no risks above the enumerated criteria. Any other interpretation of the statutory language would unnecessarily restrict the broad discretion that the CAA provides for this purpose. We, therefore, agree with the commenters who stated that section 112, especially when taken as a whole, provides ample authority for EPA's risk-based approach in the 2004 final PCWP NESHAP.

*Comment:* Two commenters stated that section 112(d) of the CAA clearly establishes a two-step process for addressing HAP emissions through the MACT and residual risk provisions and

that the risk-based exemptions contained in the PCWP MACT are contrary to the CAA.

One commenter stated that risk-based exemptions are contrary to the concept of the "level-playing field" that should result from the proper implementation of technology-based MACT standards. The commenter also noted that the National Air Toxics Assessment (NATA) information shows the need for a nationwide technology-based approach and indicates that HAP exposure is very high throughout the entire country in both densely populated urban areas and remote rural locations.

*Response:* We disagree that inclusion of a low-risk subcategory in the final PCWP rule is contrary to the 1990 CAA Amendments. The PCWP MACT are technology-based standards developed using the procedures dictated by section 112 of the CAA. The only difference between the final PCWP rule and other MACT rules is that we used our discretion under CAA section 112(c)(1) and 112(c)(9) to subcategorize and delist low-risk affected sources, in addition to fulfilling our duties under CAA section 112(d) to set MACT. It is clear from the statutory language that, once EPA has listed a source category under section 112(c)(1), it is then faced with the decision whether to regulate the source category under section 112(d) or to delist it under section 112(c)(9). In light of the authority provided by section 112(c)(9), it is unreasonable to assert that once a category is listed it must in all cases be regulated under section 112(d)(1), since the result of a delisting under section 112(c)(9) is that the source category is exempt from section 112 regulation. Moreover, nothing in the statutory language suggests that this authority to implement section 112(c)(9) is limited by what effect such action may have on competition within a specific industry. Rather, section 112(c)(9) of the CAA requires that categories or subcategories meet specific risk criteria in order to be delisted, and to determine this, risk analyses may be used. We disagree with the commenter that we must wait for implementation of CAA section 112(f) before utilizing risk analysis in this manner, since nothing in section 112(c)(9) suggests that its authority may not be used until after application of technology-based standards under section 112(d). The 2004 final PCWP NESHAP are particularly well-suited for a risk-based option because of the specific HAP that are emitted by PCWP sources. For many affected sources, the HAP are emitted in amounts that pose little risk to the surrounding population. However, the cost of controlling these HAP is high

and may not be justified by environmental benefits for these low-risk affected sources. Only those PCWP affected sources that demonstrate that they are low-risk are eligible for inclusion in the delisted low-risk subcategory. The criteria included in the 2004 final PCWP NESHAP, as amended by today's final rulemaking, defining the delisted low-risk subcategory are based on sufficient information to develop health-protective estimates of risk and will protect human health and the environment.

We agree that one of the primary goals of developing a uniform national air toxics program under CAA section 112 of the 1990 CAA amendments is to establish a "level playing field," where appropriate. We do not agree, however, that this goal limits our broader authority under section 112(c)(1) and (9), and we do not feel that defining a low-risk subcategory in the PCWP NESHAP does anything to remove the level playing field for PCWP facilities. The PCWP NESHAP and its criteria for demonstrating eligibility for the delisted low-risk subcategory apply uniformly to all PCWP facilities across the nation. The PCWP NESHAP establishes a baseline level of emission reduction or a baseline level of risk (for the low-risk subcategory). All PCWP affected sources are subject to these same baseline levels, and all facilities have the same opportunity to demonstrate that they are part of the delisted low-risk subcategory. Therefore, concerns regarding facilities moving to areas of the country with air toxics programs that are less-stringent than today's PCWP NESHAP should be alleviated.

Although NATA may show measurable concentrations of toxic air pollution across the country, these data do not suggest that PCWP facilities that do not contribute to the high exposures and risk should be included in MACT regulations, notwithstanding our authority under CAA section 112(c)(9). Our decisions regarding whether a source has demonstrated its eligibility for inclusion in the low-risk delisted subcategory will be based on whether the risks from that particular source, as proven by its specific facts, are within our pre-established criteria that are based on the statutory levels defining when a source category or subcategory may be delisted.

#### *B. Background Pollution and Co-Located Emission Sources*

*Comment:* One commenter stated that many of the HAP emitted from PCWP facilities are found ubiquitously in U.S. ambient air and, therefore, a risk assessment methodology that ignores

background pollution (including co-located sources) underprotects. The commenter noted that the 2003 proposal notice recognized that simply ensuring that the risks caused by PCWP sources themselves were below a hazard index (HI) of one (without accounting for other sources of exposure) would be underprotective. However, in the final PCWP NESHAP, EPA decided to use an HI of 1.0, but did not require sources to account for background pollution or emissions from co-located sources, thus failing to ensure that sources are truly low-risk. Two other commenters noted that the final PCWP NESHAP limits the analysis of risk to the impact of selected emissions units, but the major-source status of a source is based on facilitywide emissions.

Other commenters argued that EPA correctly refrained from considering risks from background ambient HAP concentrations and from co-located sources. One commenter also noted that EPA selected a very conservative HI of 1.0, which builds in a margin of safety in the event that exposure to background sources of HAP increases the risk to public health. Therefore, EPA has in a way accounted for background and co-located source emissions in formulating the low-risk subcategory. The commenter added that CAA section 112(d) and 112(c)(9) address source categories established pursuant to CAA section 112(c)(1) without regard to background or co-located sources outside the source category.

Another commenter added that CAA section 112(c)(9)(B) delisting criteria pertaining to both threshold and non-threshold HAP are focused solely on exposures attributed to the affected source in question. The commenter believes the statutory criterion in CAA section 112(c)(9)(B)(i) is clearly defined (one in a million cancer risk) and is to be evaluated solely with reference to the emissions from affected sources, not background concentrations. The commenter believes that "ample margin of safety" delisting criterion for threshold HAP in CAA section 112(c)(9)(B)(ii) is more than adequately achieved by the combined conservatism of the dose/response assessment (inherent in the derivation of the reference concentration (RfC) or other inhalation benchmark) and the exposure assessment (inherent in the dispersion modeling methodology and the assumption of continuous exposure to the maximum average annual emissions for the duration of a lifetime).

*Response:* We do not believe that it is necessary or appropriate to consider background HAP concentrations or HAP emissions from co-located sources in

implementing our authority to delist the low-risk PCWP subcategory. After reviewing the comments and reconsidering the relevant sections of the CAA, we agree with the commenters who argued that section 112(c)(9) decisions may be based on risk assessments that focus on the emissions from the affected source and are not required to consider co-located source emissions or background concentrations. The residual risk program may consider, as appropriate, risks from co-located source emissions and risks from total emissions from a particular location. This approach is reiterated in the recently finalized Coke Oven Batteries Residual Risk rule 70 FR 19991 (April 15, 2005), where we said we will only consider emissions from the regulated source category when determining acceptable risk during the first step of the residual risk analysis. However, during the second step, where we determine the ample margin of safety considering costs and technical feasibility (70 FR 19997-98), we may consider co-located sources and background levels where appropriate. Additionally, the national strategy for area sources will address emissions from multiple sources in urban areas.

*Comment:* One commenter contended that the authors of the MACT and delisting provisions at issue made clear that they intended all co-located sources of HAP to be included when EPA made risk-based decisions. The commenter provided examples of legislative history of the 1990 CAA amendments which the commenter believes explains Congressional intent in crafting section 112(c)(9).

Another commenter contended that Congress intended EPA to focus only on the source in question, and provided examples from the legislative history of CAA section 112(d)(4), which according to the commenter is an analogous provision. The commenter argued that Congress was clear when it intended for EPA to consider background concentrations and contributions from all sources. The commenter provided examples from the CAA and judicial precedent.

*Response:* While we believe that under section 112(f) we may consider, as appropriate, co-located source and background emissions when conducting residual risk reviews, after reviewing the comments and the different statutory language in section 112(c)(9), we do not believe it is necessary or appropriate to consider emissions except those from the affected source category or subcategory at issue. This is because the specific language of section 112(c)(9), compared to that in section

112(f), indicates that the focus of a delisting action should be on the risks presented by the emissions from the affected source category or subcategory itself, rather than from other sources.

The criteria for a delisting decision regarding a source category that emits carcinogens are discussed in section 112(c)(9)(B)(i) in a way that suggests EPA is to start its analysis by first identifying the sources "in" (i.e., the process units that make up the affected source) the source category, and determine whether HAP "emitted by" such affected sources "in" the category exceed quantities that cause a lifetime cancer risk greater than one-in-one million to the individual who is most exposed to emissions of "such pollutants from the source[.]" This focus on emissions from sources that are actually within the source category as being the scope of HAP concentrations that must not exceed the enumerated cancer risk benchmark would be frustrated by an analysis that imports HAP emissions from other sources not in the source category, or that includes background HAP concentrations that may not be attributable to any source at all.

Similarly, section 112(c)(9)(B)(ii) provides that for non-carcinogen HAP, EPA is to assess whether emissions "from no source in the category or subcategory" exceed a level adequate to protect public health and whether emissions "from any source" in the subject category or subcategory will cause an adverse environmental effect. Again, the statutory language focuses on the emissions that are attributable to sources within the source category or subcategory under review, and does not direct EPA to extend its analysis to either emissions from other sources in other categories or subcategories or to non-attributable background concentrations.

Contrast this with the language of section 112(f)(2)(A), which, initially, directs EPA to determine whether further risk-based standards are required in order to provide an ample margin of safety to protect public health to prevent an adverse environmental effect, without specific reference as in section 112(c)(9)(B)(i) and (ii) to the emissions from sources within the source category in question. This difference alone suggests that EPA may take a broader look in assessing risks under section 112(f) than is required under section 112(c)(9). Moreover, in establishing the trigger for when EPA is required to adopt residual risk standards, section 112(f)(2)(A) focuses on the lifetime excess cancer risk to the individual most exposed to emissions from sources

in the subject category or subcategory, but does not, like in section 112(c)(9)(B)(i), clearly indicate that the excess cancer risk is to be that caused only from the emissions from the sources within the subject source category. Rather, under the language of section 112(f)(2), EPA may consider the cancer risk experienced by the most exposed individual, whatever the source or sources of that risk may be, and then regulate if the subject source category contributes to that risk. A similar analysis applies to section 112(f)(2)(A)'s directive to assess whether further standards are necessary to prevent an adverse environmental effect, which, unlike the language in section 112(c)(9)(B)(ii), does not specifically state that such effect must be caused by emissions from the sources in the subject source category. Finally, the language in section 112(f)(2)(A) that establishes the threshold of protection residual risk standards must achieve also does not explicitly limit EPA's authority to focusing only on the emissions from the affected sources in the subject category.

Therefore, while both section 112(f)(2) and 112(c)(9) use the phrase "ample margin of safety" to define the triggers for action and/or the benchmark that must be met in action, the differences in additional contextual language in the two subsections makes it reasonable to interpret section 112(c)(9) as allowing a more narrowly focused risk assessment for source category and subcategory delistings than the agency has stated it intends to pursue in residual risk, in which we have asserted the ability to evaluate "other relevant factors" beyond those presented by the affected source (70 FR 19998).

*Comment:* One commenter stated that if the final PCWP rule incorporates risk-based exemptions, sources included in the low-risk subcategory should not be exempted from consideration during the residual risk process. Other commenters argued that EPA does not have authority to consider facilitywide or background emissions in residual risk determinations.

*Response:* We disagree that we do not have the authority to include the entire facility in our residual risk analyses. In the preamble to the coke ovens residual risk rule, we reiterated our discretion to include, as appropriate, emissions from outside the source category during the ample margin of safety determination. The emissions evaluated during this ample margin of safety determination can include those from PCWP sources that are part of the low-risk subcategory.

### C. Ecological Risk

*Comment:* Two commenters stated that the risk-based exemptions in the PCWP rule do not address ecological risks that may result from uncontrolled HAP emissions. One of the commenters believes that EPA's ecological assessment for the final rule is fundamentally inadequate. The commenter believes EPA failed to meet the legal requirement in the CAA in several obvious ways: (1) The assessment focused on just a few HAP and thus ignored potential environmental impacts from other emissions; (2) by evaluating a single location, the assessment ignored potential site-specific environmental receptors and locally affected species; and (3) the consideration of only persistent and bioaccumulative HAP would not capture potential acute effects on the environment.

To the contrary, one commenter believes that EPA properly evaluated ecological risks. The commenter referred to their study of ecological risks which the commenter believes concurs with EPA's findings that no potential adverse risk to ecological resources is likely based on the available data.

*Response:* To determine whether low-risk PCWP sources are likely to cause adverse environmental effects due to HAP emissions, EPA performed a screening assessment of ecological risks from these sources. The ecological assessment focused on HAP that are emitted by PCWP facilities and that have the potential to persist in the environment and bioaccumulate. The list of persistent and bioaccumulative HAP (PB HAP) is described in EPA's Air Toxics Risk Assessment (ATRA) Reference Library ([http://www.epa.gov/ttn/fera/risk\\_atra\\_main.html](http://www.epa.gov/ttn/fera/risk_atra_main.html)). We did not evaluate inhalation risks of non-PB HAP to ecological receptors explicitly. Rather, we assert that the acute and chronic dose-response values for human inhalation exposure, which will be used by PCWP facilities to demonstrate their low-risk status, are protective of inhalation exposures that may be experienced by many terrestrial animals. Human dose-response values are derived from studies that consider human data and data from laboratory animals. With the addition of uncertainty factors, the final dose-response values are generally substantially lower than the level observed to cause an adverse effect in exposed animals. Therefore, if the maximum inhalation hazard to humans, which is the major basis for the LRD, is below the level of concern, we do not expect adverse effects on environmental

receptors due to inhalation exposures. For the HAP that must be included in PCWP LRD, and for which ecological inhalation toxicity values are readily available, the human inhalation dose-response values are protective for inhalation exposures to ecological receptors when a hazard quotient or HI of 1.0 is used. For the details of this comparison see the memo titled, "Comparison of ecological inhalation toxicity values to human health inhalation toxicity values for HAP that must be considered in Low-Risk Demonstrations (LRDs) from sources in the Plywood and Composite Wood Products (PCWP) source category".

For the assessment of persistent or bioaccumulating HAP, we made several ecosystem-protective assumptions. We derived estimated worst-case media concentrations by assuming the maximum air concentrations and the maximum deposition rates occurred at the same location, although this is often not the case. We examined six locations representing diverse meteorological conditions, and for the final assessment, we used the location providing the highest predicted HAP concentrations. We used the most conservative ecological screening values readily available, which may overestimate the potential for toxicity to site-specific populations and communities. Finally, we assumed 100 percent bioavailability of the HAP, although site-specific bioavailability is often much less. The results of our ecological assessment demonstrate that for all pollutants assessed, and for all pathways assessed, the ecological hazard quotient values are less than 1. The highest hazard quotient is 0.043, or more than 20 times below a level of potential concern. Given this result, and the ecosystem-protective nature of the assessment scenario, we do not believe that HAP emitted from PCWP facilities will harm local ecosystems. Therefore, we conclude that HAP emissions from any source that demonstrates eligibility to join the low-risk PCWP subcategory will not cause an adverse environmental effect.

#### *D. The Dose-Response Value Used for Formaldehyde*

*Comment:* One commenter noted that in proposing the risk-based exemption idea, EPA indicated that it would use unit risk estimates (UREs) from EPA's Integrated Risk Information System (IRIS) to calculate whether or not a given source is low-risk. However, in the final rule, EPA relied on a much lower value derived by the CIIT Centers for Health Research (CIIT)(previously the Chemical Industry Institute of

Toxicology) using a model that estimated the carcinogenic effects of formaldehyde on the respiratory system.

Several commenters recommended that EPA continue to use the IRIS potency factor for formaldehyde until EPA has completed its thorough review process (including public review) and updated IRIS. The commenters stated that adopting a factor that has not undergone the full IRIS review process jeopardizes public health. The commenters recommended that EPA accelerate completion of the IRIS review.

To the contrary, one commenter believes that EPA properly evaluated the carcinogenicity of formaldehyde by abandoning the outdated and scientifically inaccurate IRIS value and instead relying on evidence that has received broad acceptance in the international scientific community. The commenter also believes that IRIS is far from definitive, as EPA resource constraints have resulted in many chemical summaries that are significantly outdated. The commenter contended that EPA management has repeatedly emphasized that EPA is required to consider other information, in addition to the IRIS database, when evaluating the health effects of chemicals in a regulatory context.

*Response:* We agree with the first commenters that we should use the best available sources of health effects information for risk or hazard determinations. As we have stated previously, we do not rely exclusively on IRIS values. Rather, we consider all credible and readily available assessments.<sup>2</sup> For air toxics risk assessments, we identify pertinent toxicity or dose-response values using a default hierarchy of sources, with IRIS being the preferred source, to assist us in identifying the most scientifically appropriate benchmarks for our analyses and decisions. The IRIS process contains a peer-review process, and the resulting values represent EPA consensus. When adequate toxicity information is not available in IRIS, we consult other sources in a default hierarchy that recognizes the desirability of review and consistency with EPA risk assessment guidelines. This process ensures that we have consistent and scientifically sound assessments. Furthermore, where the IRIS assessment is relatively dated and newer peer-reviewed assessments are

available, we will consider the full set of such assessments in selecting the basis for the risk assessment. In the case of formaldehyde, we have determined that the cancer potency derived using the approach developed by CIIT, which has been peer reviewed by an external review panel sponsored by EPA and the Canadian government, represents an appropriate alternative to EPA's current IRIS URE for formaldehyde. Therefore, this potency represents the best available peer-reviewed science at this time. We also agree with the last commenter that the issue of changing health-based guideline values is a general challenge in setting health-based regulations. However, we are committed to setting such regulations that reflect current scientific understanding, to the extent feasible. If dose-response values change, PCWP sources in the low-risk subcategory must ensure that they continue to meet the low-risk requirements in appendix B to subpart DDDD using the revised values. If PCWP sources no longer meet those low-risk criteria due to a change in a peer-reviewed dose-response value selected by the Agency for those assessments, that source must comply with the technology standards of the PCWP MACT. Facilities conducting LRD should refer to appendix B to subpart DDDD of 40 CFR part 63 for guidance on choosing appropriate dose-response values.

*Comment:* Several commenters submitted in-depth comments relating to the CIIT report and carcinogenicity of formaldehyde. Some commenters argued that the CIIT model for carcinogenic potency of formaldehyde is limited in a number of ways, and needs further validation and peer review. The commenters described recent epidemiological studies that reportedly link formaldehyde exposure to leukemia. Other commenters believe that EPA correctly evaluated the formaldehyde cancer potency value for the final rule and stated that the CIIT risk assessment is the best available science. The commenters disagreed that the availability of new scientific studies justifies use of the outdated IRIS value and argued that the new studies are flawed.

*Response:* As mentioned above, we are committed to using the best-available science for our risk assessments. In situations where the IRIS assessment lags behind current scientific knowledge and newer peer-reviewed assessments are available, we will consider the full set of such assessments in selecting the basis for the risk assessment. These alternatives need to be grounded in publicly-available,

<sup>2</sup> U.S. Environmental Protection Agency. 1999. *Residual Risk Report to Congress*. Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711, March 1999, EPA-453/R-99-001; available at <http://www.epa.gov/ttn/oarpg/t3/meta/m8690.html>. (EPA 1999)



peer-reviewed information. In the case of formaldehyde, we have determined that the cancer potency derived using the approach developed by CIIT and peer-reviewed by an independent expert peer review panel sponsored by EPA and the Canadian government represents an appropriate alternative to EPA's current IRIS URE for formaldehyde, and is therefore the best-available peer-reviewed science at this time. However, we note that a comprehensive reassessment of cancer risk has been initiated for IRIS. This reassessment will include modeling analyses and endpoints (e.g., lymphohematopoietic cancer) not considered in the CIIT assessment. We expect the IRIS reassessment to be completed in 2007. The revised IRIS assessment will represent the best-available peer-reviewed science at the time of its completion and we will require LRD to use the revised URE that results from the reassessment process.

#### *E. Appendix B to 40 CFR Part 63 Subpart DDDD Requirements*

##### 1. Average Stack Heights

*Comment:* One commenter stated that the promulgated risk assessment methodology allows a source to use average stack heights, which decreases the accuracy of the risk assessment and may significantly understate the risks from any given source. The commenter stated that EPA's proposal to incorporate a weighted stack height for the look-up tables only exacerbates the problem. The commenter predicted that sources will only use the weighted stack height when it is to their advantage.

Other commenters stated that the values in the look-up tables and the use of average stack heights are not health protective under worst-case conditions. The commenters stated that dispersion is a non-linear function and it is impossible to try and simplify the effects of a stack. For example, the impact of a 40-foot stack is not one half the impact of a 20-foot stack. In fact, depending on the building heights and the distance to the receptor, the impact of the taller stack could be similar to the shorter one.

One commenter disagreed that use of average stack heights where there are multiple emissions points may significantly understate risks. The commenter pointed out that the LRD requires sources to use the shortest distance to the property boundary, coupled with the average stack height. The commenter believes that use of the shortest distance to the property boundary would more than compensate for any underestimates in exposure in

any unlikely instances where lower emitting sources have the taller stacks.

Two commenters supported EPA's proposal to replace the average stack height calculation for the look-up tables in appendix B to subpart DDDD with a separately computed toxicity-weighted stack height corresponding to each of the three health effects. One commenter noted that the large majority of emissions from wood products facilities occur through relatively tall stacks. However, wood products facilities also have many very low-emitting emission points that are quite close to the ground. As promulgated, the rule requires these low-emitting near-ground emission points to be averaged with the higher-emitting stack emission points to develop an average stack height that understates actual stack heights. Therefore, the promulgated approach results in an overly conservative estimation of actual stack height which, coupled with the conservative assumption of using the shortest distance to the property boundary and the other elements of conservatism built into the look-up tables, goes beyond what is needed to protect human health with an ample margin of safety. The commenter stated that the proposed toxicity-weighted stack height approach addresses this issue in a reasonable and appropriate manner.

Another commenter agreed, arguing that assuming all emissions occur at the location of the stack with the minimum distance to the property boundary is unnecessarily conservative. The commenter recommended that an appropriate average property boundary distance be calculated using the same toxicity-weighted averaging procedure suggested for stack height.

*Response:* We agree that the average stack height is not the best metric for characterizing risks in a look-up table analysis. Appendix B to subpart DDDD now requires the calculation of a toxicity and emissions-weighted stack height for the look-up table analysis. Using this approach, the emission points with the highest toxicity-weighted emission rate will contribute the most to the stack height calculation while the emission points with the lowest toxicity-weighted emission rate will contribute the least. Thus, the weighted stack height metric provides a more accurate characterization of a source's emissions characteristics and it addresses commenters' concerns about under-predicting risks for sources with most emissions coming from the shortest stacks. Further, using this more precise method does not undercut our reliance on other health-protective assumptions in the look-up table

analysis when most of the emissions come from taller stacks.

Use of weighted stack height is not optional, but is required for facilities performing the look-up table analysis in their LRD. We proposed to replace the average stack height calculation with the weighted stack height calculation.

Contrary to one commenter's statement, we do not assume dispersion to be linear with stack height. Rather, the allowable emission rates in the look-up tables are based on actual dispersion model runs using the stack heights given in the table. Additionally, we agree that collapsing across multiple stacks to generate a single weighted stack height will not result in the exact same model output as if each stack is modeled separately. However, use of the weighted stack height is a simplifying step that is not expected to be consistently more or less health-protective than modeling each stack separately. Because the look-up table analysis is designed to be simple and because several inputs to the tables bias them toward overestimating risks for most sources, using a weighted stack height is appropriate in this context. We agree with the commenter that, in cases where stacks are located on top of buildings, building height can impact dispersion and risk. Therefore, appendix B requires that when sources determine their stack heights, they must use the height of the stack above the ground. Therefore, if a stack is located on top of a building, that building height is incorporated into the stack height value. We also agree with the commenter that receptor location impacts risks. A look-up table analysis inherently incorporates health-protective assumptions regarding receptor location. The allowable emission rates in the look-up tables are based on the maximum predicted offsite pollutant concentrations, regardless of whether that site is populated. Additionally, sources must use the shortest distance between an emission point and the property boundary when conducting a look-up table analysis. Therefore, sources using the look-up tables must assume that all HAP emissions are coming from the emission point closest to their property boundary, that people live at the location of maximum predicted pollutant concentration, and that they remain at that location for a lifetime. This approach is more health-protective than if actual facility configuration and/or the location of actual populations were to be considered.

We also disagree with changing the minimum distance to property boundary. We recognize that using the

minimum distance to property boundary may overestimate the ambient concentration and exposure. However, the lookup table analysis is meant to be health-protective and using the minimum distance to property boundary helps ensure that this is the case.

## 2. HAP With No Health Benchmarks

*Comment:* One commenter stated that the promulgated risk assessment methodology fails to account for all HAP emitted by PCWP sources, omitting some HAP like propionaldehyde, one of the "predominant" HAP emitted by PCWP sources. The commenter noted that EPA's methodology would assign a zero cancer risk to any HAP for which EPA has yet to estimate such a value, even if such HAP may well be carcinogenic.

One commenter stated that six HAP (acrolein, acetaldehyde, formaldehyde, methanol, phenol, and propionaldehyde) make up 96 percent of the emissions from wood products facilities. The only one of these chemicals lacking a health benchmark is propionaldehyde. The commenter stated that EPA could extrapolate a propionaldehyde health benchmark from occupational exposure limits. Even using the resulting health benchmark, the commenter's analysis has demonstrated that propionaldehyde makes no meaningful contribution to individual source risk.

The commenter noted that EPA conducted a preliminary analysis of the risks associated with PCWP facilities which narrowed the substances considered to eight HAP, suggesting that the other HAP either were not emitted from these facilities or were emitted in such low levels as to not be meaningful contributors to risks in the source category. The commenter referred to a sensitivity analysis they commissioned and stated that the available data indicate that pollutants without health benchmarks do not have the potential to influence risk results for wood products industry. Accordingly, the commenter believes that EPA was justified in not requiring sources to consider the potential risks of pollutants emitted by wood products facilities that do not have health benchmarks.

The commenter disagreed that EPA has acted arbitrarily in assuming zero cancer risk for HAP for which it has yet to estimate such a value. The commenter noted that the petitioners want EPA to assume that all chemicals for which EPA has not set a cancer potency value are carcinogenic. The commenter believes the petitioners' approach would prevent EPA or any

regulatory agency from ever making any realistic or meaningful evaluation of potential risks (in any context) and would merely serve to confuse (and scare) the public by suggesting that sources pose cancer risks when in fact they do not.

*Response:* We are committed to using the best science available for our risk assessments. To maintain this standard, we are using the default hierarchy of sources for cancer and non-cancer dose-response values that was originally developed for EPA's National-Scale Air Toxics Assessment (<http://www.epa.gov/ttn/atw/nata/natsa4.html>). When developing this hierarchy, we considered conceptual consistency with EPA risk assessment guidelines and the level of review incorporated into the dose-response values from each source. The EPA's IRIS process is the preferred source of dose-response values. When IRIS values are not available, we consider the alternative sources in our hierarchy. Additionally, in cases where the IRIS value lags behind the scientific literature, we are committed to considering alternative, credible dose-response values. Currently, we do not have an IRIS file for propionaldehyde, and an assessment is not available from the alternative sources in our hierarchy. However, appendix B to subpart DDDD requires sources to update their risk assessments if parameters, including dose-response values, change in a way that could increase risks. Therefore, if an acceptable cancer potency or non-cancer reference value for propionaldehyde becomes available, we will consider whether this HAP should be included in risk assessments for PCWP sources. One commenter suggested that we use a modified occupational exposure limit for propionaldehyde. In the past we have modified toxicity values developed for other purposes so that they can be used for inhalation assessments that support non-regulatory, screening applications. However, because in the present case the modified exposure limit would be used to make regulatory decisions, such a dose conversion is inappropriate, particularly in the absence of scientific peer-review.

We agree that it is appropriate to limit the number of HAP that must be included in PCWP affected source LRD to only those HAP that may possibly result in meaningful contributions to the affected source risk. However, we are not limiting the HAP included in the LRD to the six HAP defined as total HAP in subpart DDDD of 40 CFR part 63 (acrolein, acetaldehyde, formaldehyde, methanol, phenol, and

propionaldehyde). We identified the most prevalent HAP based on mass emitted for purposes of developing MACT compliance options because MACT is technology-based (i.e., the same technology that reduces emissions of the six HAP also reduces emissions of other organic HAP). The six HAP defined as total HAP in subpart DDDD of 40 CFR part 63 are the HAP that are most often emitted in detectable amounts from the most PCWP process units, and these HAP make up 96 percent of the mass of nationwide HAP emissions from the PCWP industry. However, the risks associated with emissions of HAP are dependent on the mass emitted and the relative toxicity of each HAP. Thus, the HAP emitted in the greatest mass may not result in the most risk because the HAP may not be as potent as other HAP emitted in lower mass. For example, methanol is the HAP emitted from the PCWP industry in the greatest mass, but because methanol is not as toxic as other HAP emitted (e.g., formaldehyde, certain HAP metals), it does not result in as much risk as do other HAP.

The commenter is correct in that our preliminary risk analysis conducted prior to proposal of the PCWP rule narrowed the list of HAP emitted from PCWP affected sources. We acknowledge receipt of the commenter's sensitivity analysis based on the data used in our pre-proposal risk analysis. Following proposal, we conducted a more detailed risk analysis to evaluate the merits of including a low-risk subcategory in the final PCWP rule. This memo is available in the docket and is titled, Risk Assessment for the Final Maximum Achievable Control Technology (MACT) Rule for the Plywood and Composite Wood Products (PCWP) Source Category. This post-proposal analysis considered emissions of more than 30 HAP emitted from the PCWP source category. Many of these HAP are only emitted in minute amounts that have been detected from a small number of PCWP process units. Nevertheless, we included them in our risk analysis to determine their contribution to PCWP affected source risk. We reviewed the toxicity values for each HAP and the mass of each emitted from PCWP affected sources to determine if it would be appropriate to narrow the list of HAP that PCWP affected sources must consider in their LRD. Based on our review, we determined that 95 percent of the cancer risk at PCWP affected sources is accounted for by the following HAP: acetaldehyde, benzene, arsenic, beryllium, cadmium, hexavalent

chromium, lead, nickel subsulfide, and formaldehyde. We also determined that 95 percent of the non-cancer risk at PCWP affected sources is accounted for by the following HAP: acetaldehyde, acrolein, formaldehyde, phenol, MDI, arsenic, cadmium, and manganese. We feel that inclusion of these HAP in a demonstration of eligibility of the low-risk PCWP subcategory is appropriate. Limiting the list of HAP that must be included in the LRD to 13 HAP minimizes emissions testing costs, while ensuring that the HAP that drive the risk at PCWP affected sources are accounted for on a site-specific basis.

### 3. Topography and Weather Patterns

*Comment:* One commenter stated that EPA's methodology treats all PCWP plants as though their local topography and climate are identical and that factors like prevailing winds are ignored. The commenter believes the risk assessment methodology should account for topography since different topographical features may exacerbate HAP exposures. The commenter stated that PCWP plants are located at widely varying altitudes and attached a chart.

One commenter stated that the modeling behind the development of the look-up table should consider downwash. Another commenter stated that facilities in areas with complex terrain should not be allowed to use the look-up tables because the assumptions used to develop the look-up table could not possibly account for this scenario. The commenter expressed concern that the look-up tables do not account for the common use of rain caps and for the likely event of building downwash.

One commenter disagreed that EPA's look-up tables fail to account for topography and weather patterns. To the contrary, the commenter noted that EPA made conservative assumptions (e.g., minimum fence line distance, worst-case meteorology, safety factors built into RfCs and UREs, and the assumption that plumes from all sources directly overlap), such that the look-up tables would be more likely to overestimate (rather than underestimate) actual risk. One commenter stated that it is unlikely that consideration of terrain will substantially affect the screening risk emission levels, given that most PCWP facilities are located in areas characterized by flat or gently rolling terrain.

*Response:* We disagree that we have not considered site-specific differences between sources in the methodology of appendix B to subpart DDDD. If sources conduct site-specific risk assessments, they should either use site-specific data, including for meteorological and

topographical information, or they should use health-protective defaults. For look-up table analyses, we have made a number of health-protective assumptions, including worst-case meteorological conditions. Therefore, even though the look-up tables treat all sources as if they have the same meteorology, that default meteorology should result in higher predicted risks than actual site-specific meteorology.

However, we do not agree that the protective measures inherent in the look-up tables justify their use in all cases. As several commenters identified, we recognize that site-specific factors such as building downwash, the presence of rain caps, and complex terrain were not accounted for in the SCREEN3 dispersion modeling used to create the look-up tables. In situations where these factors can have a significant impact on the risks presented by a source, we agree that use of the look-up tables is not appropriate. Where we determine, during the risk assessment review process, that the look-up tables are inappropriate, sources would be required to demonstrate eligibility using a site-specific risk assessment. If a source is unable to make this demonstration, the source must then comply with the technology standards in the MACT.

### 4. Children's Health Risk

*Comment:* One commenter stated that EPA's risk assessment methodology does not adequately account for the sensitivities of children to environmental stressors because the methodology relies on pre-existing cancer potency estimates which are deficient with respect to early-life exposures.

However, another commenter believes that EPA's cancer potency factors are amply conservative to protect against potential childhood cancer risk. The commenter stated that the unit risk factor (URF) is specifically based on worst-case assumptions (i.e., linear multistage model for calculating the URF and through the assumption that a person will be continuously exposed for a lifetime).

*Response:* The EPA has issued revised Guidelines for Carcinogen Risk Assessment (Guidelines) and also Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens (Supplemental Guidance) which deal specifically with assessing the potential added susceptibility from early-life exposure to carcinogens. The Supplemental Guidance provides an approach for adjusting risk estimates to incorporate the potential for increased risk due to

early-life exposures to chemicals that are concluded to be carcinogenic by a mutagenic mode of action. For these chemicals, the supplemental guidance indicates that, in lieu of chemical-specific data on which age or life-stage specific risk estimates or potencies can be based, default age-dependent adjustment factors can be applied when assessing cancer risk for early-life exposures. As EPA's hazard and dose-response assessments are updated under the new Guidelines and Supplemental Guidance, they will include consideration of the available information with regard to mode of action and the potential for this determination. Thus, when estimating cancer risks for the purposes of this regulation, the current HAP-specific assessments must be consulted to obtain both the current inhalation unit risk values and the determination as to mode of action. Where EPA's assessment has determined that the chemical is carcinogenic by a mutagenic mode of action, it is recommended that the risk assessment developed for the purposes of this regulation employ applicable life-stage specific potencies or age dependent adjustment factors per the Supplemental Guidance when early life exposure is expected to occur.

### 5. Distance to Nearest Residence

*Comment:* Commenters noted that the risk calculation depends upon the distance any given source is to the nearest residence, ignoring the possibility that there may be exposed people closer to the facility, such as a school, day care center, or neighboring business. One commenter stated that the most exposed individual is likely to be a person who actually works at the PCWP facility as opposed to a person beyond the facility fence line.

One commenter believes EPA should revise the risk screening to use the distance to the property line instead of the distance to the nearest resident. The commenter believes that both the look-up tables and the site-specific screening should use the property boundary or the point of maximum impact for the LRD.

A separate commenter disagreed that EPA should have required the site-specific assessments to evaluate continuous lifetime exposure at the nearest receptor (as opposed to the nearest residence), whether it be a school, shopping mall or church. The commenter noted that the promulgated PCWP rule allows risks to be computed at residential locations with the highest modeled risk for site-specific assessments. The commenter believes this is appropriate because EPA requires sources to assume the worst-case

exposure scenario (i.e., continuous, lifetime exposure for 70 years). The commenter noted that people would not spend 24-hours per day, 365 days per year for 70 years at a school, shopping mall or church. Although this exposure scenario is equally implausible for residences, the commenter thinks that residential locations are a more appropriate choice.

The commenter noted that the rule does not explicitly address the receptors that should be applied for the acute exposure assessments (which are required independently for acrolein and formaldehyde). The commenter requested that the rule clearly state that for acute exposures, the proper reference is to the property boundary rather than to the nearest residence.

*Response:* In exercising our authority under section 112(c)(9), we do not think it is appropriate to base our determinations on risks presented at the PCWP facility due to occupational exposures, since such risks are not caused by emissions of HAP into the ambient air (i.e., since they are on the plant site, they are not beyond the plant fence line and are therefore not into the ambient air). However, we do agree that risks to individuals at other locations surrounding the source could potentially exceed risks to individuals at nearby residences. Therefore, we have modified appendix B to subpart DDDD to indicate that, in addition to residences, risk assessments should include consideration of other locations such as schools and day care facilities. We note that, as we described in EPA's ATRA Reference Library, sources can deviate from default exposure assumptions if they can provide adequate justification for the deviation. Such deviation is appropriate where exposure duration is limited in terms of hours per day, days per week, and/or total number of years.

Look-up table assessments must use distance to property boundary, not distance to nearest residence. This requirement, which uses the point of maximum impact outside the property boundary, adds to the health-protection provided by look-up tables. We agree with the commenter that this is the preferred approach for the look-up table analyses. However, we disagree that site-specific risk assessments should be limited to the property boundary. If a site-specific risk assessment uses nearest residences for their risk calculations, and if new residences are constructed in an area of higher risk, sources must re-assess their risks to ensure they continue to meet the criteria in appendix B to subpart DDDD. If they no longer meet these criteria (e.g.

because someone moved closer to their facility), then the source is no longer eligible for the low-risk subcategory. Such a source must then comply with the technology standards in the PCWP MACT.

We agree that acute assessments should use the point of maximum impact outside the facility's property boundary. This requirement is stated explicitly in appendix B to subpart DDDD.

#### 6. Criteria Included in Site-Specific Risk Demonstrations

*Comment:* One commenter stated that EPA gives sources the ability to make source-specific demonstrations with a number of open-ended criteria. For instance, the commenter noted that appendix B to subpart DDDD allows any scientifically accepted peer-reviewed assessment methodology for site-specific risk assessment, and instructs sources to use health-protective default assumptions wherever site-specific data are not available. Thus, the commenter believes the facility owner has extreme control over how to assess its risks, and EPA provides few bounds on its discretion to approve such assessments as sufficiently scientifically accepted or health protective. Another commenter believes that the rule does not require that the risk assessment methodology be approved by any regulatory agency as scientifically acceptable or applicable.

One commenter stated that the approach included in the final rule is consistent with general risk assessment methodologies, including recommendations from the National Academy of Sciences Science and Judgment in Risk Assessment (1994) and has been standard EPA practice for over a decade. The commenter noted that EPA specifies its preference that sources conduct their site-specific risk assessments in accordance with the ATRA Reference Library (Volume 2) should facilities not pass the initial look-up table screening analysis. Sources also have the option of using alternative modeling methodologies provided they have undergone scientific peer review. The commenter believes that this does not, in turn, give sources unfettered freedom, but does recognize that new modeling approaches may be developed in the future.

*Response:* We continue to believe that providing sources with the discretion to use any "scientifically-accepted, peer-reviewed risk assessment methodology" (e.g., see EPA's ATRA Reference Library) is appropriate. However, contrary to the assertions of some commenters, this discretion is not unlimited. Section 7 of appendix B to

subpart DDDD presents specific minimum criteria for site-specific low risk assessments. In order to demonstrate eligibility for the low-risk subcategory, the site-specific risk assessment conducted by the facility must meet the following criteria: (1) Estimate long-term inhalation exposures through an estimation of annual or multi-year average ambient concentrations; (2) estimate acute exposures for formaldehyde and acrolein maximum 1-hour average ambient concentrations; (3) estimate the inhalation exposure of the individual most exposed to source emissions; (4) estimate individual risks over a 70-year lifetime for the chronic cancer risk assessment; (5) use site-specific quality-assured data wherever possible; (6) use health-protective default assumptions wherever site-specific data are not available; and (7) contain adequate documentation of the data and methods used so that it is transparent and reproducible. The ATRA Reference Library provides examples of how a risk assessment can be conducted. These examples include instruction in basic risk assessment methodology, in determining what parameters to include in a risk assessment, and in the constraints that should be placed on those parameters. The documents within the ATRA Reference Library have been peer-reviewed and were developed according to the principles, tools and methods outlined in the 1999 EPA Report to Congress. However, the guidance in the ATRA Reference Library may not be appropriate for all sources. For that reason we believe that it is important for sources to be able to consider alternative analytical tools as long as those alternatives are scientifically defensible, peer-reviewed and transparent per the criteria listed above. Additionally, we disagree with the commenter that the risk assessment methodology will not be approved by a regulatory agency. The EPA will be responsible for reviewing all PCWP risk assessments, and part of that review will include ensuring that an appropriate assessment methodology is used. The EPA may disapprove any risk assessment that fails to meet the criteria of appendix B to subpart DDDD.

#### F. Selection of Process Units and Emissions Determination Procedures in Table 2A to Appendix B to 40 CFR Part 63 Subpart DDDD

##### 1. Use of Emission Factors and Other Emission Estimation Procedures

*Comment:* Two commenters addressed EPA's proposed amendment to allow facilities to use emissions

factors in LRD for certain process units rather than conduct emissions tests. One commenter strongly supported both EPA's decision to simplify the calculation of emissions used in the risk assessments and the concept of using default emission values for relatively low emitting and/or hard-to-test process units because many of the process units included in table 2A to appendix B to subpart DDDD cannot be tested without research-level effort. Another commenter disagreed with the proposal to allow facilities to demonstrate compliance with the requirements of the low-risk subcategory using emissions factors and emissions estimates instead of conducting emissions tests. The commenter noted that EPA's own publications, including AP-42 and reports by the Office of the Inspector General, state that the use of emission factors for compliance purposes is inappropriate. According to the commenter, this proposal does not satisfy the section 112(c)(9)(B) requirement that EPA determine that all sources in a category emit HAP at levels below identified risk thresholds prior to exempting the category from applicable MACT standards. In addition, the approach does not fulfill EPA's commitment to require "enhanced monitoring" from all sources subject to a section 112 MACT standard.

*Response:* Appendix B to subpart DDDD provides methodology and criteria for sources to demonstrate whether they are part of the delisted low-risk subcategory. Sources that are part of the delisted low-risk subcategory are not part of the PCWP source category. Therefore, in developing the emission factors in table 2A to appendix B to subpart DDDD, we used the maximum available emission rate, as opposed to the average emission rate, to ensure that emission estimates used for LRD are health protective and reasonably account for the uncertainty associated with using emission factors.

Because the LRD are to be based on the cumulative risk from all process units within each PCWP affected source, we are requiring that each process unit be considered in the LRD. In developing table 2A to appendix B to subpart DDDD, we considered the feasibility of emissions testing for each type of PCWP process unit and chose to allow emission factors to be used for selected hard-to-test process units. We believe that most of the process units for which we would allow emissions estimates in lieu of testing are minor contributors to the total HAP emissions relevant to the LRD. Because sources may use only the most health-protective emission factors for only hard-to-test process units, we

do not believe risk assessments will be less health protective with the inclusion of emission factors.

Affected sources that are not part of the low-risk subcategory must comply with the MACT requirements in subpart DDDD, and subpart DDDD contains compliance monitoring requirements for all the process units with control or work practice requirements under subpart DDDD. Sources that demonstrate eligibility to join the delisted low-risk PCWP subcategory, instead, are not subject to the section 112 MACT standard. Therefore, the PCWP rule follows through with the commitment to require all sources subject to section 112 MACT standards to conduct "enhanced monitoring."

*Comment:* Two commenters addressed the use of maximum emission factors and the use of statistically-derived emission factors in table 2A to appendix B to subpart DDDD. One commenter disagreed that EPA should use statistically-derived emission factors because, in many cases, there are insufficient data available to perform a statistical analysis. The commenter stated that where there is sufficient data, applying a statistical approach would not result in significantly different values from those already provided in table 2A to appendix B to subpart DDDD. The other commenter disagreed with EPA's use of maximum emission factors for hard-to-test process units. The commenter stated that some of the factors are so high that some sources will be forced to attempt to find ways to test the hard-to-test process units. The commenter suggested the EPA either multiply all emission factors by 0.75 (or some other constant) or study the data for each factor and statistically select a lower factor that is still conservative and guards public health but enables sources to avoid costly and unproductive testing.

*Response:* We proposed to include in appendix B to subpart DDDD the maximum emission factors available for each type of process unit because we believe use of maximum emission factors builds conservatism into the emissions estimates to help account for unit-to-unit variability and ensures protection of human health. However, in the preamble to the proposed amendments, we requested comment on using other statistical approaches. We received only one comment in favor of using a statistical approach, and the commenter did not provide any basis for assuming that emissions from untested PCWP process units are 75 percent of the emissions from the highest-emitting process units for which we have data. We recognize that some of the emission

factors presented in table 2A to appendix B to subpart DDDD are quite conservative, that emission testing costs can be significant, and that some process units cannot easily be configured for emission testing. However, we disagree that use of the maximum emission factors is unnecessarily burdensome to small plants and companies because becoming part of the low-risk subcategory is only one option under subpart DDDD, and it is an option provided to reduce the burden on PCWP facilities that do not pose a significant risk to human health or the environment.

## 2. Blenders, Sanders, and Saws

*Comment:* One commenter disagreed that emissions testing is "not feasible" for several process units, including blenders, sanders, and saws. These sources are usually controlled by baghouses, which are normally required to be tested for particulate matter (PM). Because HAP emissions from these units can be high, the commenter recommended that actual test data be used rather than emission factors.

*Response:* We disagree that we should require testing of blenders, sanders, or saws. Methanol is the predominant HAP emitted from blenders. Methanol can also be emitted from sanders and saws. Methanol is not a HAP of concern for purposes of the LRD. Our emission estimates indicate that the appendix B HAP emissions from blenders, sanders, and saws contribute to, but are not likely to drive the risk determination for a PCWP facility because the emissions of these same HAP from dryers and presses exceed those from blenders, sanders, and saws.

Furthermore, based upon the information available to us, we disagree that most blenders, sanders, and saws are controlled by baghouses and that PM emission testing is normally required for these process units. We maintain that very few blenders, sanders, and saws are already configured for emissions testing. We also believe that we have struck an appropriate balance between the process units that must be tested and the process units for which maximum emission factor estimates will suffice for purposes of the LRD. As a result, we are not requiring emissions testing of blenders, sanders, and saws in today's final amendments.

*Comment:* One commenter suggested converting the acetaldehyde value for finishing sanders from 0.0028 lb/MSF <sup>3</sup>/<sub>8</sub>" to a lb/MSF surface area basis to be consistent with the other sander values.

*Response:* As requested, we have recalculated the finishing sander acetaldehyde emission factor based on

the production rate in terms of MSF/hr, and have included the revised factor (0.0031 lb/MSF) in table 2A to appendix B to subpart DDDD.

### 3. Emission Estimates for Lumber Kilns and Small-Scale Kiln Testing

*Comment:* One commenter supported small-scale lumber kiln testing. The commenter stated that full-scale lumber kilns are difficult to test because they are leaky and have highly variable exhaust rates, and most small-scale kilns do not have exhaust variability or fugitive emission issues. The commenter also noted that there is literature comparing results from small-scale kiln tests to the emissions from full-scale lumber kilns. The commenter stated that if certain conditions and guidelines are followed, the small-scale kiln tests can provide good estimates of emissions from lumber drying. The commenter suggested changes to the list of considerations for a small-scale kiln emissions testing program that was suggested by NCASI and placed in the docket prior to proposal of the amendments.

*Response:* We recognize the difficulties with testing full-scale lumber kilns due to their variable exhaust flow rates, and we agree that measurement of small-scale kiln emissions can provide data representative of full-scale kiln emissions provided that certain conditions are met. We have reviewed the commenter's suggestions for the consideration list, and we have used the list (with revisions) as the basis for the new appendix C to subpart DDDD of 40 CFR part 63. Facilities that do not want to use the emission factors in table 2A to appendix B to subpart DDDD may conduct small-scale kiln tests taking into account the considerations described in appendix C to subpart DDDD. Small-scale kiln tests that do not address these considerations may be rejected during our review of the LRD. The considerations described in appendix C to subpart DDDD apply only for small-scale lumber kiln emissions testing conducted to provide data for the LRD described under appendix B to subpart DDDD. Permitting authorities may require different procedures for testing or estimating lumber kiln emissions for purposes other than the LRD.

*Comment:* One commenter requested that EPA reevaluate the lumber kiln emission factors in table 2A to appendix B to subpart DDDD. According to the commenter, emission factors found in NCASI Technical Bulletin 845 are based on the most credible data, and using those factors generally results in much

lower emissions than the values selected for table 2A to appendix B to subpart DDDD in the proposed amendments. The commenter expressed concern that using the values in the proposed amendments may lead to facilities being improperly classified as major sources of HAP.

*Response:* The emission factors presented in the proposed amendments to appendix B to subpart DDDD are not intended to be used for major source determinations. Facilities that are not major sources of HAP emissions are not subject to subpart DDDD, and the LRD procedures are therefore irrelevant for those sources. The emission factors in appendix B to subpart DDDD are intended to be health protective and are intended only for use by facilities choosing not to test their lumber kilns for purposes of the PCWP LRD. As stated previously, facilities that feel the emission factors presented in table 2A to appendix B to subpart DDDD would over-estimate lumber kiln emissions for purposes of the LRD have the option of supplying facility-specific test data for their lumber kilns. States may require data to be obtained for major source determination using methods other than those described in appendix B to subpart DDDD.

### 4. Wastewater Emission Estimates

*Comment:* One commenter stated that table 2A to appendix B to subpart DDDD should not require modeling of MDI emissions from wastewater and process water. The commenter stated that MDI hydrolyzes immediately upon contact with water, polymerizing into an inert polyurea, so any wastewater from these operations cannot contain MDI.

*Response:* The commenter's assertion reflects the findings presented by the American Chemistry Council (ACC) Diisocyanates Panel in their petition to remove MDI from the list of HAP under section 112(b) of the CAA. Based upon the findings described in the petition, we agree that it is appropriate to change the entry in table 2A to appendix B to subpart DDDD to "NA" for wastewater/process water operations. However, our action with respect to table 2A to appendix B to subpart DDDD does not necessarily reflect our conclusions with regard to the petition to delist MDI, which we are still reviewing at this time.

### 5. Emission Estimates for Tanks

*Comment:* One commenter stated that the current wording of the definition of "resin storage tank" includes all resin additives, even caustic and acid. Neither caustic nor acid contain formaldehyde, phenol, or MDI, so emissions of the

HAP of concern would not be expected. Additionally, the commenter stated that vessels holding powdered resin should not be considered resin storage tanks. The commenter suggested a revision of the definition of "resin storage tank." The commenter also requested that EPA add a footnote to table 2A to appendix B to subpart DDDD to indicate that estimating emissions for tanks that do not contain formaldehyde, phenol, or MDI is not required.

*Response:* As proposed, table 2A to appendix B to subpart DDDD specifies default emission rates for tanks with resin containing a specific HAP or modeling using TANKS software. It was not our intent to require TANKS modeling of formaldehyde, phenol, or MDI for tanks holding resins without these HAP, but we realize that the language in the proposed table 2A to appendix B to subpart DDDD could be misinterpreted in this way. For the final amendments, we have revised the language in table 2A to appendix B to subpart DDDD to specify that emissions of a specific HAP need only be estimated if the tank holds a resin containing that HAP, regardless of whether the estimate is obtained using an emission factor or modeling. We also agree that it is not necessary to model emissions from powdered resin storage vessels, so we have amended the definition of "resin storage tank" to include only liquid resins and additives.

*Comment:* One commenter stated that the emission factors included in table 2A to appendix B to subpart DDDD for resin storage tanks are grossly over-estimated and the alternative techniques suggested by the table are limited and overly simplified. In addition, the commenter stated that there can be a significant difference between average (long-term) and maximum hourly (short-term) emissions. The emission factors should be reduced by a factor of at least 50 for short-term estimates and 100 for long-term. The commenter provided sample calculations to support reducing the emissions factors.

*Response:* We are aware that the default emission rates contained in proposed table 2A to appendix B to subpart DDDD for resin storage tanks are health protective. These emission rates represent the highest emission rate reported for any single tank in the MACT survey responses. Understanding the limitations of the default emission rates, we also provided modeling using EPA's TANKS software as an option for facilities who wish not to use the conservative default emission rates. To alleviate concerns about these emission rates, we have reevaluated the default emission rates for formaldehyde and

phenol. Because of the limited applicability of the emission rates provided in the MACT survey results, we used other conservative information from the MACT survey as inputs to the TANKS model to generate emission estimates. We arrived at default emission rates of 0.001 pounds per hour (lb/hr) formaldehyde and 0.0002 lb/hr phenol.

Section 7(b)(1) of appendix B to subpart DDDD requires estimation of annual average ambient concentrations for the chronic part of a site-specific risk assessment, and § 7(b)(2) requires estimation of maximum short-term (hourly) emissions of formaldehyde and acrolein for purposes of estimating acute risk. One way to account for both acute and chronic exposures is to assume the worst-case for all emissions inputs to the risk model used to complete the acute and chronic portions of the analysis. Although some facilities may choose to use different emissions inputs in their site-specific LRD for the chronic and acute portions of the assessment, we disagree with the commenter that it is necessary for us to provide separate resin storage tank default emissions rates for average (long-term) and maximum hourly (short-term) emissions.

*Comment:* One commenter stated that table 2A to appendix B to subpart DDDD should identify specific techniques for estimating emissions from open-top tanks separately from techniques used to estimate emissions from closed-top tanks. These types of tanks are often used for mixing water and other additives into the resin. The commenter provided an equation for estimating these emissions from the 2002 EPA Risk Management Plan (RMP) Offsite Consequence Analysis Guidance (Appendix D).

*Response:* Several different approaches may be used to estimate emissions from open-top tanks, including, for example, the 2002 EPA RMP Offsite Consequence Analysis Guidance (Appendix D) noted by the commenter. A similar approach is documented in Chapter 8, section 4.4 of an Emission Inventory Improvement Program (EIIP) document entitled "Methods of Estimating Air Emissions from Paint, Ink, and Other Coating Manufacturing Facilities." In addition, WATER9 or the approach outlined in forms VII and VIII of appendix C to 40 CFR part 63 (and described further with respect to the PCWP industry in a supporting memorandum) could be used to estimate emissions from open-top tanks. Rather than dictating specific methods to be used to develop estimates of open-top tank emissions, we have

amended table 2A to appendix B to subpart DDDD to distinguish between open and closed resin storage tanks and added a row to state that engineering estimates must be developed for open resin storage tanks if they hold resin with any formaldehyde, phenol, or MDI content.

#### 6. Insignificant Activities

*Comment:* One commenter stated that the phrase "may emit" included in the description of ancillary process units is elusive and could include emissions of any amount of HAP, no matter how small. The commenter requested that lists of insignificant and trivial activities be included in appendix B to subpart DDDD to streamline the process of preparing LRD. The commenter noted that the title V program allows emission units with insignificant or trivial emissions to be specified, but no emission estimates or permit limits are required. The commenter (and other commenters) provided suggested lists of insignificant and trivial emission units. Alternatively, the commenter suggested that the final amendments could explicitly allow a facility to list all the insignificant emission units in the PCWP source category at the facility and make a blanket "engineering estimate" evaluation that they are insignificant and their emissions are presumed to be zero. The commenter noted that if EPA disagrees with the facility's designation of an emission unit as an insignificant emission unit during its review of low-risk determination, then it can notify the facility that additional justification of its engineering estimate is needed for that emissions unit.

*Response:* The amended rule does not include lists of insignificant or trivial activities for several reasons which are documented in the BID for the final amendments. Instead, we have adopted the commenter's alternative suggestion. Each facility completing a LRD may include a site-specific list of insignificant activities for which the facility may make an engineering estimate of presumably zero appendix B emissions. The facility must provide rationale to document placement of each process unit or activity on the list (e.g., the unit does not process HAP-containing materials; no heat is applied; there is no mechanism for appendix B HAP formation, etc.). We will evaluate each facility's list of insignificant activities when reviewing the LRD. Any data that support the placement of a certain activity on the insignificant activities list should be included with the facility's LRD. Only process units and activities within the PCWP affected source should be included in this list.

*Comment:* One commenter noted that EPA did not include a definition of "ancillary processes" in the rule and suggested a possible definition.

*Response:* We agree that a definition of "ancillary processes" is needed since the term is used in table 2A of appendix B to subpart DDDD, and we have defined the term in section 15 of appendix B to subpart DDDD based on the definition suggested by the commenter (with necessary edits).

#### 7. Other Specific Comments on Table 2A to Appendix B to Subpart DDDD

*Comment:* One commenter requested that a footnote be added to the formaldehyde emission factor for particleboard and medium density fiberboard (MDF) blending and forming operations in table 2A to appendix B to subpart DDDD. The footnote should state that the factor applies only to facilities using formaldehyde-based resins. Formaldehyde emissions from facilities that use 100% non-formaldehyde resins or adhesives (such as MDI) should be designated "NA."

*Response:* We agree with the commenter that it is appropriate to clarify that estimation of formaldehyde emissions from particleboard and MDF blending and forming operations is only necessary for those facilities that use resin containing formaldehyde. We have amended the final rule to include such a footnote.

*Comment:* One commenter supported excluding metals testing for process units firing only natural gas or propane and stated that footnote b of table 2A to appendix B to subpart DDDD should be revised to clarify that no emissions estimates are required for direct-fired process units firing natural gas or propane.

*Response:* We agree with the commenter's suggested change to the footnote b of table 2A to appendix B to subpart DDDD and we have amended the footnote as requested.

#### G. Emission Testing Requirements in Appendix B to 40 CFR Part 63 Subpart DDDD

##### 1. Testing of Multiple Identical Dryers

*Comment:* One commenter supported the proposed amendment giving facilities the ability to use emissions test data from one unit for modeling of similar process units. The commenter stated that the proposed amendment will help industry better manage emissions testing costs and testing resources while ensuring data quality. Another commenter stated that EPA should consider age as a factor when determining whether units are similar.

As proposed, the amendment would inappropriately allow newer and cleaner-operating equipment to be tested in place of older, more run down equipment without any loss of emissions estimating accuracy.

*Response:* As a result of the second comment, we reviewed available data to see if any correlations with age of the process units are apparent. We concluded that we do not have the emissions test data spanning decades necessary to confirm or refute the commenter's assertion that age of the process unit is a crucial consideration. We generally agree that process units that are considerably older could be expected to have greater emissions than newer process units of the same design, particularly if the older process units have not been well maintained. Therefore, we have included age of the process unit as a consideration when applying test data from one unit to another similar unit at a plant site to be conservative. However, we wish to clarify that we consider distinctions in the age of the process unit, for purposes of the PCWP LRD, to be many years (e.g., 5 to 10 years) since our data do not show increased emissions as process units age over a few years.

*Comment:* One commenter suggested that EPA allow facilities to test one of multiple stacks or vents when the gases in those vents have been collected from the same process unit, originate from the same duct or vent, and are not expected to differ in gaseous pollutant concentration. The commenter clarified that this procedure should not be allowed unless the emissions have been collected and then subsequently divided (e.g., the procedure would be inappropriate for multiple vents above a wood products press).

*Response:* We agree with the commenter that applying results from one stack test to the emissions from multiple stacks is acceptable for purposes of the LRD when the gases in those stacks or vents have been collected into a single duct and subsequently divided and are not expected to differ in gaseous pollutant concentration. We also agree with the commenter that testing one of multiple process unit openings or vents, such as the vents above a wood products press, should not be allowed because the concentration from such vents could differ. We have added a paragraph to section 5 of appendix B to subpart DDDD to incorporate this suggestion.

## 2. Use of Previous Emission Tests

*Comment:* One commenter supported the proposed amendment to allow facilities to use previous emissions test

data for the purposes of LRD. The commenter stated that the proposed amendment will help industry better manage emissions testing costs and testing resources while ensuring data quality. However, the commenter stated that rather than limiting the use of previously determined emission factors to those units that operate at the same conditions as during the emission test, EPA should require the subject units to be operated in a manner that would result in lower emissions. Another commenter stated that EPA should consider age as a factor when determining whether units are similar. As proposed, the amendment would inappropriately allow newer and cleaner-operating equipment to be tested in place of older, more run down equipment without any loss of emissions estimating accuracy.

*Response:* We agree with the first commenter that it is not often possible for a process unit to be operated under the exact same conditions as during a previous performance test. It was not our intention for this provision to be interpreted quite so literally. We have revised section 5(i)(3) in appendix B to subpart DDDD to state that the subject process units must be operated in a manner that would be expected to result in the same or lower emissions than observed during the previous emissions test and that the process units must not have been modified such that emissions would be expected to exceed the results from the previous emissions test.

Regarding the second comment, we discussed the effects of process unit age in a previous response. We are limiting previous data submitted for purposes of the LRD to emissions test data gathered in 1997 or later. We picked 1997 as the cutoff date because we recognize that a great deal of HAP emissions data was gathered for PCWP process units during that year, and we do not believe that this data is obsolete at this time provided the other conditions of section 5(i) of appendix B to subpart DDDD are met.

## 3. Fuel Analysis To Determine HAP Metals Emissions

*Comment:* Two commenters supported EPA's suggestion of using fuel analyses to estimate HAP metal emissions for direct-fired process units. One of these commenters stated that EPA should allow PCWP facilities to use procedures similar to those in subpart DDDDD, the Industrial, Commercial, and Institutional Boilers and Process Heaters NESHAP (Boilers/Process Heaters rule). This option would lower testing cost yet provide a maximally

conservative value that would be protective of public health.

*Response:* We have decided to adopt a fuel analysis procedure similar to the procedure described in the Boilers/Process Heaters rule. Section 5 of appendix B to subpart DDDD includes a new paragraph referring to the relevant sections of subpart DDDDD. Plywood and composite wood products facilities may conduct a fuel analysis in lieu of emissions testing for HAP metals for purposes of the LRD. The relevant sections of the Boilers/Process Heaters rule include § 63.7521(a) and (c) through (e); § 63.7530(d)(1), (2), and (4); and line 2 of table 6 to subpart DDDDD. For purposes of conducting a fuel analysis for a PCWP LRD, "total selected metals" means the combination of the metal compounds included in table 1 to appendix B to subpart DDDD.

## 4. Formaldehyde and Phenol Test Methods

*Comment:* One commenter stated that NCASI Method CI/WP-98.01 should be allowed for formaldehyde and phenol measurement in table 2B to appendix B to subpart DDDD. The method is allowed in other parts of the rule for measurement of formaldehyde, phenol, and methanol, but it was not included in appendix B to subpart DDDD. The commenter stated that using NCASI Method CI/WP-98.01 instead of NCASI Method IM/CAN/WP-99.02 would reduce sampling cost and complexity without sacrificing sampling precision and accuracy.

*Response:* We agree that NCASI Method CI/WP-98.01, "Chilled Impinger Method for Use at Wood Products Mills to Measure Formaldehyde, Methanol, and Phenol," is appropriate for measurement of formaldehyde and phenol. We have added NCASI Method CI/WP-98.01 to table 2B to appendix B to subpart DDDD for formaldehyde and phenol testing only.

To be consistent with the test methods allowed in subpart DDDD, we have also edited table 2B to appendix B to subpart DDDD to allow use of Method 0011 for formaldehyde and acetaldehyde, and to allow use of Method 316 (40 CFR part 63, appendix A) for formaldehyde.

In addition, a revised version of NCASI Method IM/CAN/WP 99.02 has been placed in Chapter III of the NCASI Methods Manual and the PCWP docket. The NCASI made minor revisions to the IM/CAN/WP 99.02 method to (1) clarify sections easily misunderstood or that did not provide sufficient instruction and (2) to add some flexibility to the quality assurance procedures and



criteria. We reviewed and agreed with these minor changes to the method.

#### 5. Determining MDI Emissions

*Comment:* One commenter suggested that EPA also consider the use of EPA proposed Method 207, "A Method for Measuring Isocyanates in Stationary Source Emissions," for measurement of MDI emissions. Method 207 is expected to provide lower detection limits than EPA CTM-031 and Method 320, which are already allowed to be used.

*Response:* We proposed Method 207 in the **Federal Register** on December 8, 1997 (62 FR 64532). A copy of the proposed method may be downloaded from <http://www.epa.gov/ttn/emc/proposed.html>. We intend to make minor revisions to the method and promulgate it in appendix M to 40 CFR part 51 within the next few months. We will accept data measured using the proposed Method 207 before the promulgated version of the method becomes available. Once promulgated, the final method 207 will appear in the **Federal Register**, appendix M to 40 CFR part 51, and on <http://www.epa.gov/ttn/emc/promgate.html>.

#### H. Compliance Date for Existing Sources

*Comment:* In response to our request for comment on the issue, several commenters requested an extension of the MACT compliance deadline (October 1, 2007, for existing sources). One commenter stated that EPA should consider a compliance deadline extension for all PCWP sources because of uncertainties associated with the promulgated amendments, or "supplemental rule." The commenter stated that EPA could give sources 3 years (the maximum amount of time for compliance allowed by section 112(i)(3)(A) of the CAA) from the effective date of the supplemental rule. The commenter requested a new compliance date of August 1, 2008 (based on an extended LRD submittal deadline of March 1, 2008), and noted that this date is less than three years from the anticipated promulgation date of the supplemental rule. A separate commenter suggested extending the PCWP MACT compliance deadline to March 1, 2009 (based on a suggested LRD submittal deadline of March 1, 2008). Another commenter suggested extending the PCWP MACT compliance deadline to October 1, 2008 (based on a suggested LRD submittal deadline of April 1, 2007). The above commenters also suggested that EPA extend the compliance dates for sources that submit LRD that are not approved by EPA.

One commenter disagreed that facilities that do not submit a LRD should be granted any additional time to comply with MACT. The commenter also stated that if an existing facility's LRD is not approved, the facility should be given no more than one year from the current compliance date to comply with all requirements of the rule. Another commenter asserted that section 112(i)(3)(A) denies EPA authority to extend the rule's compliance date beyond October 1, 2007 for sources whose LRD are disapproved or for all PCWP sources.

*Response:* We are promulgating a MACT compliance date of October 1, 2008 in today's final action. We are providing this new compliance date for all PCWP sources (as opposed to only those sources that submit LRD). We are making this change to the MACT compliance date because today's final action results in revisions to several definitions in subpart DDDD and to the testing requirements in appendix B to subpart DDDD that are substantial and warrant revision of the MACT compliance date.

Our proposal specifically asked for comments on whether to set a new compliance deadline for all sources covered by the PCWP NESHAP. As mentioned by the commenters, section 112(i)(3)(A) of the CAA specifies that NESHAP for existing sources can have compliance deadlines of no more than 3 years following the effective date of their promulgation. The question then becomes which promulgation date to apply—July 29, 2004, which is the date the PCWP NESHAP was first promulgated, or today's date, on which we are promulgating numerous revisions to the rule. We interpret section 112 of the CAA as providing us with the authority to re-set the compliance deadline for NESHAP, as appropriate, in situations where promulgated amendments to the regulation are significant and substantial enough to warrant revisiting the question of how much time is needed for subject sources to comply with the requirements of the rule, as amended. This includes situations where a NESHAP is significantly revised to include additional control requirements in response to either a court's remand of the original rulemaking or a petition for reconsideration of the rule, or is so revised on the agency's own initiative.

We agree with the commenters that noted that section 307(b)(1) of the CAA specifically provides that the filing of a petition for reconsideration of a rule does not postpone the effectiveness of the rule. We do not consider the mere

fact that a rule has become the subject of a petition for judicial review or a petition for administrative reconsideration to necessarily justify a re-setting of the compliance deadline. As we stated in the final reconsideration notices for the Brick and Boiler MACT rules (70 FR 69661, November 17, 2005 and 70 FR 76928, December 28, 2005, respectively), the uncertainties raised by reconsideration do not in general necessarily justify an extension of the compliance date. Instead, the facts of each rule's potential revision and the degree of the significance of the rule's amendments should be considered on a case-by-case basis. Where EPA has amended a MACT standard in a significant way, we have found it appropriate to set a new compliance date for the rule that takes into account new requirements not contained in the original rule. The relatively greater degree of changes we made to the overall PCWP rule, which substantially affect how it will be implemented for the majority of sources, as compared to changes we made to the Boiler MACT (we made no changes to the Brick MACT due to reconsideration), for example, justify a different outcome for the PCWP rule.

Thus, changes in expectations about the numbers and types of sources that will need to obtain, install and certify pollution control equipment to comply with the rule's requirements overall are compelling. Since the 2004 rule's promulgation, we found that many, even most, facilities expect to install controls or make other physical changes to the mill to meet the low-risk criteria. While we recognized in 2004 that some sources would have to make these changes to become low risk, we did not predict accurately the number of sources that would do so. Rather, we expected that sources needing to obtain, install and certify controls would be primarily those remaining in the MACT category, such that MACT-subject sources would face comparably less competition from would-be low-risk sources in seeking available vendors for those controls under the original compliance deadline of October 1, 2007. We now have a better understanding that more sources than we first anticipated in 2004, both MACT and low-risk sources, will need to install controls and will be competing for the services of a limited number of control device vendors.

In addition to the difficulties sources may encounter in installing controls and testing emissions, before today's final action, some sources faced uncertainty about whether they were part of the PCWP source category as defined in the

2004 promulgated NESHAP. We received several requests from sources and permitting authorities as to the applicability for certain types of processes such as molded particleboard and curved plywood components. We determined that many of these sources were part of the source category, but few had associated control requirements. However, some, we do not how many, may be required to control emissions (e.g., for a dryer). These are sources, such as furniture manufacturers, who believed they were not subject to the MACT standards in 2004. Since that time, through definitional changes in today's final action and assistance with applicability determinations, we have provided the necessary clarifications so that these sources may begin the process of determining their regulatory obligations, which could include installation of emissions controls.

As stated above, we do not generally regard the perceived "uncertainty" related to the reconsideration and amendment process as constituting a sufficient reason in and of itself for revising the overall compliance date. We note that prior to our issuance of today's final action, sources were able to begin emissions testing for purposes of the LRD with little certainty of what the final potentially-revised emissions testing requirements would be. Furthermore, the entire content of appendix B to subpart DDDD was under reconsideration. While this did not affect the effectiveness or applicability of the originally promulgated requirements pending our rulemaking process, we have learned that the reconsideration and amendment process did affect source decisions about whether to comply with the MACT standards or to apply to join the low-risk subcategory, which, ultimately, caused some sources to delay decisions about MACT compliance.

The emissions testing that facilities must complete for purposes of the LRD involves careful planning (e.g., deciding what process units to test and for which HAP, selection of test contractors, selection of test methods, test plan development, etc.) and the expense of such testing depends greatly on the number of process units and HAP that must be tested. Many facilities will likely plan and conduct emissions tests that serve a dual purpose: (1) To determine emissions of the appendix B HAP for purposes of the LRD, and (2) to determine uncontrolled emissions levels to identify potential MACT compliance options (e.g., to identify emissions averaging opportunities or see if emissions fall below the production-based compliance option) should the

facility decide not to pursue the low-risk option. Facilities may view it as more economical to conduct testing of multiple process units and HAP combinations at one time than to repeatedly test individual process units for a few HAP (e.g., because test methods covering multiple HAP can be used, and there is less travel expense for test contractors if multiple tests are completed in one trip). Once onsite stack sampling is completed, laboratory analysis of the samples must be conducted and test reports prepared. The emissions testing that PCWP facilities must conduct, from the planning stage to receiving the final report, can easily take 9 months to 1 year. More time may be required if the testing company or laboratory does not correctly perform the tests or analysis the first time due to the difficulty of some of the test methods (e.g., relatively new NCASI test methods developed specifically for the PCWP industry). While adding these methods add flexibility for sources, sources did not know until today whether the final rule would incorporate them. We also recognize that the number of testing contractors with the equipment and familiarity needed to run the NCASI methods is limited, and that there will be much competition for the qualified testing contractors. Today's final amendments allow use of more test methods applicable to the multiple HAP of concern than did the 2004 final NESHAP (e.g., we are incorporating by reference the new NCASI method ISS/FP-A105.01), and before today's final amendments facilities were uncertain which methods would be acceptable. In addition, today's final amendments allow other emissions determination approaches such as small-scale kiln testing, fuel analyses to predict HAP metals emissions, and modeling of tank or wastewater emissions. For these reasons, many sources have delayed their emissions testing activities until after today's final amendments are promulgated. Emissions testing is only one step in completion of the LRD (i.e., it will take several months to a year or more for PCWP facilities to complete their LRD incorporating all of the emissions data and to complete changes to their facility to ensure they can meet the low-risk criteria on an ongoing basis). Although the changes to the overall rule are significant and the CAA allows us to set a new compliance date 3 years from the promulgation of today's final rule, we concluded only an additional 12 months beyond the original compliance date is necessary.

*Comment:* Two commenters stated that there is no reason why a source should not be able to move from the MACT to the low-risk subcategory if changes occur such that the facility qualifies as low-risk (e.g., equipment installation that reduces emissions or any future changes to the health benchmarks for acrolein and acetaldehyde), even if the facility qualifies after the MACT compliance deadline. The commenter stated that although these facilities would have already incurred the expense associated with MACT control installation, it may still be worthwhile to be classified as low-risk because of the reduced recordkeeping and reporting burdens.

*Response:* We agree that sources should be able to join the low-risk subcategory before or after the MACT compliance date. Allowing sources to become part of the low-risk subcategory after the MACT compliance date gives facilities more time to complete any physical changes necessary to operate as low risk, more time to complete their LRD, and more time to complete their permit applications. Existing sources needing extra time must comply with the MACT requirements in subpart DDDD as of October 1, 2008 and until they are part of the low-risk subcategory. Since the CAA does not prohibit us from adding sources to delisted subcategories after the MACT compliance date and existing sources must comply with MACT if not in the low-risk subcategory by the MACT compliance date, allowing sources additional time to complete their LRD is reasonable and should be allowed. Therefore, we have revised § 10 of appendix B to subpart DDDD accordingly.

#### *I. Low-Risk Demonstration Submittal Dates for Existing Sources*

*Comment:* Four commenters supported an extension of the LRD submittal deadline established in the 2004 final rule. One commenter supported the proposed revised date of April 1, 2007. Three additional commenters suggested extending the LRD submittal date beyond the proposed date of April 1, 2007, and requested that EPA adopt extensions of the LRD and MACT compliance deadlines to March 1, 2008, and August 1, 2008, respectively. One commenter stated that most facilities did not begin emissions testing upon promulgation of the PCWP rule because they were aware that clarifying amendments would be forthcoming. The commenters arrived at the March 1, 2008, low-risk submittal date by estimating the amount of time that would be needed to complete each

of eight steps that influence the timing of completing a LRD, including: Planning and performing emissions tests, completing a risk assessment, securing the capital needed to make any changes to the source, installing control devices or completing other physical changes, selecting and hiring contractors and control device vendors, coordinating the LRD activities of multiple facilities, receiving EPA approval of the LRD, and preparing the application for a title V permit modification.

Two commenters disagreed that EPA should extend the LRD submittal date. One commenter believes that extending the LRD submittal deadline would simply encourage sources to spend time and resources attempting to obtain unlawful exemptions instead of dedicating themselves to meeting the rule's cleanup standards by the 2007 compliance date. Another commenter stated that some facilities have already completed their LRD and are simply waiting for the amendments to be promulgated before submitting them.

*Response:* As explained above, we have revised section 10 of appendix B to subpart DDDD so that sources may become part of the low-risk subcategory any time. Therefore, there is no deadline for existing sources to become part of the low-risk subcategory in today's action. Existing sources that are not part of the low-risk subcategory on October 1, 2008 must be in compliance with the MACT standards in subpart DDDD.

We realize that some existing sources will want to be part of the low-risk subcategory by the MACT compliance date to avoid MACT compliance. For those sources, EPA will review complete and well-documented LRD received by February 1, 2008 and make every attempt to notify sources of our determination of their eligibility to become part of the low-risk subcategory no later than August 29, 2008. (A complete and well-documented LRD includes emissions tests performed on the facility as it will be operated and includes the documentation required in appendix B to subpart DDDD.) We believe this approach balances the time we need to review and approve (or disapprove) LRD with the time sources need to complete activities associated with the LRD.

We do not know how many facilities will submit LRD on or by February 1, 2008, but it could be well over a hundred. We plan to review LRD in the order we receive them and encourage sources to submit their LRD as early as possible. (We will review preliminary LRD based on modeling and emissions factors before February 1, 2008 and as

our resources permit. Although these LRD will not be approvable, sources that want a review of their LRD at this preliminary stage should engage us as the earliest possible date.) We note that we may not be able to interact with sources as we might have otherwise (e.g., ask for clarification, recommend minor changes) as the MACT compliance date approaches because of time and resource constraints. If we have many LRD to review, we will likely return incomplete demonstrations without further review. We will likely notify these sources that we could not approve the LRD at that time. Sources whose LRD are deficient may re-submit revised demonstrations, but we will likely not review re-submittals until we have completed our review of all the other timely and complete LRD we have first received.

As to the decision individual sources make regarding whether to spend resources on demonstrating they are low risk, the decision is theirs to make. Similarly, a source must determine for itself when to submit its LRD. We encourage sources to submit their LRD before February 2008 so that we have time to work with sources to resolve deficiencies in their LRD and so that sources have time to resubmit their LRD (if necessary) prior to February 1, 2008.

*Comment:* One commenter supported EPA's proposal to allow a preliminary LRD that is based on proposed physical changes to the plant that have not yet been completed or verified by stack testing. The commenter noted that this approach addresses some timing concerns and also helps to ensure that sources do not undertake expensive facility changes only to find that EPA does not approve their LRD. The commenter noted that EPA should give sources until the proposed April 1, 2007, deadline (assuming this deadline is not extended further) to submit LRD that are based on proposed physical changes at the plant, and the facility should be required to complete the physical changes by October 1, 2007.

The commenter stated that, for sources making physical changes to comply with the low-risk criteria, confirmatory emissions testing should be required by the date on which performance testing for MACT compliance is due in the 2004 final rule (i.e., 180 days after the compliance deadline). This proposed timing makes sense because physical changes to meet the low-risk criteria and physical changes to meet one of the other compliance options follow similar engineering and capital planning timelines. The commenter noted that sources not making physical changes to

their facilities should be allowed to conduct emissions tests after the low-risk submittal date but before the compliance date.

The commenter also supported EPA's proposal to allow sources to submit a preliminary LRD that relies on emissions factors. However, it is critical that EPA provide the source with confirmation that the source has used an acceptable methodology and that, if emission testing provides the results anticipated by the source, the source will meet the low-risk criteria and its demonstration will receive final approval. The commenter noted that allowing preliminary LRD will enable EPA to spread the demonstration reviews over a longer period of time because sources will submit their preliminary demonstrations earlier. In addition, if the preliminary demonstration is not approved, sources have more time to amend their demonstration or prepare for alternative compliance options.

The commenter suggested that EPA allow facilities to propose in their title V applications which process parameters will be limited and state that the emission limits will be set as a result of the most recent emission test. As a result of this change, States would not be able to issue the title V permit revision prior to the facility receiving approval of the LRD.

Another commenter argued that EPA would not have the time to thoroughly review both a pre-clearance application and a subsequent, emissions test-based verification that emissions do not exceed the emission factor calculations presented in the LRD. The commenter contended that EPA will likely focus on sources' pre-clearance submissions (in which sources have every reason to be overly optimistic) and pay only cursory attention to the subsequent compliance demonstrations.

*Response:* Existing sources may submit preliminary LRD at any time, including those without the required emissions tests and without completing physical changes to the facility. However, existing sources must complete the required emissions tests and physical changes to the facility, submit the complete LRD to EPA, receive approval from EPA (if the LRD is approvable), and apply for their title V permit revision before becoming part of the low-risk subcategory. We will consider preliminary LRD that do not contain the required emissions test data to be incomplete and we will not approve any LRD submitted by existing sources that do not contain this required information.

We recognize that it may be necessary to complete physical changes to emission sources before the required emissions testing can be conducted. Existing sources may now submit their LRD any time (as opposed to July 31, 2006, as originally promulgated). While giving sources more time to complete their LRD, we have minimized the amount of time we will have to review the numerous LRD that we anticipate will be submitted by February 1, 2008. Therefore, we will review preliminary, incomplete LRD only before February 1, 2008. After that date we will focus our efforts on reviewing complete LRD in fairness to those facilities that are low-risk without having to make physical changes to their emission sources and those facilities that completed their physical changes and emissions testing before February 1, 2008. As time allows, we will review and provide feedback to facilities submitting preliminary LRD several months prior to February 1, 2008. In addition, we will accept and attempt to complete our review of final LRD (that contain the required emissions test data) submitted after February 1, 2008 that are follow-up to preliminary LRD we have previously reviewed. Subsequent LRD submittals are likely to use the same risk assessment procedures and should not need as much time to review.

Existing sources will have about 2 years to complete their LRD and the necessary physical changes to their facilities between the time today's final action is available and the February 1, 2008 LRD submittal date. These 2 years, coupled with the availability of the low-risk criteria and risk methodology published in the 2004 final rule, should provide enough time for existing sources to become part of the low-risk subcategory by October 1, 2008 if they wish and have planned accordingly. Sources may also choose to submit their LRD later, and comply with the MACT requirements in subpart DDDD on the compliance date and until they become part of the low-risk subcategory.

#### *J. Compliance Date for Affected Sources Previously Qualifying for the Low-Risk Subcategory*

*Comment:* Two commenters disagreed with the 3-year MACT compliance extension for existing sources that are temporarily low-risk but begin to operate outside of the low-risk subcategory due to a population shift or change in dose-response values. One commenter stated that the CAA requires existing sources to comply no later than 3 years after the effective date and that EPA offers no legal justification or rationale for the extra 3 years provided

to PCWP sources that are no longer low-risk.

Other commenters supported EPA's decision to allow sources in the low-risk subcategory to have 3 years to comply with the MACT limits when they are no longer part of the subcategory due to factors outside their control. The commenters stated that this is consistent with the normal 3-year period for sources to comply with a MACT standard after the effective date. The commenters stated that a 3-year compliance window is necessary to ensure the necessary steps are completed to transition between the low-risk subcategory and MACT compliance. Another commenter stated that this approach is exactly consistent with the existing regulatory provisions for area sources which become major sources (and thus are subject to MACT) and have 3 years to comply with MACT.

The commenter believes EPA has closed a potential loophole, rather than creating one as petitioners claim. That is, CAA section 112(c)(9) includes no provision for sources becoming "re-subject" to MACT if they no longer are low-risk. Rather, CAA section 112(c)(9) assumes that once a category is delisted, all sources in that category are permanently exempt from MACT. The commenter believes that, under the statute, if the subcategory no longer qualifies as low-risk, EPA must affirmatively relist the subcategory (and no deadline is provided by which EPA must do so). Relisting the category, in turn, would require EPA to promulgate MACT standards within 2 years, with compliance another 3 years later (or, a 5-year process in total from the date EPA decided to relist the category). The commenter believes that EPA has adopted a more protective approach and required compliance within 3 years.

*Response:* We agree with the commenter who analogized sources in this situation, where they lose low-risk eligibility due to changing factors that are outside their control, to the way we generally address area sources that undergo changes that subject them to MACT for the first time. In both cases, a source that was previously not part of the MACT-regulated category has become subject to MACT, and it is necessary for us to anticipate a feasible period for bringing the source into MACT compliance. Unlike the situation of a low-risk source that undergoes a change that it should know may have an effect on its ability to maintain low-risk status (for which we are retaining the 2004 final rule requirement that the source comply with MACT immediately upon the change), a source whose low-risk status is affected by changes outside

of its control will need some time to comply with MACT, especially where the installation of controls is necessary. We appreciate the commenter's agreement that our approach for ensuring that sources that lose their low-risk status timely comply with PCWP MACT requirements is reasonable. However, we disagree with the commenter's suggestion that the alternative to our approach is to have to relist under CAA section 112(c)(1) either the ex-low-risk source or the entire low-risk subcategory before subjecting that source to MACT. This is because there are only two possible subcategories a PCWP source can belong to: Either the MACT-regulated category, or the delisted low-risk subcategory. If a low-risk source loses its eligibility for membership in the low-risk subcategory, it necessarily follows that it then rejoins the MACT-regulated category, since there is no other PCWP category or subcategory for the source to join. Our approach is intended to make this necessary transition occur efficiently, effectively and fairly.

Since it is possible that the types of changes in this situation, such as a change to a more stringent RfC, may have an impact on a large number of previously low-risk sources, it is fair and reasonable to establish a common compliance deadline for all such similarly affected sources. In adopting the 2004 final rule, based on the information before us, we determined that sources covered by the PCWP NESHAP would need the full statutory 3 years to comply due to the expected schedule for ordering and installing controls from the available vendors. Low-risk sources that, due to changes outside their control, suddenly find themselves in the PCWP MACT category, will essentially be placed in the same position as were PCWP MACT sources upon promulgation of the rule—that is, an event has occurred that has made them subject to the rule even though they took no action on their part to trigger the event. Likewise, those sources may very well then find themselves at the stage of the process that PCWP MACT sources faced in 2004, and have to begin finding a control vendor who can install controls on time. Based on the information we have today, we continue to believe that the full 3 years is needed for sources in this situation who become subject to MACT, and we see no reason to treat the two situations differently as the same process and obstacles will be faced by these sources. On the other hand, for sources that initiate their own changes that would affect their low-risk status,

we continue to believe that MACT planning must be built into those sources' considerations, and therefore maintain the requirement that they comply with MACT immediately upon undergoing changes.

#### *K. Low-Risk Demonstration Submittal Dates for New Sources*

*Comment:* Two commenters suggested that new sources submit a preliminary LRD before startup. One commenter requested that EPA clarify the procedures for new sources to be included in the low-risk category by allowing the demonstration to be submitted during construction using conservative factors, as provided for in § 5(h) of appendix B to subpart DDDD, with EPA approval prior to startup. Subsequent testing could be conducted within 180 days to demonstrate that actual emissions are below the rates used in the demonstration. The other commenter stated that new PCWP facilities that plan to join the low-risk subcategory should be required to submit a preliminary eligibility demonstration with their pre-construction permit application. That way, State and local agencies will know at the time the construction permit application is submitted that the facility plans to submit a LRD and may be exempted from the MACT requirements at a later date. The commenter noted that subpart DDDDD (the Boilers/Process Heaters rule) requires a preliminary eligibility demonstration using emissions estimates, and it also requires the facility to verify the data with source testing within 180 days of startup. The commenter also noted that since there are no provisions in the CAA for extending the compliance date for new sources, new sources that are denied the risk-based exemption must comply at startup and State and local agencies must include all the requirements of the PCWP MACT in their permits.

In addition, one commenter stated that it is not possible for new or reconstructed sources to conduct their emissions testing upon initial startup because the rule requires the facility to be run at maximum capacity during testing and new facilities take at least 3 months to reach maximum capacity. Therefore, submitting a LRD 180 days after startup is not reasonable for new or reconstructed sources. The commenter requested that new and reconstructed sources be required to conduct stack testing within 180 days of initial startup and to submit their LRD within 240 days of initial startup.

*Response:* Unlike existing sources, new sources cannot conduct the

required emissions testing prior to startup. Therefore, we agree that requiring new sources to submit a pre-startup LRD would be useful. It allows new sources to determine whether or not they are likely to be low-risk facilities and helps permitting authorities by notifying them which sources plan to demonstrate eligibility for the low-risk subcategory. Therefore, today's final action requires new sources to submit a pre-startup LRD at least 9 months prior to startup. The pre-startup LRD must be based on the information (e.g., equipment types, estimated emission rates, etc.) that will likely be used to obtain the sources' title V permit and must incorporate the maximum emissions that will likely be allowed under the title V permit. New sources will also be required to submit a verification LRD, based on emissions testing, where required.

Today's action provides three options for new sources who want to become part of the low-risk subcategory. When new sources submit their pre-startup LRD, they must indicate whether they intend to join the low-risk subcategory based on their pre-startup LRD (option 1) or based on their verification LRD (option 2). The third option is for new sources to comply with the requirements of MACT in subpart DDDD at startup and join the low-risk subcategory after startup using the procedures for sources already in compliance with MACT provided in the amended section 10(b) of appendix B to subpart DDDD.

The first option allows new sources to join the low-risk subcategory based on their pre-startup LRD (i.e., upon startup). The EPA will review and approve (if approvable) the source's pre-startup LRD prior to startup. The source must operate, and certify they are operating, consistently with their pre-startup LRD. After startup, the source must submit a verification LRD, based on the emissions determination requirements in table 2A to appendix B to subpart DDDD. The EPA will review the verification LRD. If the verification LRD does not support the pre-startup LRD, the source must comply with MACT for new sources immediately. This is not to say that the verification LRD must match the pre-startup LRD exactly. In fact, we would expect that the pre-startup LRD would be more conservative than the verification LRD. So while the two LRD may differ, the verification LRD must demonstrate that the facility can operate consistently as low risk and that the facility operated as low risk based on the pre-startup LRD.

The second option is for new sources join the low-risk subcategory based on

their verification LRD (i.e., to operate consistently with their pre-startup LRD at startup and join the low-risk subcategory once EPA reviews and approves (if approvable) their verification LRD). The new source would submit a pre-startup LRD and EPA would review it prior to startup of the facility. The facility would then operate and certify operating consistently with their pre-startup LRD. The source becomes part of the low-risk subcategory when EPA approves (if approvable) their verification LRD. As required for sources choosing option 1, if the verification LRD does not support the pre-startup LRD, the source must comply with MACT for new sources immediately. Also, as for sources using option 1, we do not expect the pre-startup LRD to match the verification LRD exactly, but do require that the source operate as low risk from startup or comply with MACT.

New sources must submit an application for a significant title V permit modification to incorporate the low-risk parameters from the verification LRD into their title V permit within a year of their startup date.

New sources choosing either option 1 or option 2 face enforcement liability if the source's verification LRD source does not confirm their low-risk status. If the verification LRD does not demonstrate that the source is low risk, the source is out of compliance with MACT from startup. While any source in the low-risk subcategory is out of compliance with MACT if EPA is sued and judged to have wrongly approved the source's LRD, pre-startup LRD might be subject to more scrutiny by the public and more likely to face a challenge if the LRD was insufficient. Sources choosing option 2 could also be challenged for operating in violation of the MACT standard before EPA determines they are part of the low-risk subcategory.

#### *L. Legal Issues With Title V Implementation Mechanism*

*Comment:* One commenter believes the title V implementation approach for the CAA section 112(c)(9) low-risk exemptions adopted in the final rule: (1) Attempts to create specific and federally enforceable legal requirements, without notice-and-comment rulemaking, through an informal exemption "letter approval" process conducted between a source and EPA; (2) imposes those legal requirements upon States and the public by employing a State-issued title V permit to establish applicable requirements; (3) does so without providing States or the public with any meaningful, legal opportunity to

comment on or challenge those requirements; and (4) does so all in contravention of existing EPA legal interpretations and policy that prohibit use of title V permits for such purposes. The commenter stated that EPA does not identify another instance in which a statutorily-required determination by the Administrator achieves its culmination and embodiment in a title V permit, nor does EPA identify statutory authority in CAA section 112 or title V indicating Congressional intent to allow such a result. The commenter believes that this result transgresses title V's function to incorporate pre-existing federally enforceable applicable requirements into operating permits issued by approved permitting authorities, following applicability determinations by the approved permitting authority. The commenter stated that unlike the Prevention of Significant Deterioration (PSD) or New Source Review (NSR) permitting programs in which the rules contain criteria that are subsequently rendered applicable requirements in federally enforceable preconstruction permits, the risk exemption approval process gives definition and content to the qualifying conditions in an unenforceable, legally meaningless letter. The commenter noted that the State authorities do not render the low-risk approvals, have no ownership over them, and have no reason to stand behind them. The commenter stated that the public does not have the public comment, challenge, and petition opportunities afforded under title V for ordinary State applicability determinations.

Finally, the commenter noted that governing EPA statutory and regulatory interpretations prohibit the title V implementation approach employed in the final rule. If the risk determinations, parameters, and conditions exist exclusively in a title V permit and the title V permit expires, the parameters and conditions of the risk exemption would no longer exist as a legal matter. The existence of a legal document independent of title V preserves the ability of permitting authorities and EPA to reopen title V permits that failed to include all relevant permit terms or to make corrections upon permit renewal. Also, title V regulations allow a permitting authority to include a "permit shield" stating that compliance with the conditions of the permit shall be deemed compliance with any applicable requirements as of the date of permit issuance.

Three other commenters believe that title V permits represent an appropriate implementation mechanism for

ensuring that low-risk sources never exceed the applicable risk thresholds. One of the commenters agrees that a significant title V permit modification is suitable for incorporating low-risk parameters. The commenter stated that the reason that a significant permit modification would be needed to incorporate the low-risk subcategory demonstration is found in 40 CFR 70.7(e)(2)(i)(A)(3), a minor permit modification "gatekeeper," which prohibits use of minor modification procedures where a provision would require (or change) a case-by-case determination during the title V permit process. The commenter believes title V is not creating the applicable requirements, rather relevant low-risk parameters are requirements grounded in appendix B to subpart DDDD.

Another commenter stated that the title V process envisioned by the final rule is comparable to the synthetic minor permit process which has been in use for years. The commenter believes that CAA section 112(c)(9) does not specify any mechanism whatsoever for ensuring that sources in delisted categories remain below applicable risk thresholds. Once they are delisted, emissions (and risks) can increase without limitation unless and until EPA takes affirmative action to relist the source category or subcategory. Here, however, EPA is mandating that any source seeking inclusion in the low-risk subcategory agree to enforceable permit conditions to ensure that the source continues to be low-risk. The commenter argued that the procedure envisioned here is virtually identical to the "applicability determination" process under title IV of the CAA. The commenter believes the petitioner's argument that the approach transgresses title V's function is based on a misperception of how the risk-based approach would be implemented. The commenter stated that EPA's approval of the LRD will be conditioned on retention of relevant source parameters that are necessary to ensure that the source remains low-risk. These parameters become federally enforceable requirements that properly are included in the title V permit.

*Response:* The EPA agrees that the commenter who objected to the use of title V permits as an implementation tool in the low-risk process reflects a fundamental misunderstanding of what is required by the CAA in the delisting context with respect to sources who become no longer subject to section 112 emission standards. The EPA also agrees that the objecting commenter fails to appreciate the added confidence in the process afforded by the use of title V

permitting procedures. Nothing in section 112(c)(9) of the CAA directs EPA to impose any further substantive or procedural requirements on sources in source categories or subcategories that are delisted. Under the CAA, such sources may permissibly be released from all obligations under section 112(d) of the CAA with respect to control of HAP emissions. Moreover, in determining whether an individual source is a member of one source category versus another subcategory, even while one is listed and subject to section 112(d) standards and the other is not, nothing in the CAA requires EPA to subject that decision to notice and comment rulemaking or to federally establish directly enforceable requirements. Given that, EPA could have theoretically adopted an approach that relies upon source and EPA application of the appendix B to subpart DDDD criteria for determining eligibility for the low-risk subcategory that, upon EPA approval of a source's LRD, subsequently releases the source from any further obligations related to the PCWP NESHAP. However, in order to better ensure that low-risk PCWP sources remain low risk following the factual findings necessary to approve their LRD, EPA chose to further require (and sources have accepted) significant continuing conditions, the failure to meet which will result in low-risk sources having to return to the PCWP MACT category. The best mechanism for imposing these conditions is the title V permit process, which can be used to establish as binding enforceable requirements terms and conditions that do not otherwise exist as CAA applicable requirements. The EPA has long held that the title V process can be used to establish enforceable limitations on the potential to emit air pollution, for example, in Indian country where there may otherwise be an absence of regulatory controls. Moreover, EPA's title V regulations have long provided for what types of permit modifications must occur to specifically accommodate changes that "establish or change a permit term or condition for which there is no underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject." See 40 CFR 70.7(e)(2)(i)(A)(4). In the low-risk PCWP context, we believe that this authority is directly applicable to this situation where we are conditioning a source's continuing low-risk eligibility upon its assumption of enforceable terms and conditions reflecting its low-risk parameters, taken in order to avoid the

PCWP MACT requirements that would otherwise apply. As a policy matter, we believe this provides far better assurance that low-risk sources will remain so than would merely releasing them from all further obligations with respect to the NESHAP, and in light of the language of our title V regulations, we cannot accept the objecting commenter's view that imposing these conditions is not legally permissible.

Turning to the objecting commenter's specific complaints, we therefore disagree that the process attempts to create specific and federally enforceable requirements without notice and comment rulemaking through an informal approval process between the source and EPA. The process that occurs between the source and EPA is limited to EPA's review and approval or disapproval of the source's LRD submitted in support of its applicability determination request, and EPA's forwarding of approved low-risk parameters to the State permitting authority. The State's subsequent conversion of those parameters into enforceable terms and conditions is very much a notice and comment process.

Regarding the objection that the legal requirements for sources to maintain low-risk eligibility imposes those legal requirements on States and the public, it is, of course, under the principles of federalism embodied in the CAA, always within the States' legal rights to require a more stringent emission limitation for any PCWP source than is otherwise required by our rule, including requiring any low-risk PCWP source to meet MACT. See CAA section 116. In terms of burdening the public, presumably in having to participate in the title V permitting process (should the member of the public so choose), it is not apparent what alternative the objecting commenter would prefer. We assume that the commenter would not have us, for example, revise our title V rules to allow these changes to occur without the opportunity for public comment. We disagree that the process provides no meaningful opportunity to comment on low-risk parameters or their subsequent incorporation as terms and conditions in permits. First, EPA's approval of a source's LRD is a judicially reviewable final action under CAA section 307(b), as is any applicability determination under CAA section 112. Second, to provide better assurance that sources remain low risk than is absolutely required under CAA section 112(c)(9), we are requiring that the notice and comment permit issuance process be used to implement this need for assurance.

The EPA wishes to clarify the characterization of the low-risk parameters that result from the LRD approval process, especially in comparison to our recently finalized reconsideration and amendments of the Boilers/Process Heaters rule. In the Boilers/Process Heaters rule, in response to comments, we explained that the more appropriate title V regulation references of authority for incorporating the section 112(d)(4) compliance option are § 70.7(e)(2)(i)(A)(3), regarding establishment or changes of case-by-case determinations of an emission limitation or other standard, and §§ 70.7(f) and (g), regarding permit reopenings to incorporate new applicable requirements. This is because, unlike in the PCWP context, in the Boilers/Process Heaters rule, a source's choice of the risk-based compliance option is an alternative standard and an "applicable requirement" in the same manner as the MACT-based emission limitations in the Boilers/Process Heaters rule. However, in the PCWP context, prior to a source's obtaining a title V permit that reflects its EPA-approved low-risk parameters, the only enforceable applicable requirements relating to the PCWP NESHAP are the MACT standards themselves, as there is no alternative health-based compliance option within the standard itself. Rather, by the nature of the section 112(c)(9) delisting and exemption, a low-risk PCWP source assumes enforceable terms and conditions only through the title V permit process, taken as a condition for their continuing eligibility in the subcategory and avoidance of the PCWP MACT to which they would otherwise be subject. Therefore, for the PCWP low-risk subcategory, we continue to regard 40 CFR 70.7(e)(2)(i)(A)(4) as the relevant "gatekeeper" requiring changes to title V permits incorporating low-risk parameters to be made through the significant permit revision process. Moreover, since the low-risk parameters sent from EPA to State permitting authorities are not directly enforceable "applicable requirements," unlike in the Boilers/Process Heaters rule, we do not regard the permit reopening provisions of 40 CFR 70.7(f) and (g) as being relevant. While, of course, under CAA section 112(c)(9) EPA could have chosen the statutorily permitted option of requiring no creation of enforceable terms and conditions at all following approval of a source's LRD, we have chosen to require the extra step of a process that is closer to that for other programs that apply to source efforts to

limit the potential to emit. While the objecting commenter is dissatisfied that the process is not identical to those for Prevention of Significant Deterioration (PSD) or New Source Review (NSR), which both involve creation of enforceable requirements in preconstruction permits before they are incorporated into title V permits, we are frankly surprised that the commenter does not appear to appreciate the extra assurance we have obtained in requiring approved low-risk sources, notwithstanding their exemption from section 112(d) standards, to assume enforceable terms and conditions even though such is not required under section 112(c)(9).

Regarding the objecting commenter's points about the potential expiration of permits and the function of the title V "permit shield," we do not regard these arguments as being valid reasons to choose to abandon title V as an implementation tool for the low risk approach, particularly since the logical alternative and clearest way to avoid the problems raised by the commenter is to require nothing further of low-risk PCWP sources once EPA approves their LRD and determines they are eligible for the delisted low-risk subcategory. In any case, once the source is in the subcategory, the section 112(d) standard no longer applies to the source and therefore a permit's expiration or the existence of its permit shield poses no potential conflict with the PCWP NESHAP. Instead, in order to ensure that it validly remains in the delisted low-risk subcategory, it is imperative on the source to ensure that it maintains a valid title V permit reflecting its low-risk parameters; otherwise it will fail to maintain low-risk eligibility and will have to comply with MACT.

#### *M. Timing of Title V Permit Revisions*

*Comment:* One commenter strongly supported EPA's proposal to require only the submittal of a facility's low-risk parameters to its permitting authority for incorporation into its title V permit (as opposed to having the title V permit revisions actually incorporated into the permit). The commenter stated that sources do not have any control over the amount of time that it takes for State permitting authorities to review and act upon requests for permit modifications. In addition, the commenter noted that this approach is consistent with the permit application shield provision of part 70 and the Boilers/Process Heaters rule's health-based compliance alternatives. The commenter also noted that the source is entirely responsible for ensuring that it remains in compliance with the relevant operating

parameters that are to be included in the title V permit, even before that permit is issued.

Two commenters disagreed with the proposal to allow facilities to qualify for the low-risk subcategory merely based upon submission of a title V permit revision application. Both commenters stated that EPA's approach violates title V, the part 70/71 regulations, and corresponding State laws. The commenters noted that many existing facilities subject to the PCWP MACT already will have permit terms and conditions subjecting the entire facility to the standard as a result of earlier permit revisions or renewals. The commenters stated that until the title V permits are revised to incorporate enforceable conditions into permits, sources must remain subject to the MACT standard. The commenters believe allowing a facility to become part of the low-risk subcategory before the State or local permitting authority approves the necessary permit revision undermines the role of the permitting authorities. The commenters also argued that the proposal makes the significant permit modification process and public participation meaningless.

*Response:* The EPA believes that the objecting commenters are confusing the EPA's role in reviewing LRD and determining source eligibility to join the low-risk subcategory with the State permitting authority's role in making sure permits currently reflect applicable requirements. We are providing greater assurance than is strictly required by CAA section 112(c)(9) that sources will remain low risk following EPA LRD approval. We are requiring that sources timely submit permit revision applications that reflect their low-risk parameters for future incorporation as enforceable terms and conditions. We believe this requirement will help ensure that such sources continue to operate under the conditions that proved them to be low risk. In cases where a PCWP source's permit already reflects the PCWP MACT requirements and the MACT compliance deadline has passed, of course, timely amendment of the permit itself will be needed in order to allow the source to alternatively operate according to its low-risk parameters. Until the permit is actually revised, the source will have to comply with its then-applicable terms and conditions, even if they reflect MACT and the source's LRD has been approved by EPA. But we do not regard this practical problem as being sufficiently severe to merit abandoning the additional assurance requirement entirely, or even being one that sources and title V permitting authorities may

commonly face when permit terms become obsolete in the face of new applicable requirements.

*Comment:* Two commenters argued that State and local permitting authorities have the right to thoroughly review and disapprove LRD if they are incomplete or incorrect. However, the final rule does not clearly specify that State and local permitting authorities have this right, and it does not specify that a source must comply with the emission limits and requirements of the NESHAP if the demonstration is not approved by the State and local authority. The commenters noted that without reviewing the LRD, a State or local agency would be unable to defend granting an exemption to a facility during a public review process. The commenters noted that many State and local agencies will find it necessary to review the risk-based exemptions, and the process could place a very intensive resource demand on State and local air agencies that must verify extensive emissions and stack information and review the risk assessments to ensure that they have been done properly. The review of these risk assessments would require expertise in risk assessment methodology that State and local agencies may not possess.

*Response:* We acknowledge that review of the eligibility demonstrations for the delisted low-risk subcategory would require resources for verification of information and may require expertise in risk assessment methodology that is not yet available in some States. To alleviate these concerns, we will review and approve/disapprove the low-risk subcategory eligibility demonstrations submitted by PCWP facilities. The burden to States of assuring that affected sources continue to be low-risk will be no more than the burden associated with ongoing title V enforcement because the parameters that define a source as low-risk will be reflected in terms and conditions to be incorporated into the title V permit.

Notwithstanding an EPA finding that a source is eligible for inclusion in the low-risk subcategory, States are free, consistent with CAA section 116, to impose more stringent limitations on a low-risk source, including the requirements of this PCWP NESHAP that would otherwise apply if the source had not been found to be low risk. These requirements can be imposed on a State-devised schedule, and might even include provisions for independent State review and approval of LRD. The State might determine whether technical problems suggest that the source may not in fact be low risk, notwithstanding EPA's approval of the

source's LRD. However, under the final rule, unless a State chooses to involve itself in the decision of whether a source is low risk, EPA approval of an LRD and the source's submission of a permit revision application are sufficient for the source to join the low-risk subcategory. In order to avoid an overburdening of State resources, we have maintained the approach that relies upon EPA review and approval of LRD, and we depend upon States' inherent authority to require more of themselves and of sources, under CAA section 116, for those States that choose to do so.

*Comment:* One commenter stated that there is a possibility that in some cases, EPA's LRD approval action will be too late for a facility to submit its title V application before the MACT compliance deadline. The commenter requested that a facility be allowed to submit its title V application incorporating the emission rate and process limitations stated in the LRD concurrent with or soon after the submittal of the LRD to EPA.

*Response:* We disagree that the approach suggested by the commenter is appropriate. In the case of any LRD, we expect there will be the need to provide additional information or to correct aspects in initial submissions, and we do not think it is reasonable for permit applications to be based on these unreviewed, uncorrected LRD, especially since submission of a permit application starts a clock under State title V programs with a deadline for the permitting authority's action. While the problem identified by the commenter may prove to be a real one in specific cases, we have generally determined that the best way to ensure that low-risk sources remain low risk and that terms and conditions accurately reflect their status is to require that permit revision applications reflect EPA-approved LRD. Thus, it is important that sources submit their LRD sufficiently early to EPA so that "last-minute" review does not jeopardize the source's chances of becoming a low-risk source before the MACT compliance deadline, if that is the source's goal. Of course, in light of our other changes that extend the MACT compliance deadline and allow sources to become low risk after the MACT compliance deadline passes, we consider this problem to not be as severe as suggested by the commenter.

#### N. Permit Conditions

*Comment:* Two commenters requested that the number of parameters to be included in title V permits for low-risk sources be minimized to allow operational flexibility. One commenter stated that section 11(b) of appendix B



to subpart DDDD should ensure that the low-risk requirements continue to be met, but not impose cumbersome monitoring, recordkeeping, and reporting requirements with little environmental benefit. In particular, the commenter is concerned that the list of dispersion modeling parameters (such as stack height, stack temperature, and stack flow) can change without changing the overall conclusion of a risk analysis. The commenter stated that if parameters are too specific, every change to one of those parameters would require a revision to the site-specific risk assessment and a title V permit action before the source has regulatory permission to make the change. The commenter recommended that only conditions that refer to the health effects criteria established in appendix B to subpart DDDD be included.

Another commenter requested that EPA clarify that permits primarily should specify an emission limit and should restrict production rates only to the extent that they impact the plant's emission limit. The commenter noted that facilities will attempt to achieve highest production rates in combination with worst-case operating parameters during testing, but in practice, it can be difficult to reach worst-case conditions. The commenter stated that EPA should clarify that facilities can extrapolate the production rates and operating conditions measured during performance tests to "true" worst-case emissions scenarios for purposes of their operating permit limits.

*Response:* Our intent is that parameters incorporated as limits into a source's title V permit will be those parameters that determine the source's risk level. This will ensure that sources in the low-risk subcategory continue to operate in a manner that is consistent with their LRD. The results of a risk assessment for a particular source depend on many factors, including the emission rates and dispersion parameters associated with each process unit at the facility. Process unit emission rates are a function of production rate and the effectiveness of any emissions controls used. Process unit emission rates can also be impacted by other process-related parameters (e.g., process unit operating temperature, dryer firing method, fuel type, wood type, resin HAP content, etc.), but the effect of these parameters on emission rate is not as well defined as that of production rate and control system effectiveness. Therefore, we disagree with the notion of simply extrapolating emission rates based on process-related parameters other than

production rate. However, we agree that emission rates can be reported in terms of production (i.e., as emission factors) and that production rate can be used to extrapolate to worst-case emission rates (provided that all other worst-case conditions remain the same as during the emissions test). The language in appendix B to subpart DDDD does not prevent such scaling of emission rates to account for increased production.

We maintain that production rate and other indicators of emission rate should be incorporated as limits into title V permits. This is because the requirement to memorialize the low-risk parameters as enforceable title V permit terms and conditions is a condition, under our rule, for eligibility in the low-risk PCWP subcategory established under CAA section 112(c)(1) and delisted under section 112(c)(9). Thus, while the effect of the determination that a source is low risk is to exempt it from other section 112 requirements, the requirement to assume title V permit conditions to maintain low-risk status is itself based on our implementation of section 112(c), and is a necessary condition a source must satisfy as an eligibility criterion for joining the low-risk subcategory. Sources that fail to meet this condition cannot maintain low-risk eligibility.

Appendix B to subpart DDDD does not require continuous measurement of process unit emission rates. Therefore, indicators of process unit emission rate must be documented on an ongoing basis to provide assurance that the actual emission rates used to establish the source as a member of the low-risk subcategory have not changed. Indicators of emission rate include process unit throughput, control device operating parameters (monitored as required in section 5(e) of appendix B) if a control device is used, and other pertinent process unit operational parameters depending on the type of process unit. These indicators of emission rate are appropriate title V permit conditions because, during an inspection, permitting authorities can readily monitor indicators of emission rate but cannot easily measure actual source emissions. Therefore, prior to increasing production rate above the level in a source's permit (or deviating from other permit conditions in a way that could result in HAP emissions above the levels used to establish a source as a member of the low-risk subcategory), that source must revisit its LRD and demonstrate that it continues to qualify for the low-risk subcategory at the higher production rate.

In addition, because our goal is to ensure that risks posed by a facility are

maintained at a level at or below those in the facility's LRD, it is also necessary to include certain dispersion parameters as title V permit conditions. Stack height is an important dispersion parameter for the risk demonstration and should be included as a permit condition. If stack height is already incorporated into the title V permit independent of the LRD, then this parameter should be linked explicitly to the LRD so that stacks cannot be modified without revisiting the demonstration. We have also included stack height in section 11(b) of appendix B to ensure it is included as a permit condition for those facilities that do not already have stack height incorporated into their title V permits. We agree that it is not necessary to include stack temperature and exhaust flow rate as title V permit conditions because these parameters are not likely to change considerably in a way that would increase risks without an associated change in other parameters for which title V permit limits will be established (i.e., process throughput, control device operating conditions if a control device is used, or other pertinent process conditions).

We believe appendix B to subpart DDDD already allows operational flexibility while ensuring that sources operate in a manner that is consistent with their LRD. For example, appendix B to subpart DDDD does not include any process unit parameter monitoring, reporting, or recordkeeping requirements. Thus, monitoring, recordkeeping, and reporting requirements must be developed by a permitting authority and then incorporated into a facility's title V permit in order to ensure a facility's compliance with its LRD. Additionally, the requirement that the LRD be based on worst-case operating conditions provides facilities with operational flexibility because if a source meets our low-risk requirements while operating under worst-case conditions, then the source should also meet those criteria when operating under any other conditions. Finally, section 5(h) of appendix B clarifies that facilities can use emission rates in their LRD that are more conservative than worst-case conditions in order to further increase their operational flexibility.

#### *O. Costs and Benefits of Establishing a Low-Risk Subcategory*

*Comment:* One commenter stated that EPA should revise the cost-benefit analysis to accurately reflect the lack of public health protection resulting from the low-risk subcategory. Another commenter charged that EPA's own data

reveal that the risk-based exemptions in the final PCWP rule have a substantially higher net social cost than a lawful MACT standard without the exemptions, and also result in significantly higher emissions of HAP, volatile organic compounds (VOC) and PM than a rule without exemptions. The commenter noted that the preamble to the rule admitted that the exemptions could increase HAP emissions by 4,400 tons per year (tpy), when compared to requiring all plants to meet pollution control requirements. The preamble also acknowledged that exposure to the HAP released by the PCWP industry have been linked to extensive noncancer health effects but the Regulatory Impact Analysis (RIA) for the final rule did not assign an economic value to these very serious health impacts.

The commenter stated that the Office of Management and Budget (OMB) has recognized and published estimates of the cost to the public health associated with exposure to each ton of PM or VOC, but EPA did not attempt to quantify the public health costs associated with higher increases of these pollutants. The commenter stated that even using the lowest end of the monetized benefits published by OMB, the value of reducing VOC and PM emissions from all PCWP plants exceeds the savings to industry under the exemptions in the final rule.

The commenter noted that EPA estimated that requiring all PCWP plants to reduce HAP would result in incidental increases in nitrogen oxide (NO<sub>x</sub>) emissions, but EPA made no attempt to compare this potential increase to the additional emissions of HAP, VOC, and PM that would result from the exemptions. The available evidence suggests that the NO<sub>x</sub> increases are relatively trivial, especially when compared to the additional pollution authorized by the rule's exemptions. Nitrogen oxide is a pollutant of concern because it is a precursor in the formation of ground-level ozone. But the exemptions that EPA has adopted could increase emissions of VOC (another critical ozone precursor) by as much as an estimated 13,000 tpy. Arbitrarily, neither the RIA nor the preamble explains why increasing VOC by 13,000 tpy to avoid 1,200 tpy of NO<sub>x</sub> would yield a net benefit in reducing ozone formation.

Similarly, the Final RIA notes that NO<sub>x</sub> can form fine PM, but the exemptions in the rule actually could result in an increase in PM of 6,100 tpy. Based on their calculations using OMB cost-benefit values, the commenter contended that the reduction in NO<sub>x</sub>

emissions does reduce public health costs, but the increase in VOC and PM emissions results in an increase in public health costs anywhere from 44 to 414 times higher than the public health savings from the NO<sub>x</sub> reductions from the exemptions.

In addition, the commenter cited internal EPA documents and stated that the decision to include risk-based exemptions appears to have been driven by the desire to lower the cost of the rule, which contradicts the ruling in *National Lime Assn v. EPA*, 233 F.3d 625, 640 (D.C. Cir. 2000) that cost may only be taken into account when considering beyond-the-floor emissions limitations.

Other commenters disagreed and believe there is little sense in requiring a facility to undertake costly control expenditures when it does not pose a significant risk to human health or the environment. One commenter disagreed that the increased HAP emissions resulting from the low-risk subcategory will impose significant risks on the general public because, by definition, a source cannot qualify for the low-risk subcategory unless it does not impose any meaningful risks on the general public.

The commenter also disagreed with the petitioners' claim that EPA should have quantified the potential health benefits of the collateral VOC and PM reductions that would have resulted if low-risk sources were required to install controls. The commenter argued that while there may be health benefits to reducing PM or VOC, to the extent that reductions in these criteria air pollutants are needed, the proper vehicle is title I of the CAA, not through a title III HAP regulation. The commenter believes it is improper to justify HAP regulation under title III solely by the fact that there may be incidental benefits from criteria pollutant reductions.

The commenter stated that the costs of the rule outweighed the benefits for low-risk sources. According to the commenter, the incinerator controls that would be necessary in most cases to meet the rule would cause increased energy demand and a sharp increase in the annual emissions of some criteria pollutants from facilities. The commenter disagreed with the petitioners' claim that increased NO<sub>x</sub> emissions are outweighed by the reductions in VOC. The commenter stated that most PCWP facilities are in NO<sub>x</sub>-limited areas, such that any increase in NO<sub>x</sub> has the potential to increase ozone formation, whereas emissions of VOC do not.

The commenter also disagreed with the petitioners' argument that EPA's evaluation of costs and benefits in analyzing whether to implement the low-risk subcategory "runs afoul of *National Lime Ass'n v. EPA*, 233 F.3d 625, 640 (D.C. Cir. 2000)," which held that costs may be considered only when setting "above the floor standards." The commenter noted that the Court's decision in that case was made solely with reference to CAA section 112(d), and EPA here has created a subcategory pursuant to 112(c)(1) and delisted it pursuant to CAA section 112(c)(9).

*Response:* In the RIA for the final rule, we quantified the social costs of the final standard but did not quantify the change in social costs that would result from application of the low-risk subcategory. Based on the results of economic impact analyses for other MACT standards in general, it is likely that the change in social costs (in this case, without an estimate of benefits) is approximated by the \$66 million reduction in compliance costs that is estimated in the supporting information for the final rule and mentioned in Appendix A of the RIA. All assumptions underlying emissions estimates related to the low-risk subcategory are found in the supporting information for the final rule.

We explain in Chapter 6 of the RIA that we did not provide a monetized value for the benefits from reduced health effects from HAP reductions associated with the final rule due to a lack of sufficient scientific data. The state of science in this area is still in that position today. Use of a benefit transfer approach as suggested by commenters is not appropriate in this case. We are continuing our analytical work to address the uncertainty in a benefits transfer approach. We did not provide estimates of the monetized benefits associated with the VOC emission reductions since we did not have sufficient air quality modeling runs available to allow us to estimate these benefits and because we did not have sufficient scientific data to place a monetized benefit value on these reductions. The OMB has prepared benefits estimates for VOC emission reductions in its annual Thompson Reports (reports on benefits and costs of Federal Agency regulations), but these estimates represent broad, general estimates of the monetized value for these reductions and not benefits of VOC emission reductions from sources affected by this final rule. This same point regarding the generalized foundation upon which the Thompson Report estimates rest may be made for our not providing monetized benefits for

the fine PM emission reductions. For the same reasons we did not estimate monetized benefits for the rule, we did not estimate monetized disbenefits associated with the low-risk subcategory (e.g., additional NO<sub>x</sub> emissions associated with RTO operations): A lack of sufficient scientific data to assign a monetized benefits value for HAP reductions, a lack of sufficient air quality modeling runs and sufficient scientific data to assign a monetized benefits value for VOC reductions, and the generalized foundation upon which the Thompson Report estimates are based for PM reductions.

It should be noted that we could only consider HAP emissions in setting the final standards as per the requirements of CAA section 112. Quantification of benefits and disbenefits are requested in OMB's RIA guidelines but are not legally required information for setting MACT standards.

We disagree with the assertion that our consideration of costs, in the context of establishing and delisting the low-risk PCWP subcategory, violates the DC Circuit's decision in *National Lime*. In setting the MACT floors for the PCWP NESHAP, cost was not a factor, and costs of compliance may not be used under the PCWP NESHAP as a basis for avoiding MACT, if it otherwise applies. Sources will be able to avoid MACT only if they demonstrate that they are in fact low risk. There is nothing improper about our general desire to reduce costs of CAA compliance, where appropriate and where imposing those costs is not necessary. In fact, the very existence of CAA section 112(c)(9) reflects the basic congressional goal of avoiding imposing regulatory burden where that burden is not needed to provide an ample margin of safety to protect public health.

### III. Responses to Comments on the Proposed Amendments and Clarifications for Subpart DDDD

#### A. Definitions

##### 1. Dryer Definitions

*Comment:* One commenter stated that the definition of "tube dryer" should be amended to differentiate tube dryers from pneumatic conveyors that use conditioned air. The commenter provided a suggested revised definition of "tube dryer."

*Response:* We did not intend to include pneumatic fiber transport systems under subpart DDDD. Pneumatic fiber transport systems are distinguished from primary and secondary tube dryers because heat is added to dryers specifically to remove moisture while the purpose of the higher temperatures used in fiber

transport systems is to prevent cooling. Therefore, we have amended the definition of "tube dryer" as requested to ensure that pneumatic fiber transport systems are not classified as tube dryers.

*Comment:* One commenter requested that EPA modify all of the dryer definitions in subpart DDDD and appendix B to subpart DDDD by replacing "at elevated temperature" with "by applying heat."

*Response:* We agree with the commenter's suggested changes to the dryer definitions to clarify that heat is deliberately applied during drying processes. The final rule has been amended as requested by the commenter.

##### 2. Affected Source and Direct-Fired Process Unit

*Comment:* One commenter requested that EPA consider modifications to the proposed amendments to the definitions of "combustion unit" and "affected source." First, the definition of "combustion unit" should be modified (1) to include combustion units that direct-fire PCWP process units but are not used to combust HAP emissions, and (2) for consistency with broad references in the proposed amendments that define the source category. Alternatively, the commenter suggested a revision to the proposed amendment to the definition of "affected source."

Second, the use of the word "directly" in the definition of "direct-fired process unit" could exclude process heaters that indirectly heat a heat transfer media before the combustion exhaust is routed to the drying operation, where the remaining heat energy is used in direct-fire contact with the process material. The commenter stated that deleting the word "directly" from the definition of "direct-fired process unit" would not change the meaning of the definition because it would still include the phrase "\* \* \*" such that the process material is contacted by the combustion exhaust."

*Response:* After reviewing how the term "combustion unit" is used throughout subpart DDDD, we agree with the commenter's suggested amendment to the definition to "combustion unit" to clarify that combustion units can be used to direct-fire process units or to control process exhaust. The amended definition of "affected source" (which we are amending as proposed with no further revisions) includes only those combustion unit exhaust streams that direct-fire process units, and it should not be read to mean that all combustion units at the plant site are part of the PCWP affected source (and thereby

exempt from the Boiler/Process Heaters rule). We also agree with the commenter that an exhaust stream that supplies indirect heat for other uses would be part of the PCWP affected source if it is eventually routed through the direct-fired dryers such that it too contacts the wood material and becomes a mixture of combustion gases and process gases. We have amended the definition of "direct-fired process unit" accordingly as suggested by the commenter. However, if the indirect heat exhaust stream does not routinely pass through the direct-fired dryers, then this exhaust stream would be subject to the final Boilers/Process Heaters rule.

##### 3. Engineered Wood Products

*Comment:* One commenter requested several edits to the definition of "engineered wood product." First, the commenter stated that the type of resin or glue and the designed use of the product should not be specified for consistency with the definitions for the other wood products. Second, the list of products should include parallel strand lumber. Although implicit in the rule since the definition of "laminated veneer lumber" includes parallel strand lumber, parallel strand lumber is the more commonly used term.

*Response:* We agree with the commenter that, for consistency with other definitions in subpart DDDD, the definition of "engineered wood products" need not mention specific resin types or the designed use of the products. We have also removed the reference to glue from the commenter's suggested definition because "resin" is defined elsewhere in subpart DDDD, and the definition of "resin" includes "glue." We have also added the term "parallel strand lumber" to the definition of "engineered wood products." Finally, we have revised the definition of "laminated veneer lumber" and added a new definition of "parallel strand lumber" to indicate that these are two terms for the same product.

*Comment:* One commenter requested that the definitions of "LSL press" and "LVL press" be revised to clarify that the material exiting these presses is a billet that must be sawn into LVL, LSL, or PSL and that not all LVL presses are heated. The commenter provided suggested revisions to these definitions.

*Response:* We agree with the commenter that LSL and LVL presses form billets that are subsequently cut into LSL and LVL products and amended the definitions to reflect that clarification. We further edited the definition of "LVL press" to more explicitly include PS�.

### B. Applicability of the PCWP Rule to Lumber Kilns Drying Utility Poles

*Comment:* One commenter expressed support for EPA's proposal to expand the definition of lumber dry kilns to include kilns used to dry utility poles, and two commenters suggested definitions of "lumber."

*Response:* We requested both comments and additional data to either support or refute the treatment of kilns used to dry utility poles as lumber kilns subject to subpart DDDD, and we received one supporting comment and no additional data on this subject. Therefore, we have concluded that lumber kilns drying utility poles are subject to the rule (but have no control or work practice requirements), and we have added a definition of "lumber" to § 63.2292 based on commenters' suggestions.

### C. Capture Efficiency Determination

*Comment:* One commenter had previously requested clarification from EPA regarding the use of the capture efficiency value and measuring capture efficiency on unenclosed, uncontrolled presses. The commenter supported EPA's adoption of the proposed amendment for line 10 of both table 4 to subpart DDDD and table 2B to appendix B to subpart DDDD but questioned how to handle fugitive emissions from a press enclosure or board cooler, which is important when using a partial enclosure to meet the low-risk criteria.

The commenter also stated that EPA should improve the consistency throughout the rule regarding emission rate determinations whether a press or cooler has a control device on it or not. The commenter stated that regardless of whether a control device is used, facilities should be allowed to use either the design specifications included in the definition of "wood products enclosure" or determine the percent capture efficiency of the enclosure to meet any of the compliance options and/or the LRD. The commenter requested that Lines 9 and 10 of both table 4 to subpart DDDD and table 2B to appendix B to subpart DDDD be combined into a single line with no distinction regarding whether emissions are treated in an add-on control device.

*Response:* The reconstituted wood products production-based compliance option (PBCO) applies only to uncontrolled presses. When determining compliance with the PBCO, it is necessary to compare total press emissions to the PBCO limit. The total press emissions include press emissions discharged through the press vents plus

any emissions that are not collected by the press vents but are discharged elsewhere. To determine the percentage of press emissions discharged through the press vents, it is necessary to measure capture efficiency and emissions from the press vents. Then total press (or board cooler) emissions are determined as follows for comparison to the PBCO limit: Total press emissions (lb/MSF  $\frac{3}{4}$ " ) = measured emissions (lb/MSF  $\frac{3}{4}$ " )/ capture efficiency.

Reconstituted wood products press emissions discharged through press vents and press emissions discharged elsewhere (e.g., fugitive emissions) are part of the emissions from a PCWP affected source, and therefore, must be included in the LRD for the affected source. The portion of the emissions discharged through the press vents (measured emissions) can be modeled in the LRD as a point source. The capture efficiency of the press must be measured, and then the portion of press emissions that are to be modeled as a fugitive source can be calculated as follows: Fugitive press emissions (lb/hr) = (measured press emissions (lb/hr)/ capture efficiency) – measured press emissions (lb/hr).

We disagree that the rows of table 4 to subpart DDDD and table 2B to appendix B to subpart DDDD pertaining to capture determination should be combined, but we have edited the second row pertaining to capture efficiency in each of these tables to address the commenter's concern. By definition, emissions must be routed to a control device in order for an enclosure to be a wood products enclosure or a Method 204 permanent total enclosure (PTE). The definitions of wood products enclosure and PTE were written for situations where emissions are captured and routed to a control device. However, we agree that it would be reasonable to assume 100 percent capture if a permanent enclosure is installed such that all the design criteria for a "wood products enclosure" or a PTE are met except for the requirement to discharge to a control device.

### D. Incorporation by Reference of NCASI Method ISS/FP-A105.01

*Comment:* One commenter supported EPA's proposal to incorporate by reference NCASI Method ISS/FP-A105.01 as an alternative method for measuring emissions of acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde.

*Response:* Today's final action amends 40 CFR 63.14 by revising paragraph (f) to incorporate by reference one test method developed by the

National Council of the Paper Industry for Air and Stream Improvement (NCASI): Method ISS/FP-A105.01, Impinger Source Sampling Method for Selected Aldehydes, Ketones, and Polar Compounds, December 2005. The method is available from the NCASI, Methods Manual, P.O. Box 133318, Research Triangle Park, NC 27709-3318 or at <http://www.ncasi.org>. It is also available from the docket for today's final action (Docket ID No. EPA-HQ-OAR-2003-0048). This document was approved for incorporation by reference by the Director of the **Federal Register** in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

### IV. Responses to Comments on SSM Issues

*Comment:* One commenter stated that there are several problems with the rule's SSM provisions. The provisions unlawfully permit sources to exceed emissions standards during SSM periods, are internally conflicting (paragraphs 63.2250(b) and 63.2271(b)), and limit public availability of sources' SSM plans.

*Response:* As stated in the notice of reconsideration and in the proposed amendments, where the PCWP rule's SSM provisions mirror the SSM provisions in the General Provisions (40 CFR, part 63, subpart A), EPA will address comments on those provisions in the reconsideration and amendment process for the General Provisions, unless PCWP sources are somehow affected differently than other sources. The EPA has addressed the issue of excess emissions during periods of SSM as part of the General Provisions rulemaking process as well as in the 2004 PCWP final rule's BID. The issue of public access is addressed in the 2005 General Provisions notice of reconsideration and proposed amendments (70 FR 43992, July 29, 2005), and it will be further addressed in the upcoming General Provisions final amendment and reconsideration notice.

In response to the comment that the final PCWP rule's SSM provisions are internally conflicting, we note that the recently proposed amendments to the General Provisions also included amendments to subpart DDDD. Instead of specifying that sources must demonstrate that they were acting in accordance with their SSM plan during periods of SSM, proposed § 63.2271 specifies that sources must demonstrate that they were acting in accordance with § 63.6(e) of the General Provisions during an SSM event. Therefore, when the General Provisions proposed amendments are finalized, most likely

in the Spring of 2006, there will no longer be any conflict within the PCWP rule's SSM provisions.

*Comment:* Two commenters discussed the proposed amendment to § 63.2250(a), the section that describes when the SSM provisions apply. One commenter mostly supported the proposed amendment but stated that § 63.2250(a) should not continue to differentiate between scheduled and unscheduled startups and shutdowns. In addition, the amendment does not resolve the confusion between scheduled and unscheduled startups and shutdowns. The commenter stated that although malfunctions can result in unscheduled startups and shutdowns, many unscheduled startups and shutdowns are considered to be normal operating practices by the industry rather than malfunctions. The proposed amendment fails to accurately clarify EPA's intent as stated in the preamble to the proposed amendments, and the proposed wording could inadvertently cause all unscheduled startups and shutdowns to be considered malfunctions. The commenter stated that the PCWP rule should not treat scheduled startups and shutdowns any differently from unscheduled startups and shutdowns.

Another commenter stated that the SSM provisions are overly broad, and the proposed amendment suggests extending the provisions to unscheduled startups and shutdowns resulting from malfunction events. The commenter stated that EPA will only worsen the problems with the SSM provisions by promulgating this amendment, particularly in cases in which the equipment "malfunction" is not causally linked to any concurrent pollution exceedance.

*Response:* We agree with the first commenter that the PCWP NESHAP should not differentiate between scheduled and unscheduled startups and shutdowns. The General Provisions do not treat scheduled startups and shutdowns any differently than unscheduled startups and shutdowns. Although it was not our intention to exclude unscheduled startups and shutdowns from § 63.2250(b), we realize that the promulgated language did appear to exclude them, and our proposed amendment to this language did not clarify our intent. Therefore, we are removing all occurrences of "scheduled" and "unscheduled" from § 63.2250(b). Sources should refer to § 63.6(e) of the General Provisions for guidance on complying with the General Provisions during periods of SSM.

## V. Statutory and Executive Order Reviews

### A. Executive Order 12866: Regulatory Planning and Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), EPA must determine whether the regulatory action is "significant" and, therefore, subject to review by the Office of Management and Budget (OMB) and the requirements of the Executive Order. The Executive Order defines "significant regulatory action" as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs, or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of Executive Order 12866, it has been determined that today's action is a "significant regulatory action" because it raises novel legal or policy issues. As such, this action was submitted to OMB for review under Executive Order 12866. Changes made in response to OMB suggestions or recommendations are documented in the public record (see **ADDRESSES** section of this preamble).

### B. Paperwork Reduction Act

This action does not impose any new information collection burden. We are not promulgating any new paperwork (e.g., monitoring, reporting, recordkeeping) as part of today's final action. OMB has previously approved the information collection requirements contained in the final rule (40 CFR part 63, subpart DDDD) under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501, and has assigned OMB control number 2060-0552, EPA ICR number 1984.02. A copy of the OMB approved Information Collection Request (ICR) may be obtained from Susan Auby, Collection Strategies Division; U.S. Environmental Protection Agency (2822T); 1200 Pennsylvania Ave., NW., Washington, DC 20460 or by calling (202) 566-1672.

Burden means the total time, effort, or financial resources expended by persons

to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR part 9 and 48 CFR chapter 15.

### C. Regulatory Flexibility Act

The EPA has determined that it is not necessary to prepare a regulatory flexibility analysis in connection with this final action.

For purposes of assessing the impacts of today's action on small entities, small entity is defined as: (1) A small business as defined by the Small Business Administrations' regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of today's action on small entities, EPA has concluded that this action will not have a significant economic impact on a substantial number of small entities. In determining whether a rule has a significant economic impact on a substantial number of small entities, the impact of concern is any significant adverse economic impact on small entities, since the primary purpose of the regulatory flexibility analyses is to identify and address regulatory alternatives "which minimize any significant economic impact of the proposed rule on small entities." 5 U.S.C. Sections 603 and 604. Thus, an agency may conclude that a rule will not have a significant economic impact on a substantial number of small entities if the rule relieves regulatory burden, or otherwise has a positive economic effect

on all of the small entities subject to the rule.

Today's action reduces the number of emissions tests (and costs associated with these tests) required for facilities to demonstrate that they are part of the low-risk subcategory, and provides facilities with additional time to complete the tests and LRD. We have therefore concluded that today's final rule will relieve regulatory burden for all small entities.

#### *D. Unfunded Mandates Reform Act*

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104-4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, EPA generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with "Federal mandates" that may result in expenditures by State, local, and tribal governments, in the aggregate, or by the private sector, of \$100 million or more in any 1 year. Before promulgating an EPA rule for which a written statement is needed, section 205 of the UMRA generally requires EPA to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective, or least burdensome alternative that achieves the objectives of the rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows EPA to adopt an alternative other than the least costly, most cost-effective, or least burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted. Before EPA establishes any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, it must have developed, under section 203 of the UMRA, a small government agency plan. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of EPA's regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

The EPA has determined that today's action does not contain a Federal mandate that may result in expenditures of \$100 million or more for State, local, and tribal governments, in the aggregate, or the private sector in any 1 year.

Although the final rule had annualized costs estimated to range from \$74 to \$140 million (depending on the number of facilities eventually demonstrating eligibility for the low-risk category), today's action does not add new requirements that would increase this cost. Thus, today's action is not subject to the requirements of sections 202 and 205 of the UMRA. In addition, EPA has determined that today's action does not significantly or uniquely affect small governments because it contains no requirements that apply to such governments or impose obligations upon them. Therefore, today's action is not subject to the requirements of section 203 of the UMRA.

#### *E. Executive Order 13132: Federalism*

Executive Order 13132 (64 FR 43255, August 10, 1999) requires EPA to develop an accountable process to ensure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." "Policies that have federalism implications" are defined in the Executive Order to include regulations that have "substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government." Under Executive Order 13132, EPA may not issue a regulation that has federalism implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by State and local governments, or EPA consults with State and local officials early in the process of developing the proposed regulation. The EPA also may not issue a regulation that has federalism implications and that preempts State law unless EPA consults with State and local officials early in the process of developing the proposed regulation.

If EPA complies by consulting, Executive Order 13132 requires EPA to provide to OMB, in a separately identified section of the preamble to the rule, a federalism summary impact statement (FSIS). The FSIS must include a description of the extent of EPA's prior consultation with State and local officials, a summary of the nature of their concerns and EPA's position supporting the need to issue the regulation, and a statement of the extent to which the concerns of State and local officials have been met. Also, when EPA transmits a draft final rule with federalism implications to OMB for

review pursuant to Executive Order 12866, it must include a certification from EPA's Federalism Official stating that EPA has met the requirements of Executive Order 13132 in a meaningful and timely manner.

Today's action does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132. None of the affected facilities are owned or operated by State governments, and the requirements discussed in today's action will not supersede State regulations that are more stringent. Thus, Executive Order 13132 does not apply to today's action.

#### *F. Executive Order 13175: Consultation and Coordination With Indian Tribal Governments*

Executive Order 13175 (65 FR 67249, November 6, 2000) requires EPA to develop an accountable process to ensure "meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications." "Policies that have tribal implications" are defined in the Executive Order to include regulations that have "substantial direct effects on one or more Indian tribes, on the relationship between the Federal government and the Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes."

Today's action does not have tribal implications. It will not have substantial direct effects on tribal governments, on the relationship between the Federal government and Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes, as specified in Executive Order 13175. No affected facilities are owned or operated by Indian tribal governments. Thus, Executive Order 13175 does not apply to today's action.

#### *G. Executive Order 13045: Protection of Children From Environmental Health and Safety Risks*

Executive Order 13045 (62 FR 19885, April 23, 1997) applies to any rule that: (1) Is determined to be "economically significant" as defined under Executive Order 12866, and (2) concerns the environmental health or safety risk that EPA has reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, EPA must evaluate the environmental

health or safety effects of the planned rule on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by EPA.

Today's action is not subject to the Executive Order because it is not "economically significant" and EPA does not believe that the environmental health or safety risks associated with the emissions addressed by this action present a disproportionate risk to children. This conclusion is based on two factors. First, the noncancer human health toxicity values we used in our analysis at promulgation (e.g., RfCs) are protective of sensitive subpopulations, including children. Second, if EPA determines that a chemical addressed by this regulation has the potential for a disproportionate impact on predicted cancer risks due to early-life exposure and acts through a mutagenic mode of action, it is recommended that the risk assessments developed for the purposes of this regulation employ applicable cancer potency adjustments as described in EPA's Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens. For purposes of this rulemaking, EPA has not determined that any of the pollutants in question has the potential for a disproportionate impact on predicted cancer risks due to early-life exposure.

#### *H. Executive Order 13211: Actions That Significantly Affect Energy Supply, Distribution, or Use*

Today's action is not a "significant energy action" as defined in Executive Order 13211 (66 FR 28355, May 22, 2001) because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Further, we have concluded that today's action is not likely to have any adverse energy effects.

#### *I. National Technology Transfer and Advancement Act*

Section 12(d) of the National Technology Transfer and Advancement Act (NTTAA) of 1995 (Pub. L. 104-113; 15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory and procurement activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, business practices) developed or adopted by one or more voluntary consensus bodies. The NTTAA directs EPA to provide Congress, through annual reports to OMB, with explanations when an

agency does not use available and applicable voluntary consensus standards.

This action involves two technical standards. In addition to the standards EPA included in the promulgated rule, the EPA cites the following standards in today's final amendments: (1) NCASI Method ISS/FP-A105.01 (12/05), "Impinger Source Sampling Method for Aldehydes, Ketones, And Polar Compounds"; and (2) EPA Method 207-A (proposed 12/8/97 for appendix M to 40 CFR part 51), "Method for Measuring Isocyanates in Stationary Source Emissions."

Consistent with the NTTAA, EPA conducted searches to identify voluntary consensus standards in addition to these methods. No applicable voluntary consensus standards were identified for EPA Method 207-A. The search and review results have been documented and are placed in the docket for the final rule.

One voluntary consensus standard was found that is potentially applicable to the NCASI method. The German standard VDI 3862 (12/00), "Gaseous Emission Measurement—Measurement of Aliphatic and Aromatic Aldehydes and Ketones by 2,4-Dinitrophenylhydrazine (DNPH) Impinger Method," is a good impinger method for the sampling and analysis of aldehydes and ketones that includes the use of an external standard, field and analytical blanks, and repeatability tests. However, the VDI method is missing some key quality assurance/quality control (QA/QC) procedures that are included in the NCASI method. Specifically, VDI 3862 (12/00) is missing the use of internal standards, matrix spikes, and surrogate standards in the analytical step, as well as a duplicate sample run requirement, and sampling train QA/QC samples such as field, run, and sampling train spikes. Therefore, this VDI method, as written, is not acceptable as an alternative to the NCASI method for the purposes of today's rule amendments.

Table 4 to subpart DDDD of 40 CFR part 63 and table 2B to appendix B to subpart DDDD of 40 CFR part 63 in today's rule amendments list the testing methods included in the final PCWP NESHAP. Under §§ 63.7(f) and 63.8(f) of subpart A of the General Provisions, a source may apply to EPA for permission to use alternative test methods or alternative monitoring requirements in place of any required testing methods, performance specifications, or procedures.

#### *J. Congressional Review Act*

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small

Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. The EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. A major rule cannot take effect until 60 days after it is published in the **Federal Register**. This action is not a "major rule" as defined by 5 U.S.C. 804(2). The final rule will be effective February 16, 2006.

#### **List of Subjects for 40 CFR Part 63**

Environmental protection, Administrative practice and procedures, Air pollution control, Hazardous substances, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: January 31, 2006.

**Stephen L. Johnson,**  
*Administrator.*

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

#### **PART 63—[AMENDED]**

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

**Authority:** 42 U.S.C. 7401.

#### **Subpart A—[Amended]**

■ 2. Section 63.14 is amended by adding paragraph (f)(4) to read as follows:

#### **§ 63.14 Incorporation by reference.**

\* \* \* \* \*

(f) \* \* \*

(4) NCASI Method ISS/FP-A105.01, Impinger Source Sampling Method for Selected Aldehydes, Ketones, and Polar Compounds, December 2005, Methods Manual, NCASI, Research Triangle Park, NC, IBR approved for table 4 to subpart DDDD of this part and appendix B to subpart DDDD of this part.

\* \* \* \* \*

#### **Subpart DDDD—National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products**

■ 3. Section 63.2232 is amended by revising paragraph (b) to read as follows:

**§ 63.2232 What parts of my plant does this subpart cover?**

\* \* \* \* \*

(b) The affected source is the collection of dryers, refiners, blenders, formers, presses, board coolers, and other process units associated with the manufacturing of plywood and composite wood products. The affected source includes, but is not limited to, green end operations, refining, drying operations (including any combustion unit exhaust stream routinely used to direct fire process unit(s)), resin preparation, blending and forming operations, pressing and board cooling operations, and miscellaneous finishing operations (such as sanding, sawing, patching, edge sealing, and other finishing operations not subject to other national emission standards for hazardous air pollutants (NESHAP)). The affected source also includes onsite storage and preparation of raw materials used in the manufacture of plywood and/or composite wood products, such as resins; onsite wastewater treatment operations specifically associated with plywood and composite wood products manufacturing; and miscellaneous coating operations (§ 63.2292). The affected source includes lumber kilns at PCWP manufacturing facilities and at any other kind of facility.

\* \* \* \* \*

■ 4. Section 63.2233 is amended by revising paragraphs (b) and (c) to read as follows:

**§ 63.2233 When do I have to comply with this subpart?**

\* \* \* \* \*

(b) If you have an existing affected source, you must comply with the compliance options, operating requirements, and work practice requirements for existing sources no later than October 1, 2008.

(c) If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, you must be in compliance with this subpart by October 1, 2008 or upon initial startup of your affected source as a major source, whichever is later.

\* \* \* \* \*

■ 5. Section 63.2250 is amended by revising paragraph (a) to read as follows:

**§ 63.2250 What are the general requirements?**

(a) You must be in compliance with the compliance options, operating requirements, and the work practice requirements in this subpart at all times, except during periods of process unit or control device startup, shutdown, and

malfunction; prior to process unit initial startup; and during the routine control device maintenance exemption specified in § 63.2251. The compliance options, operating requirements, and work practice requirements do not apply during times when the process unit(s) subject to the compliance options, operating requirements, and work practice requirements are not operating, or during periods of startup, shutdown, and malfunction. Startup and shutdown periods must not exceed the minimum amount of time necessary for these events.

\* \* \* \* \*

■ 6. Section 63.2252 is added to read as follows:

**§ 63.2252 What are the requirements for process units that have no control or work practice requirements?**

For process units not subject to the compliance options or work practice requirements specified in § 63.2240 (including, but not limited to, lumber kilns), you are not required to comply with the compliance options, work practice requirements, performance testing, monitoring, SSM plans, and recordkeeping or reporting requirements of this subpart, or any other requirements in subpart A of this part, except for the initial notification requirements in § 63.9(b).

■ 7. Section 63.2262 is amended by revising paragraph (d)(1) to read as follows:

**§ 63.2262 How do I conduct performance tests and establish operating requirements?**

\* \* \* \* \*

(d) \* \* \*

(1) Sampling sites must be located at the inlet (if emission reduction testing or documentation of inlet methanol or formaldehyde concentration is required) and outlet of the control device (defined in § 63.2292) and prior to any releases to the atmosphere. For control sequences with wet control devices (defined in § 63.2292) followed by control devices (defined in § 63.2292), sampling sites may be located at the inlet and outlet of the control sequence and prior to any releases to the atmosphere.

\* \* \* \* \*

■ 8. Section 63.2269 is amended by revising the introductory text of paragraph (c) to read as follows:

**§ 63.2269 What are my monitoring installation, operation, and maintenance requirements?**

\* \* \* \* \*

(c) Wood moisture monitoring. For each furnish or veneer moisture meter,

you must meet the requirements in paragraphs (a)(1) through (3) and paragraphs (c)(1) through (5) of this section.

\* \* \* \* \*

■ 9. Section 63.2292 is amended by revising the definitions for “Affected source,” “Combustion unit,” “Fiberboard mat dryer,” “Laminated veneer lumber,” “Lumber kiln,” “Plywood,” “Plywood and composite wood products manufacturing facility,” “Press predryer,” “Tube dryer,” and “Rotary strand dryer”; and adding definitions for “Direct-fired process unit,” “Engineered wood product,” “Lumber,” “Molded particleboard,” and “Parallel strand lumber” to read as follows:

**§ 63.2292 What definitions apply to this subpart?**

\* \* \* \* \*

*Affected source* means the collection of dryers, refiners, blenders, formers, presses, board coolers, and other process units associated with the manufacturing of plywood and composite wood products. The affected source includes, but is not limited to, green end operations, refining, drying operations (including any combustion unit exhaust stream routinely used to direct fire process unit(s)), resin preparation, blending and forming operations, pressing and board cooling operations, and miscellaneous finishing operations (such as sanding, sawing, patching, edge sealing, and other finishing operations not subject to other NESHAP). The affected source also includes onsite storage of raw materials used in the manufacture of plywood and/or composite wood products, such as resins; onsite wastewater treatment operations specifically associated with plywood and composite wood products manufacturing; and miscellaneous coating operations (defined elsewhere in this section). The affected source includes lumber kilns at PCWP manufacturing facilities and at any other kind of facility.

\* \* \* \* \*

*Combustion unit* means a dryer burner, process heater, or boiler. Combustion units may be used for combustion of organic HAP emissions.

\* \* \* \* \*

*Direct-fired process unit* means a process unit that is heated by the passing of combustion exhaust through the process unit such that the process material is contacted by the combustion exhaust.

\* \* \* \* \*

*Engineered wood product* means a product made with lumber, veneers,



strands of wood, or from other small wood elements that are bound together with resin. Engineered wood products include, but are not limited to, laminated strand lumber, laminated veneer lumber, parallel strand lumber, wood I-joists, and glue-laminated beams.

\* \* \* \* \*

*Fiberboard mat dryer* means a dryer used to reduce the moisture of wet-formed wood fiber mats by applying heat. A *fiberboard mat dryer* is a process unit.

\* \* \* \* \*

*Laminated veneer lumber (LVL)* means a composite product formed into a billet made from layers of resinated wood veneer sheets or pieces pressed together with the grain of each veneer aligned primarily along the length of the finished product. *Laminated veneer lumber* is also known as parallel strand lumber (PSL).

*Lumber* means boards or planks sawed or split from logs or timber, including logs or timber processed for use as utility poles or other wood components. Lumber can be either green (non-dried) or dried. Lumber is typically either air-dried or kiln-dried.

*Lumber kiln* means an enclosed dryer operated by applying heat to reduce the moisture content of lumber.

\* \* \* \* \*

*Molded particleboard* means a shaped composite product (other than a composite panel) composed primarily of cellulosic materials (usually wood or agricultural fiber) generally in the form

of discrete pieces or particles, as distinguished from fibers, which are pressed together with resin.

\* \* \* \* \*

*Parallel strand lumber (PSL)* means a composite product formed into a billet made from layers of resinated wood veneer sheets or pieces pressed together with the grain of each veneer aligned primarily along the length of the finished product. *Parallel strand lumber* is also known as laminated veneer lumber (LVL).

\* \* \* \* \*

*Plywood* means a panel product consisting of layers of wood veneers hot pressed together with resin. Plywood includes panel products made by hot pressing (with resin) veneers to a substrate such as particleboard, medium density fiberboard, or lumber. Plywood products may be flat or curved.

*Plywood and composite wood products (PCWP) manufacturing facility* means a facility that manufactures plywood and/or composite wood products by bonding wood material (fibers, particles, strands, veneers, etc.) or agricultural fiber, generally with resin under heat and pressure, to form a panel, engineered wood product, or other product defined in § 63.2292. Plywood and composite wood products manufacturing facilities also include facilities that manufacture dry veneer and lumber kilns located at any facility. Plywood and composite wood products include, but are not limited to, plywood, veneer, particleboard, molded particleboard, oriented strandboard,

hardboard, fiberboard, medium density fiberboard, laminated strand lumber, laminated veneer lumber, wood I-joists, kiln-dried lumber, and glue-laminated beams.

*Press predryer* means a dryer used to reduce the moisture and elevate the temperature by applying heat to a wet-formed fiber mat before the mat enters a hot press. A *press predryer* is a process unit.

\* \* \* \* \*

*Rotary strand dryer* means a rotary dryer operated by applying heat and used to reduce the moisture of wood strands used in the manufacture of oriented strandboard, laminated strand lumber, or other wood strand-based products. A *rotary strand dryer* is a process unit.

\* \* \* \* \*

*Tube dryer* means a single-stage or multi-stage dryer operated by applying heat to reduce the moisture of wood fibers or particles as they are conveyed (usually pneumatically) through the dryer. Resin may or may not be applied to the wood material before it enters the tube dryer. Tube dryers do not include pneumatic fiber transport systems that use temperature and humidity conditioned pneumatic system supply air in order to prevent cooling of the wood fiber as it is moved through the process. A *tube dryer* is a process unit.

\* \* \* \* \*

■ 10. Table 4 to subpart DDDD of part 63 is revised to read as follows:

TABLE 4 TO SUBPART DDDD OF PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS

For . . .	You must . . .	Using . . .
(1) each process unit subject to a compliance option in table 1A or 1B to this subpart or used in calculation of an emissions average under § 63.2240(c).	select sampling port's location and the number of traverse ports.	Method 1 or 1A of 40 CFR part 60, appendix A (as appropriate).
(2) each process unit subject to a compliance option in table 1A or 1B to this subpart or used in calculation of an emissions average under § 63.2240(c).	determine velocity and volumetric flow rate ....	Method 2 in addition to Method 2A, 2C, 2D, 2F, or 2G in appendix A to 40 CFR part 60 (as appropriate).
(3) each process unit subject to a compliance option in table 1A or 1B to this subpart or used in calculation of an emissions average under § 63.2240(c).	conduct gas molecular weight analysis .....	Method 3, 3A, or 3B in appendix A to 40 CFR part 60 (as appropriate).
(4) each process unit subject to a compliance option in table 1A or 1B to this subpart or used in calculation of an emissions average under § 63.2240(c).	measure moisture content of the stack gas ....	Method 4 in appendix A to 40 CFR part 60; OR Method 320 in appendix A to 40 CFR part 63; OR ASTM D6348-03 (IBR, see § 63.14(b)).
(5) each process unit subject to a compliance option in table 1B to this subpart for which you choose to demonstrate compliance using a total HAP as THC compliance option.	measure emissions of total HAP as THC .....	Method 25A in appendix A to 40 CFR part 60. You may measure emissions of methane using EPA Method 18 in appendix A to 40 CFR part 60 and subtract the methane emissions from the emissions of total HAP as THC.

TABLE 4 TO SUBPART DDDD OF PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

For . . .	You must . . .	Using . . .
(6) each process unit subject to a compliance option in table 1A to this subpart; OR for each process unit used in calculation of an emissions average under § 63.2240(c).	measure emissions of total HAP (as defined in § 63.2292).	Method 320 in appendix A to 40 CFR part 63; OR the NCASI Method IM/CAN/WP-99.02 (IBR, see § 63.14(f)); OR the NCASI Method ISS/FP-A105.01 (IBR, see § 63.14(f)); OR ASTM D6348-03 (IBR, see § 63.14(b)) provided that percent R as determined in Annex A5 of ASTM D6348-03 is equal or greater than 70 percent and less than or equal to 130 percent.
(7) each process unit subject to a compliance option in table 1B to this subpart for which you choose to demonstrate compliance using a methanol compliance option.	measure emissions of methanol .....	Method 308 in appendix A to 40 CFR part 63; OR Method 320 in appendix A to 40 CFR part 63; OR the NCASI Method CI/WP-98.01 (IBR, see § 63.14(f)); OR the NCASI Method IM/CAN/WP-99.02 (IBR, see § 63.14(f)); OR the NCASI Method ISS/FP-A105.01 (IBR, see § 63.14(f)).
(8) each process unit subject to a compliance option in table 1B to this subpart for which you choose to demonstrate compliance using a formaldehyde compliance option.	measure emissions of formaldehyde .....	Method 316 in appendix A to 40 CFR part 63; OR Method 320 in appendix A to 40 CFR part 63; OR Method 0011 in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods” (EPA Publication No. SW-846) for formaldehyde; OR the NCASI Method CI/WP-98.01 (IBR, see § 63.14(f)); OR the NCASI Method IM/CAN/WP-99.02 (IBR, see § 63.14(f)); OR the NCASI Method ISS/FP-A105.01 (IBR, see § 63.14(f)).
(9) each reconstituted wood product press at a new or existing affected source or reconstituted wood product board cooler at a new affected source subject to a compliance option in table 1B to this subpart or used in calculation of an emissions average under § 63.2240(c).	meet the design specifications included in the definition of wood products enclosure in § 63.2292; or determine the percent capture efficiency of the enclosure directing emissions to an add-on control device.	Methods 204 and 204A through 204F of 40 CFR part 51, appendix M, to determine capture efficiency (except for wood products enclosures as defined in § 63.2292). Enclosures that meet the definition of wood products enclosure or that meet Method 204 requirements for a permanent total enclosure (PTE) are assumed to have a capture efficiency of 100 percent. Enclosures that do not meet either the PTE requirements or design criteria for a wood products enclosure must determine the capture efficiency by constructing a TTE according to the requirements of Method 204 and applying Methods 204A through 204F (as appropriate). As an alternative to Methods 204 and 204A through 204F, you may use the tracer gas method contained in appendix A to this subpart.
(10) each reconstituted wood product press at a new or existing affected source or reconstituted wood product board cooler at a new affected source subject to a compliance option in table 1A to this subpart.	determine the percent capture efficiency .....	a TTE and Methods 204 and 204A through 204F (as appropriate) of 40 CFR part 51, appendix M. As an alternative to installing a TTE and using Methods 204 and 204A through 204F, you may use the tracer gas method contained in appendix A to this subpart. Enclosures that meet the design criteria (1) through (4) in the definition of wood products enclosure, or that meet Method 204 requirements for a PTE (except for the criteria specified in section 6.2 of Method 204) are assumed to have a capture efficiency of 100 percent. Measured emissions divided by the capture efficiency provides the emission rate.
(11) each process unit subject to a compliance option in tables 1A and 1B to this subpart or used in calculation of an emissions average under § 63.2240(c).	establish the site-specific operating requirements (including the parameter limits or THC concentration limits) in table 2 to this subpart.	data from the parameter monitoring system or THC CEMS and the applicable performance test method(s).

**Appendix A to Subpart DDDD of Part 63—Alternative Procedure To Determine Capture Efficiency From Enclosures Around Hot Presses in the Plywood and Composite Wood Products Industry Using Sulfur Hexafluoride Tracer Gas**

■ 11. Revise paragraphs 10.4 and 10.5 of section 10 to read as follows:

*10.0 Calibration and Standardization.*

\* \* \* \* \*

10.4 Gas Chromatograph. Follow the pre-test calibration requirements specified in section 8.5.1.

10.5 Gas Chromatograph for Ambient Sampling (Optional). For the optional ambient sampling, follow the calibration requirements specified in section 8.5.1 or ASTM E 260 and E 697 and by the equipment manufacturer for gas chromatograph measurements.

\* \* \* \* \*

■ 12. Revise appendix B to subpart DDDD to read as follows:

**Appendix B to Subpart DDDD of Part 63—Methodology and Criteria for Demonstrating That an Affected Source Is Part of the Low-risk Subcategory of Plywood and Composite Wood Products Manufacturing Affected Sources**

**1. Purpose**

This appendix provides the methodology and criteria for demonstrating that your affected source is part of the low-risk subcategory of plywood and composite wood products (PCWP) manufacturing facilities. You must demonstrate that your affected source is part of the low-risk subcategory using either a look-up table analysis (based on the look-up tables included in this appendix) or using a site-specific risk assessment performed according to the criteria specified in this appendix. This appendix also specifies how and when you must obtain approval of the low-risk demonstrations for your affected source and how to ensure that your affected source remains in the low-risk subcategory of PCWP facilities.

**2. Who is eligible to demonstrate that they are part of the low-risk subcategory of PCWP affected sources?**

Each new, reconstructed, or existing affected source at a PCWP manufacturing facility may demonstrate that they are part of the low-risk subcategory of PCWP affected sources. Section 63.2232 of 40 CFR part 63, subpart DDDD, defines the affected source and explains which affected sources are new, existing, or reconstructed.

**3. What parts of my affected source have to be included in the low-risk demonstration?**

Every process unit that is part of the PCWP affected source (as defined in § 63.2292 of 40 CFR part 63, subpart DDDD) and that emits one or more hazardous air pollutant (HAP) listed in table 1 to this appendix must be included in the low-risk demonstration. You

are not required to include process units outside of the affected source in the low-risk demonstration.

**4. What are the criteria for determining if my affected source is low risk?**

(a) Determine the individual HAP emission rates from each process unit emission point within the affected source using the procedures specified in section 5 of this appendix.

(b) Perform chronic and acute risk assessments using the dose-response values, as specified in paragraphs (b)(1) through (3) of this section.

(1) For a look-up table analysis or site-specific chronic inhalation risk assessment, you should use the cancer and noncancer dose-response values listed on the Environmental Protection Agency (EPA) Air Toxics Web site (<http://www.epa.gov/ttn/atw/toxsource/summary.html>) to estimate carcinogenic and noncarcinogenic chronic inhalation risk, respectively.

(2) For site-specific acute inhalation risk assessment, you should use the acute exposure guidance level (AEG1-1) value for acrolein and the acute reference exposure level (REL) value for formaldehyde for estimating acute inhalation risk found at <http://www.epa.gov/ttn/atw/toxsource/summary.html>.

(3) You may use dose-response values more health-protective than those posted on the EPA Air Toxics Web site (<http://www.epa.gov/ttn/atw/toxsource/summary.html>) to facilitate ongoing certification (as required in section 13 of this appendix) that your affected source remains in the low-risk subcategory.

(c) Demonstrate that your affected source is part of the low-risk subcategory by estimating the maximum impacts of your affected source using the methods described in either section 6 of this appendix (look-up table analysis) or section 7 of this appendix (site-specific risk assessment) and comparing the results to the low-risk criteria presented in the applicable section.

**5. How do I determine HAP emissions from my affected source?**

(a) You must determine HAP emissions for every process unit emission point within the affected source that emits one or more of the HAP listed in table 1 to this appendix as specified in table 2A to this appendix. For each process unit type, table 2A to this appendix specifies whether emissions testing is required or if emissions estimation is allowed as an alternative to emissions testing. If emissions estimation is allowed according to table 2A, you must develop your emission estimates according to the requirements in paragraph (k) of this section. You may choose to perform emissions testing instead of emissions estimation. You must conduct HAP emissions tests according to the requirements in paragraphs (b) through (j) of this section and the methods specified in table 2B to this appendix. If you conduct fuel analyses, you must follow the requirements of paragraph (m) of this section. For each of the emission points at your affected source, you must obtain the emission rates in pounds per hour (lb/hr) for each of the pollutants listed in table 1 to this appendix.

(b) *Periods when emissions tests must be conducted.*

(1) You must not conduct emissions tests during periods of startup, shutdown, or malfunction, as specified in 40 CFR 63.7(e)(1).

(2) You must test under worst-case operating conditions as defined in this appendix. You must describe your worst-case operating conditions in your performance test report for the process and control systems (if applicable) and explain why the conditions are worst-case.

(c) *Number of test runs.* You must conduct three separate test runs for each test required in this section, as specified in 40 CFR 63.7(e)(3). Each test run must last at least 1 hour except for: testing of a temporary total enclosure (TTE) conducted using Methods 204A through 204F in 40 CFR part 51, appendix M, which require three separate test runs of at least 3 hours each; and testing of an enclosure conducted using the alternative tracer gas method in appendix A to 40 CFR part 63, subpart DDDD, which requires a minimum of three separate runs of at least 20 minutes each.

(d) *Sampling locations.* Sampling sites must be located at the emission point and prior to any releases to the atmosphere. For example, at the outlet of the control device, including wet control devices, and prior to any releases to the atmosphere.

(e) *Collection of monitoring data for HAP control devices.* During the emissions test, you must collect operating parameter monitoring system or continuous emissions monitoring system (CEMS) data at least every 15 minutes during the entire emissions test and establish the site-specific operating requirements (including the parameter limits or total hydrocarbon (THC) concentration limit) in table 2 to 40 CFR part 63, subpart DDDD, using data from the monitoring system and the procedures specified in paragraphs (k) through (o) of § 63.2262 of subpart DDDD of 40 CFR part 63.

(f) *Nondetect data.* You may treat emissions of an individual HAP as zero if all of the test runs result in a nondetect measurement and the conditions in paragraphs (1) and (2) of this section are met for the relevant test method. Otherwise, nondetect data (as defined in § 63.2292 of 40 CFR part 63, subpart DDDD) for individual HAP must be treated as one-half of the method detection limit.

(1) The method detection limit is less than or equal to 1 part per million by volume, dry (ppmvd) for pollutant emissions measured using Method 320 in appendix A to 40 CFR part 63; or Method 18 in appendix A to 40 CFR part 60; or the NCASI Method IM/CAN/WP-99.02 (incorporated by reference (IBR), see 40 CFR 63.14(f)); or NCASI Method ISS/FP-A105.01 (IBR, see 40 CFR 63.14(f)); or ASTM D6348-03 (IBR, see 40 CFR 63.14(b)).

(2) For pollutants measured using Method 29 in appendix A to 40 CFR part 60, you analyze samples using atomic absorption spectroscopy (AAS) or another laboratory method specified in Method 29 in appendix A to 40 CFR part 60 with detection limits lower than or equal to AAS.

(g) For purposes of your low-risk demonstration, you must assume that 17

percent of your total chromium measured using EPA Method 29 in appendix A to 40 CFR part 60 is chromium VI. You must assume that 65 percent of your total nickel measured using EPA Method 29 in appendix A to 40 CFR part 60 is nickel subsulfide.

(h) You may use emission rates higher than your measured emission rates (e.g., emissions rates 10 times your measured emission rate) to facilitate ongoing certification (as required in section 13 of this appendix) that your affected source remains in the low-risk subcategory.

(i) *Use of previous emissions tests.* You may use the results of previous emissions tests provided that the following conditions are met:

(1) The previous emissions tests must have been conducted using the methods specified in table 2B to this appendix. Previous emission test results obtained using NCASI Method IM/CAN/WP-99.01 are acceptable.

(2) The previous emissions tests must meet the requirements in paragraphs (b) through (j) of this section.

(3) The subject process unit(s) must be operated in a manner (e.g., with raw material type, operating temperature, etc.) that would be expected to result in the same or lower emissions than observed during the previous emissions test(s) and the process unit(s) may not have been modified such that emissions would be expected to exceed (notwithstanding normal test-to-test variability) the results from previous emissions test(s).

(4) The previous emissions test(s) must have been conducted in 1997 or later.

(j) *Use of test data for similar process units.* If you have multiple similar process units at the same plant site, you may apply the test results from one of these process units to the other similar process units for purposes of your low-risk demonstration provided that the following conditions are met:

(1) You must explain how the process units are similar in terms of design, function, heating method, raw materials processed, residence time, change in material moisture content, operating temperature, resin type processed, age, and any other parameters that may affect emissions.

(2) If the process units have different throughput rates, then you must convert the emission test results to terms of pounds of HAP per unit throughput prior to applying the emissions test data to other similar process units.

(3) If one of the process units would be expected to exhibit higher emissions due to minor differences in process parameters, then you must explain and test the process unit that would be expected to exhibit greater emissions (for example, the unit with a slightly higher temperature set point, dryer processing furnish with slightly higher inlet moisture content, press processing thicker panels, unit with the greater throughput, considerably older unit, etc.).

(k) If emissions estimation is allowed, you must follow the procedures in (1) through (3) of this paragraph.

(1) You must use the emission factors or other emission estimation techniques specified in table 2A to this appendix when developing emission estimates.

(2) You must base your emission estimates on the maximum process unit throughput you will incorporate into your permit according to section 11(b) of this appendix.

(3) For process units with multiple emission points, you must apportion the estimate emissions evenly across each emission point. For example, if you have a process unit with two emission points, and the process unit is estimated to emit 6 lb/hr, you would assign 3 lb/hr to each emission point.

(l) *Testing of multiple stacks.* You may test one of multiple stacks for a process unit

provided that the following conditions are met:

(1) The emissions are produced by the same process unit.

(2) The emissions originate from the same duct.

(3) The emissions are sufficiently mixed so that the gaseous pollutant concentrations from one stack are not expected to differ from concentrations from another stack.

(m) *Conducting a fuel analysis.* For process units that require testing of metals according to table 2A to this appendix, you may conduct a fuel analysis in lieu of emissions tests. You must follow the procedures described in § 63.7521 (a) and (c) through (e) of subpart DDDDD; § 63.7530(d)(1), (2), and (4) of subpart DDDDD, and line 2 of table 6 to subpart DDDDD. For purposes of this appendix, the total selected metals analyzed by fuel analysis are the metals included in table 1 to this appendix.

## 6. How do I conduct a look-up table analysis?

Use the look-up tables (tables 3 and 4 to this appendix) to demonstrate that your affected source is part of the low-risk subcategory, following the procedures in paragraphs (a) through (d) of this section.

(a) Using the emission rate of each HAP required to be included in your low-risk demonstration (determined according to section 5 of this appendix), calculate your total toxicity-weighted carcinogen and noncarcinogen emission rates for each of your emission points using Equations 1 and 2 of this appendix, respectively. Calculate your carcinogen and non-carcinogen weighted stack height using Equations 3 and 4 of this appendix, respectively.

$$TW CER = \sum (ER_i \times URE_i) \quad \text{Eqn. 1}$$

TWCER = Toxicity-weighted carcinogenic emission rate for each emission point (lb/hr)/(µg/m<sup>3</sup>)

ER<sub>i</sub> = Emission rate of pollutant i (lb/hr)

URE<sub>i</sub> = Unit risk estimate for pollutant i, 1 per microgram per cubic meter (µg/m<sup>3</sup>)<sup>-1</sup>

$$TWNER = \sum (ER_i / RfC_i) \quad \text{Eqn. 2}$$

TWNER = Toxicity-weighted noncarcinogenic emission rate for each emission point (lb/hr)/(µg/m<sup>3</sup>)

ER<sub>i</sub> = Emission rate of pollutant i (lb/hr)

RfC<sub>i</sub> = Reference concentration for pollutant i, micrograms per cubic meter (µg/m<sup>3</sup>)

$$WHC = \frac{\sum_{ep=1}^{ep=n} TW CER_{ep}}{\sum_{ep=1}^{ep=n} TW CER_{ep}} \times H_{ep} \quad \text{Eqn. 3}$$

WHC = Carcinogen weighted stack height for use in the carcinogen look-up table (table 3 to this appendix)

H = Height of each individual stack or emission point (m)  
ep = Individual stacks or emission points

n = Total number of stacks and emission points

$$WHN = \sum_{ep=1}^{ep=n} \left[ \frac{TWNER_{ep}}{\sum_{ep=1}^{ep=n} TWNER_{EP}} \right] \times H_{ep} \quad \text{Eqn. 4}$$

WHN = Non-carcinogen weighted stack height for use in the non-carcinogen look-up table (table 4 to this appendix)

H = Height of each individual stack or emission point (m)

ep = Individual stacks or emission points

n = Total number of stacks and emission points

(b) *Cancer risk.* Calculate the total toxicity-weighted carcinogen emission rate for your affected source by summing the toxicity-weighted carcinogen emission rates for each of your emission points. Identify the appropriate maximum allowable toxicity-weighted carcinogen emission rate from table 3 to this appendix for your affected source using the carcinogen weighted stack height of your emission points and the minimum distance between any emission point at the affected source and the property boundary. If one or both of these values do not match the exact values in the look-up table, then use the next lowest table value. (Note: If your weighted stack height is less than 5 meters (m), you must use the 5 m row.) Your affected source is considered low risk for carcinogenic effects if your toxicity-weighted carcinogen emission rate, determined using the methods specified in this appendix, does not exceed the values specified in table 3 to this appendix.

(c) *Noncancer risk.* Calculate the total central nervous system (CNS) and respiratory target organ specific toxicity-weighted noncarcinogen emission rate for your affected source by summing the toxicity-weighted emission rates for each of your emission points. Identify the appropriate maximum allowable toxicity-weighted noncarcinogen emission rate from table 4 to this appendix for your affected source using the non-carcinogen weighted stack height of your emission points and the minimum distance between any emission point at the affected source and the property boundary. If one or both of these values do not match the exact values in the look-up table, then use the next lowest table value. (Note: If your weighted stack height is less than 5 m, you must use the 5 m row.) Your affected source is considered low risk for noncarcinogenic effects if your toxicity-weighted noncarcinogen emission rate, determined using the methods specified in this appendix, does not exceed the values specified in table 4 to this appendix.

(d) *Low-risk demonstration.* The EPA will approve your affected source as eligible for membership in the low-risk subcategory of PCWP affected sources if it determines that: (1) Your affected source is low risk for both carcinogenic and noncarcinogenic effects using the look-up table analysis described in this section and (2) you meet the criteria specified in section 11 of this appendix.

### 7. How do I conduct a site-specific risk assessment?

(a) Perform a site-specific risk assessment following the procedures specified in this section. You may use any scientifically-accepted peer-reviewed assessment methodology for your site-specific risk assessment. An example of one approach to performing a site-specific risk assessment for air toxics that may be appropriate for your affected source can be found in the "Air Toxics Risk Assessment Guidance Reference Library, Volume 2, Site-Specific Risk Assessment Technical Resource Document." You may obtain a copy of the "Air Toxics Risk Assessment Reference Library" through EPA's air toxics Web site at [http://www.epa.gov/ttn/fera/risk\\_atra\\_main.html](http://www.epa.gov/ttn/fera/risk_atra_main.html).

(b) At a minimum, your site-specific risk assessment must:

(1) Estimate the long-term inhalation exposures through the estimation of annual or multi-year average ambient concentrations for the chronic portion of the assessment.

(2) Estimate the acute exposures for formaldehyde and acrolein through the estimation of maximum 1-hour average ambient concentrations for the acute portion of the assessment.

(3) Estimate the inhalation exposure of the individual most exposed to the affected source's emissions.

(4) Estimate the individual risks over a 70-year lifetime for the chronic cancer risk assessment.

(5) Use site-specific, quality-assured data wherever possible.

(6) Use health-protective default assumptions wherever site-specific data are not available.

(7) Contain adequate documentation of the data and methods used for the assessment so that it is transparent and can be reproduced by an experienced risk assessor and emission measurement expert.

(c) Your site-specific risk assessment need not:

(1) Assume any attenuation of exposure concentrations due to the penetration of outdoor pollutants into indoor exposure areas.

(2) Assume any reaction or deposition of the emitted pollutants during transport from the emission point to the point of exposure.

(d) Your affected source is considered low risk for carcinogenic chronic inhalation effects if your site-specific risk assessment demonstrates that maximum off-site individual lifetime cancer risk at a location where people live or congregate (e.g., school or day care center) is less than 1 in 1 million.

(e) Your affected source is considered low risk for noncarcinogenic chronic inhalation effects if your site-specific risk assessment demonstrates that every maximum off-site target-organ specific hazard index (TOSHI), or appropriate set of site-specific hazard

indices based on similar or complementary mechanisms of action that are reasonably likely to be additive at low dose or dose-response data for mixtures, at a location where people live is less than or equal to 1.0.

(f) Your affected source is considered low risk for noncarcinogenic acute inhalation effects if your site-specific risk assessment demonstrates that the maximum off-site acute hazard quotients for both acrolein and formaldehyde are less than or equal to 1.0.

(g) The EPA will approve your affected source as eligible for membership in the low-risk subcategory of PCWP affected sources if it determines that: (1) your affected source is low risk for all of the applicable effects listed in paragraphs (d) through (f) of this section and (2) you meet the criteria specified in section 11 of this appendix.

### 8. What information must I submit for the low-risk demonstration?

(a) Your low-risk demonstration must include at a minimum the information specified in paragraphs (a)(1) through (5) of this section and the information specified in either paragraph (b) or (c) of this section.

(1) Identification of each process unit at the affected source.

(2) Stack parameters for each emission point including, but not limited to, the parameters listed in paragraphs (a)(2)(i) through (iv) below:

(i) Emission release type.

(ii) Stack height, stack area, stack gas temperature, and stack gas exit velocity.

(iii) Plot plan showing all emission points, nearby residences, and fence line.

(iv) Identification of any HAP control devices used to reduce emissions from each process unit.

(3) Emission test reports for each pollutant and process unit based on the testing requirements and methods specified in tables 2A and 2B to this appendix, including a description of the process parameters identified as being worst case. You must submit your emissions calculations for each pollutant and process unit for which emissions estimates are developed. You must submit fuel analyses for each fuel and emission point which has been conducted, including collection and analytical methods used.

(4) Identification of the dose-response values used in your risk analysis (look-up table analysis or site-specific risk assessment), according to section 4(b) of this appendix.

(5) Identification of the controlling process factors (including, but not limited to, production rate, emission rate, type of control devices, process parameters documented as worst-case conditions during the emissions testing used for your low-risk demonstration) that will become Federally enforceable permit conditions used to show

that your affected source remains in the low-risk subcategory.

(b) If you use the look-up table analysis in section 6 of this appendix to demonstrate that your affected source is low risk, your low-risk demonstration must contain at a minimum the information in paragraphs (a) and (b)(1) through (4) of this section.

(1) Identification of the stack heights for each emission point included in the calculations of weighted stack height.

(2) Identification of the emission point with the minimum distance to the property boundary.

(3) Calculations used to determine the toxicity-weighted carcinogen and noncarcinogen emission rates and weighted stack heights according to section 6(a) of this appendix.

(4) Comparison of the values in the look-up tables (tables 3 and 4 to this appendix) to your toxicity-weighted emission rates for carcinogenic and noncarcinogenic HAP.

(c) If you use a site-specific risk assessment as described in section 7 of this appendix to demonstrate that your affected source is low risk (for carcinogenic and noncarcinogenic chronic inhalation and acute inhalation risks), your low-risk demonstration must contain at a minimum the information in paragraphs (a) and (c)(1) through (8) of this section.

(1) Identification of the risk assessment methodology used.

(2) Documentation of the fate and transport model used.

(3) Documentation of the fate and transport model inputs, including the information described in paragraphs (a)(1) through (4) of this section converted to the dimensions required for the model and all of the following that apply: meteorological data; building, land use, and terrain data; receptor locations and population data; and other facility-specific parameters input into the model.

(4) Documentation of the fate and transport model outputs.

(5) Documentation of exposure assessment and risk characterization calculations.

(6) Comparison of the maximum off-site individual lifetime cancer risk at a location where people live to 1 in 1 million, as required in section 7(d) of this appendix for carcinogenic chronic inhalation risk.

(7) Comparison of the maximum off-site TOSHI for respiratory effects and CNS effects at a location where people live to the limit of 1.0, as required in section 7(e) of this appendix for noncarcinogenic chronic inhalation risk.

(8) Comparison of the maximum off-site acute inhalation hazard quotient (HQ) for both acrolein and formaldehyde to the limit of 1.0, as required in section 7(f) of this appendix for noncarcinogenic acute inhalation effects.

(d) The EPA may request any additional information it determines is necessary or appropriate to evaluate an affected source's low-risk demonstration.

#### 9. Where do I send my low-risk demonstration?

You must submit your low-risk demonstration to the EPA for review and

approval. Send your low-risk demonstration either by e-mail to [REAG@EPA.GOV](mailto:REAG@EPA.GOV) or by U.S. mail or other mail delivery service to U.S. EPA, Risk and Exposure Assessment Group, Emission Standards Division (C404-01), Attn: Group Leader, Research Triangle Park, NC 27711, and send a copy to your permitting authority. Your affected source is not part of the low-risk subcategory of PCWP facilities unless and until EPA notifies you that it has determined that you meet the requirements of section 11 of this appendix.

#### 10. When do I submit my low-risk demonstration?

(a) *Existing affected sources.* If you have an existing affected source, you may complete and submit for approval your low-risk demonstration (including the emission test results, fuel analyses, and emission estimates required in this appendix) any time. Existing affected sources that are not approved by EPA as being part of the low-risk subcategory by October 1, 2008, must comply with the requirements of 40 CFR part 63, subpart DDDD from October 1, 2008, unless and until EPA approves them as part of the low-risk subcategory.

(b) *Sources in compliance with 40 CFR part 63, subpart DDDD.* If you operate an affected source that is already in compliance with 40 CFR part 63, subpart DDDD (including, but not limited to, an existing source, a new or reconstructed affected source starting up before September 28, 2004, or a new source starting up after September 28, 2004, but before February 16, 2006) and wish to become part of the low-risk subcategory, then you may complete and submit for approval your low-risk demonstration (including the emission test results, fuel analyses, and emission estimates required in this appendix) any time. Your affected source will become part of the low-risk subcategory when EPA determines that the requirements in section 11 of this appendix are met.

(c) New or reconstructed affected sources wanting to be part of the low-risk subcategory at startup must comply with the requirements of paragraphs (c)(1) through (c)(3) of this section.

(1)(i) You must complete and submit for review and approval a pre-startup low-risk demonstration no later than nine months prior to initial startup. The pre-startup low-risk demonstration must be based on the information (e.g., equipment types, estimated emission rates, etc.) that you will likely use to obtain your title V permit. You must base your pre-startup low-risk demonstration on the maximum emissions that will likely be allowed when you obtain your title V permit.

(ii) You must request that your affected source become part of the low-risk subcategory based on your pre-startup low-risk demonstration.

(iii) If EPA approves your pre-startup low-risk demonstration, then your affected source will be part of the low-risk subcategory upon approval of the pre-startup low-risk demonstration and you may start up your affected source without complying with the compliance options, operating requirements, and work practice requirements in 40 CFR part 63, subpart DDDD, provided that you operate your affected source consistently

with the pre-startup low-risk demonstration until you meet the criteria in section 11 of this appendix based on your verification low-risk demonstration developed according to paragraph (c)(2) of this section. Failure to so operate will render approval of your pre-startup low-risk demonstration null and void from the date you startup your affected source.

(2)(i) You must complete and submit your verification low-risk demonstration, including the results from emission tests (or fuel analyses) required in this appendix, within 240 days following initial startup. The verification low-risk demonstration must demonstrate to EPA's satisfaction that the affected source is low risk. The verification low-risk demonstration may be used to change operating parameters ensuring low-risk status.

(ii) If you do not submit the verification low-risk demonstration as required, or the verification low-risk demonstration does not verify that the affected source is low risk, then approval of your pre-startup low-risk demonstration is null and void from the date you startup your affected source and you must comply immediately with subpart DDDD of 40 CFR part 63.

(3) To incorporate the low-risk parameters from your verification low-risk demonstration into your title V permit, you must submit your application for a significant modification to your title V permit within 1 year following initial startup, or earlier if so required under your State's permit program approved under 40 CFR part 70. The parameters that defined your affected source as part of the low-risk subcategory (including, but not limited to, production rate, emission rate, type of control devices, process parameters reflecting the emissions rates used for your low-risk demonstration, and stack height) must be submitted for incorporation as federally enforceable terms and conditions into your title V permit. You must provide written certification to the permitting authority that your affected source is operating consistently with its EPA-approved pre-startup low-risk demonstration and verification low-risk demonstration, as applicable, from startup until your title V permit revision is issued.

(d) New or reconstructed affected sources that want to operate consistently with a pre-startup low-risk demonstration at startup and become part of the low-risk subcategory based on EPA approval of their verification low-risk demonstration (rather than based on their pre-startup low-risk demonstration), must comply with the requirements in paragraphs (d)(1) through (d)(3) of this section.

(1)(i) You must complete and submit for review a pre-startup low-risk demonstration no later than nine months prior to initial startup. The pre-startup low-risk demonstration must be based on the information (e.g., equipment types, estimated emission rates, etc.) that you will likely use to obtain your title V permit. You must base your pre-startup low-risk demonstration on the maximum emissions that will likely be allowed when you obtain your title V permit.

(ii) If EPA concludes that your pre-startup low-risk demonstration is complete and

sufficiently shows that your affected source appears to be eligible for inclusion in the low-risk subcategory, then you must operate your affected source consistently with the pre-startup low-risk demonstration until EPA determines that you meet the criteria in section 11 of this appendix based on your verification low-risk demonstration developed according to paragraph (d)(2) of this section.

(2)(i) You must complete and submit for EPA review and approval your verification low-risk demonstration, including the results from emission tests (or fuel analyses) required in this appendix, within 240 days following initial startup. The verification low-risk demonstration must demonstrate to EPA's satisfaction that the affected source is low risk.

(ii) You will become part of the low-risk subcategory when EPA determines that you meet the criteria in section 11 of this appendix based upon your verification low-risk demonstration. If you do not submit the verification low-risk demonstration as required, or the verification low-risk demonstration does not verify that the affected source is low risk, then EPA will not approve your low-risk demonstration and you will remain subject to subpart DDDD of 40 CFR part 63.

(3) To incorporate the low-risk parameters from your verification low-risk demonstration into your title V permit, you must submit your application for a significant modification to your title V permit within 1 year following initial startup, or earlier if so required by your State's permit program approved by EPA under 40 CFR part 70. The parameters that defined your affected source as part of the low-risk subcategory (including, but not limited to, production rate, emission rate, type of control devices, process parameters reflecting the emissions rates used for your low-risk demonstration, and stack height) must be submitted for incorporation as federally enforceable terms and conditions into your title V permit. You must provide written certification to the permitting authority that your affected source is operating consistently with its pre-startup LRD and your verification LRD, as applicable, from startup until your title V permit revision is issued.

(e) *Area sources that become affected sources.* If you have an affected source that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP before September 28, 2004, then you must complete and submit for approval your low-risk demonstration as specified in paragraph (a) of this section. If you have an affected source that is an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP after September 28, 2004, then you must complete and submit for approval your low-risk demonstration as specified in paragraphs (b), (c) or (d) of this section, whichever applies.

#### **11. How does my affected source become part of the low-risk subcategory of PCWP facilities?**

For existing sources to be included in the low-risk subcategory, EPA must find that you

meet the criteria in paragraphs (a) and (b) of this section. For new sources to be included in the low-risk subcategory, EPA must find that you meet the criteria in paragraph (a) of this section. Unless and until EPA finds that you meet these criteria, your affected source is subject to the applicable compliance options, operating requirements, and work practice requirements in 40 CFR part 63, subpart DDDD.

(a) Your demonstration of low risk must be approved by EPA.

(b) Following EPA approval, the parameters that defined your affected source as part of the low-risk subcategory (including, but not limited to, production rate, emission rate, type of control devices, process parameters reflecting the emissions rates used for your low-risk demonstration, and stack height) must be submitted for incorporation as federally enforceable terms and conditions into your title V permit. You must submit an application for a significant permit modification to reopen your title V permit to incorporate such terms and conditions according to the procedures and schedules of 40 CFR part 71 or the EPA-approved program in effect under 40 CFR part 70, as applicable.

#### **12. What must I do to ensure my affected source remains in the low-risk subcategory of PCWP facilities?**

You must meet the requirements in table 2 to 40 CFR part 63, subpart DDDD, for each HAP control device used at the time when you completed your low-risk demonstration. You must monitor and collect data according to § 63.2270 of subpart DDDD to show continuous compliance with your control device operating requirements. You must demonstrate continuous compliance with the control device operating requirements that apply to you by collecting and recording the monitoring system data listed in table 2 to 40 CFR part 63, subpart DDDD for the process unit according to §§ 63.2269(a), (b), and (d) of subpart DDDD; and reducing the monitoring system data to the specified averages in units of the applicable requirement according to calculations in § 63.2270 of subpart DDDD; and maintaining the average operating parameter at or above the minimum, at or below the maximum, or within the range (whichever applies) established according to section 5(e) of this appendix.

#### **13. What happens if the criteria used in the risk determination change?**

(a) You must certify with each annual title V permit compliance certification that the basis for your affected source's low-risk determination has not changed. You must submit this certification to the permitting authority. You must consider the changes in paragraphs (a)(1) through (5) of this section.

(1) Process changes that increase HAP emissions, including, but not limited to, a production rate increase, an emission rate increase, a change in type of control device, changes in process parameters reflecting emissions rates used for your approved low-risk demonstration.

(2) Population shifts, such as if people move to a different location such that their risks from the affected source increase.

(3) Unit risk estimate increases posted on the EPA Web site (<http://www.epa.gov/ttn/atw/toxsource/summary.html>) for the pollutants included in table 1 to this appendix.

(4) Reference concentration changes posted on the EPA Web site (<http://www.epa.gov/ttn/atw/toxsource/summary.html>) for the pollutants included in table 1 to this appendix.

(5) Acute dose-response value for formaldehyde or acrolein changes.

(b) If your affected source commences operating outside of the low-risk subcategory, it is no longer part of the low-risk subcategory. You must be in compliance with 40 CFR part 63, subpart DDDD as specified in paragraphs (b)(1) through (3) of this section. Operating outside of the low-risk subcategory means that one of the changes listed in paragraphs (a)(1) through (5) of this section has occurred and that the change is inconsistent with your affected source's title V permit terms and conditions reflecting EPA's approval of the parameters used in your low-risk demonstration.

(1) You must notify the permitting authority as soon as you know, or could have reasonably known, that your affected source is or will be operating outside of the low-risk subcategory.

(2) You must be in compliance with the requirements of 40 CFR part 63, subpart DDDD as specified in paragraph (b)(2)(i) or (ii) of this section, whichever applies.

(i) If you are operating outside of the low-risk subcategory due to a change described in paragraph (a)(1) of this section, then you must comply with 40 CFR part 63, subpart DDDD beginning on the date when your affected source commences operating outside the low-risk subcategory.

(ii) If you are operating outside of the low-risk subcategory due to a change described in paragraphs (a)(2) through (5) of this section, then you must comply with 40 CFR part 63, subpart DDDD no later than 3 years from the date your affected source commences operating outside the low-risk subcategory.

(3)(i) You must conduct performance tests no later than 180 calendar days after the applicable date specified in paragraph (b)(2) of this section.

(ii) You must conduct initial compliance demonstrations that do not require performance tests 30 calendar days after the applicable date specified in paragraph (b)(2) of this section.

(iii) For the purposes of affected sources affected by this section, you must refer to the requirements in paragraph (b) of this section instead of the requirements of § 63.2233 when complying with 40 CFR part 63, subpart DDDD.

#### **14. What records must I keep?**

(a) You must keep records of the information used in developing the low-risk demonstration for your affected source, including all of the information specified in section 8 of this appendix.

(b) You must keep records demonstrating continuous compliance with the operating requirements for control devices.

(c) For each THC CEMS, you must keep the records specified in § 63.2282(c) of 40 CFR part 63, subpart DDDD.

## 15. Definitions

The definitions in § 63.2292 of 40 CFR part 63, subpart DDDD, apply to this appendix. Additional definitions applicable for this appendix are as follows:

*Agricultural fiber board press* means a press used in the production of an agricultural fiber based composite wood product. An *agricultural fiber board press* is a process unit.

*Agricultural fiberboard mat dryer* means a dryer used to reduce the moisture of wet-formed agricultural fiber mats by applying heat. An *agricultural fiberboard mat dryer* is a process unit.

*Ancillary processes* mean equipment and process units that are part of the PCWP affected source that are not defined elsewhere in this section or in section 63.2292 of subpart DDDD. Ancillary processes at a specific facility do not include the equipment and process units identified as insignificant sources of HAP emissions by that facility, and they do not include equipment and process units subject to another standard under 40 CFR part 63. Ancillary processes may be or may not be HAP emissions sources.

*Ancillary processes* are process units.

*Atmospheric refiner* means a piece of equipment operated under atmospheric pressure for refining (rubbing or grinding) the wood material into fibers or particles. Atmospheric refiners are operated with continuous infeed and outfeed of wood material and atmospheric pressures throughout the refining process. An *atmospheric refiner* is a process unit.

*Blending and forming operations* means the process of mixing adhesive and other additives with the (wood) furnish of the composite panel and making a mat of resinated fiber, particles, or strands to be compressed into a reconstituted wood product such as particleboard, oriented strandboard, or medium density fiberboard. *Blending and forming operations* are process units.

*Emission point* means an individual stack or vent from a process unit that emits HAP required for inclusion in the low-risk demonstration specified in this appendix. Process units may have multiple emission points.

*Fiber washer* means a unit in which water-soluble components of wood (hemicellulose and sugars) that have been produced during digesting and refining are removed from the wood fiber. Typically wet fiber leaving a refiner is further diluted with water and then passed over a filter, leaving the cleaned fiber on the surface. A *fiber washer* is a process unit.

*Finishing sander* means a piece of equipment that uses an abrasive drum, belt, or pad to impart smoothness to the surface of a plywood or composite wood product panel and to reduce the panel to the prescribed thickness. A *finishing sander* is a process unit.

*Finishing saw* means a piece of equipment used to trim or cut finished plywood and composite wood products panels to a certain size. A *finishing saw* is a process unit.

*Hardwood plywood press* means a hot press which, through heat and pressure,

bonds assembled hardwood veneers (including multiple plies of veneer and/or a substrate) and resin into a hardwood plywood panel. A *hardwood plywood press* is a process unit.

*Hardwood veneer kiln* means an enclosed dryer operated in batch cycles by applying heat to reduce the moisture content from stacked hardwood veneer. A *hardwood veneer kiln* is a process unit.

*Hazard Index (HI)* means the sum of more than one hazard quotient for multiple substances and/or multiple exposure pathways.

*Hazard Quotient (HQ)* means the ratio of the predicted media concentration of a pollutant to the media concentration at which no adverse effects are expected. For inhalation exposures, the HQ is calculated as the air concentration divided by the reference concentration (RfC).

*Humidifier* means a process unit used to increase the moisture content of hardboard following pressing or after post-baking. Typically, water vapor saturated air is blown over the hardboard surfaces in a closed cabinet. A *humidifier* is a process unit.

*I-joist curing chamber* means an oven or a room surrounded by a solid wall or heavy plastic flaps that uses heat, infrared, or radio-frequency techniques to cure the adhesive. An *I-joist curing chamber* is a process unit.

*Log chipping* means the production of wood chips from logs.

*Log vat* means a process unit that raises the temperature of the logs inside by applying a heated substance, usually hot water and steam, to the outside of the logs by spraying or soaking. A *log vat* is a process unit.

*Look-up table analysis* means a risk screening analysis based on comparing the toxicity-weighted HAP emission rate from the affected source to the maximum allowable toxicity-weighted HAP emission rates specified in tables 3 and 4 to this appendix.

*LSL press* means a composite wood product press that presses a loose mat of resinated strands into a billet by simultaneous application of heat and pressure. The billet is cut into laminated strand lumber after exiting the press. An *LSL press* is a process unit.

*LVL or PSL press* means a composite wood product press that presses resinated stacks of veneers into a solid billet by application of heat and/or pressure. The billet is cut into laminated veneer lumber or parallel strand lumber after exiting the press. An *LVL or PSL press* is a process unit.

*Natural gas* means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the earth's surface. The principal hydrocarbon constituent is methane.

*Paddle-type particleboard dryer* means a dryer to which heat is applied to remove moisture from particles and paddles to advance materials through the dryer. This type of dryer removes moisture absorbed by particles due to high ambient temperature. A *paddle-type particleboard dryer* is a process unit.

*Panel-trim chipper* means a piece of equipment that accepts the discarded pieces

of veneer or pressed plywood and composite wood products panels that are removed by finishing saws and reduces these pieces to small elements. A *panel-trim chipper* is a process unit.

*Particleboard extruder* means a heated die oriented either horizontally or vertically through which resinated particles are continuously forced to form extruded particleboard products. A *particleboard extruder* is a process unit.

*Particleboard press mold* means a press that consists of molds that apply heat and pressure to form molded or shaped particleboard products. A *particleboard press mold* is a process unit.

*Propane* means a colorless gas derived from petroleum and natural gas, with the molecular structure C<sub>3</sub>H<sub>8</sub>.

*Radio-frequency veneer redryer* means a dryer heated by radio-frequency waves that is used to redry veneer that has been previously dried. A *radio-frequency veneer redryer* is a process unit.

*Reference Concentration (RfC)* means an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime. It can be derived from various types of human or animal data, with uncertainty factors generally applied to reflect limitations of the data used.

*Resin storage tank* means any storage tank, container, or vessel connected to plywood and composite wood product production that holds resin additives (in liquid form) containing any of the HAP listed in table 2A to this appendix. A *resin storage tank* is a process unit.

*Rotary agricultural fiber dryer* means a rotary dryer operated by applying heat to reduce the moisture of agricultural fiber. A *rotary agricultural fiber dryer* is a process unit.

*Softwood plywood press* means a hot press which, through heat and pressure, bonds assembled softwood veneer plies and resin into a softwood plywood panel. A *softwood plywood press* is a process unit.

*Softwood veneer kiln* means an enclosed dryer operated in batch cycles by applying heat to reduce the moisture content from stacked softwood veneer. A *softwood veneer kiln* is a process unit.

*Stand-alone digester* means a pressure vessel used to heat and soften wood chips (usually by steaming) before the chips are sent to a separate process unit for refining into fiber. A *stand-alone digester* is a process unit.

*Target organ specific hazard index (TOSHI)* means the sum of hazard quotients for individual chemicals that affect the same organ or organ system (e.g., respiratory system, central nervous system).

*Unit Risk Estimate (URE)* means the upper-bound excess lifetime cancer risk estimated to result from continuous exposure to an agent at a concentration of 1 microgram per cubic meter (µg/m<sup>3</sup>) in air.

*Wastewater/process water operation* means equipment that processes water in plywood or composite wood product facilities for



reuse or disposal. Wastewater/process water operations includes but is not limited to pumps, holding ponds and tanks, cooling and heating operations, settling systems, filtration systems, aeration systems, clarifiers, pH adjustment systems, log storage ponds, pollution control device water (including wash water), vacuum distillation systems, sludge drying and disposal systems, spray

irrigation fields, and connections to POTW facilities. *Wastewater/process water operations* are process units.

*Worst-case operating conditions* means operation of a process unit during emissions testing under the conditions that result in the highest HAP emissions or that result in the emissions stream composition (including HAP and non-HAP) that is most challenging

for the control device if a control device is used. For example, worst case conditions could include operation of the process unit at maximum throughput, at its highest temperature, with the wood species mix likely to produce the most HAP, and/or with the resin formulation containing the greatest HAP.

TABLE 1 TO APPENDIX B TO SUBPART DDDD OF 40 CFR PART 63.—HAP THAT MUST BE INCLUDED IN THE DEMONSTRATION OF ELIGIBILITY FOR THE LOW-RISK PCWP SUBCATEGORY

For your analysis of the following effects . . .	You must include the following HAP . . .
(1) Chronic inhalation carcinogenic effects .....	acetaldehyde, benzene, arsenic, beryllium, cadmium, chromium, lead, nickel, and formaldehyde.
(2) Chronic inhalation noncarcinogenic respiratory effects .....	acetaldehyde, acrolein, cadmium, formaldehyde, and methylene di-phenyl diisocyanate (MDI).
(3) Chronic inhalation noncarcinogenic CNS effects .....	manganese, lead, and phenol.
(4) Acute inhalation .....	acrolein and formaldehyde.

TABLE 2A TO APPENDIX B TO SUBPART DDDD OF 40 CFR PART 63.—TESTING AND EMISSIONS ESTIMATION SPECIFICATIONS FOR PROCESS UNITS

Process unit type	Acetaldehyde	Acrolein	Formaldehyde	Phenol	Benzene	MDI	HAP metals from direct-fired process units <sup>a</sup>
Agricultural fiberboard mat dryers, Dry rotary dryers, Fiberboard mat dryer (heated zones), Green rotary dryers, Hardboard ovens, Hardwood veneer dryers (heated zones), Paddle-type particleboard dryers, Press predryers, Rotary agricultural fiber dryers, Rotary strand dryers, Softwood veneer dryers (heated zones), Veneer redryers (heated by conventional means).	Test .....	Test .....	Test .....	Test .....	Test .....	NA .....	Test or fuel analysis.
Atmospheric refiners, Conveyor strand dryers, Pressurized refiners.	Test .....	Test .....	Test .....	Test .....	Test .....	NA .....	NA.
Primary tube dryers, Secondary tube dryers.	Test .....	Test .....	Test .....	Test .....	Test .....	Test if processing furnish with MDI resin added prior to drying.	Test or fuel analysis.
Agricultural fiber board presses, Reconstituted wood products presses, Reconstituted wood product board coolers.	Test .....	Test .....	Test .....	Test .....	Test .....	Test if board contains MDI resin.	NA
Blending and forming operations—particleboard and MDF.	NA .....	NA .....	0.060 lb/ODT <sup>b</sup> .	NA .....	NA .....	Engineering estimate if MDI resin used.	NA.
Blending and forming operations—OSB.	NA .....	NA .....	0.0036 lb/MSF <sup>3/8</sup> " press throughput.	Engineering estimate.	NA .....	Engineering estimate if MDI resin used.	NA.
Dry forming—hardboard .....	Engineering estimate.	NA .....	Engineering estimate.	Engineering estimate.	NA .....	NA .....	NA.
Fiber washers .....	0.015 lb/ODT	NA .....	0.0026 lb/ODT.	NA .....	NA .....	NA .....	NA.
Fiberboard mat dryer (fugitive emissions).	0.0055 lb/MSF <sup>1/2</sup> ".	NA .....	0.031 lb/MSF <sup>1/2</sup> ".	NA .....	NA .....	NA .....	NA.

TABLE 2A TO APPENDIX B TO SUBPART DDDD OF 40 CFR PART 63.—TESTING AND EMISSIONS ESTIMATION SPECIFICATIONS FOR PROCESS UNITS—Continued

Process unit type	Acetaldehyde	Acrolein	Formaldehyde	Phenol	Benzene	MDI	HAP metals from direct-fired process units <sup>a</sup>
Finishing sanders .....	0.0031 lb/MSF.	NA .....	0.0042 lb/MSF.	0.015 lb/MSF	NA .....	Engineering estimate if MDI resin used.	NA.
Finishing saws .....	0.00092 lb/MSF 3/8".	NA .....	0.00034 lb/MSF 3/8".	0.0057 lb/MSF.	NA .....	Engineering estimate if MDI resin used.	NA.
Hardwood plywood presses ...	NA .....	NA .....	0.0088 lb/MSF 3/8".	0.016 lb/MSF 3/8".	NA .....	NA .....	NA.
Hardwood veneer dryer (cooling zones).	0.058 lb/MSF 3/8".	NA .....	0.013 lb/MSF 3/8".	NA .....	NA .....	NA .....	NA.
Hardwood veneer kilns .....	0.067 lb/MSF 3/8".	NA .....	0.016 lb/MSF 3/8".	0.0053 lb/MSF 3/8".	NA .....	NA .....	NA.
Humidifiers .....	0.0018 lb/MSF 1/8".	0.0087 lb/MSF 1/8".	0.0010 lb/MSF 1/8".	0.00057 lb/MSF 1/8".	0.0000062 lb/MSF 1/8".	NA .....	NA.
I-joint curing chambers .....	NA .....	NA .....	0.00018 lb/MLF.	NA .....	NA .....	Engineering estimate if MDI resin used.	NA.
Log vats .....	0.0047 lb/MSF 3/8" removed from vat per hour.	NA .....	NA .....	NA .....	NA .....	NA .....	NA.
LSL presses .....	Engineering estimate.	NA .....	0.029 lb/1000 ft <sup>3</sup> .	Engineering estimate.	NA .....	0.18 lb/1000 ft <sup>3</sup> .	NA.
LVL presses .....	0.29 lb/1000 ft <sup>3</sup> .	NA .....	0.79 lb/1000 ft <sup>3</sup> .	NA .....	NA .....	NA .....	NA.
Lumber kilns .....	0.065 lb/MBF or conduct small-scale kiln testing according to appendix C to subpart DDDD.	0.009 lb/MBF or conduct small-scale kiln testing according to appendix C to subpart DDDD.	0.034 lb/MBF or conduct small-scale kiln testing according to appendix C to subpart DDDD.	0.010 lb/MBF or conduct small-scale kiln testing according to appendix C to subpart DDDD.	NA .....	NA .....	Engineering estimate.
Panel-trim chippers .....	0.00081 lb/MSF 3/8" finished board production.	NA .....	0.00034 lb/MSF 3/8" finished board production.	0.0019 lb/MSF 3/8" finished board production.	NA .....	NA .....	NA.
Particleboard press molds, Particleboard extruders.	0.034 lb/MSF 3/4".	0.0087 lb/MSF 3/4".	0.64 lb/MSF 3/4".	0.024 lb/MSF 3/4".	0.0073 lb/MSF 3/4".	NA .....	NA.
Radio-frequency veneer re-dryers.	0.0029 lb/MSF 3/8".	NA .....	0.00065 lb/MSF 3/8".	NA .....	NA .....	NA .....	NA.
Resin storage tanks—closed roof.	NA .....	NA .....	For tanks with resin containing formaldehyde, 0.001 lb/hr per tank OR model using TANKS software <sup>c</sup> .	For tanks with resin containing formaldehyde, 0.0002 lb/hr per tank OR model using TANKS software <sup>c</sup> .	NA .....	For tanks with MDI resin, 0.0013 lb/hr per tank OR model using TANKS software <sup>c</sup> .	NA.
Resin storage tanks—open roof.	NA .....	NA .....	Engineering estimate if resin contains formaldehyde.	Engineering estimate if resin contains phenol.	NA .....	Engineering estimate if resin contains MDI.	NA.
Softwood plywood presses .....	0.012 lb/MSF 3/8".	NA .....	0.0054 lb/MSF 3/8".	0.0022 lb/MSF 3/8".	NA .....	NA .....	NA.
Softwood veneer dryers (cooling zones).	0.012 lb/MSF 3/8".	NA .....	0.0028 lb/MSF 3/8".	0.011 lb/MSF 3/8".	NA .....	NA .....	NA.
Softwood veneer kilns .....	0.097 lb/MSF 3/8".	0.012 lb/MSF 3/8".	0.10 lb/MSF 3/8".	0.020 lb/MSF 3/8".	0.0078 lb/MSF 3/8".	NA .....	NA.

TABLE 2A TO APPENDIX B TO SUBPART DDDD OF 40 CFR PART 63.—TESTING AND EMISSIONS ESTIMATION SPECIFICATIONS FOR PROCESS UNITS—Continued

Process unit type	Acetaldehyde	Acrolein	Formaldehyde	Phenol	Benzene	MDI	HAP metals from direct-fired process units <sup>a</sup>
Stand-alone digesters .....	0.030 lb/ODT	0.0024 lb/ODT.	0.0045 lb/ODT.	0.0012 lb/ODT.	NA .....	NA .....	NA.
Wastewater/process water operations.	Engineering estimate (such as WATER9 <sup>c</sup> or other method).	Engineering estimate (such as WATER9 <sup>c</sup> or other method).	Engineering estimate (such as WATER9 <sup>c</sup> or other method).	Engineering estimate (such as WATER9 <sup>c</sup> or other method).	Engineering estimate (such as WATER9 <sup>c</sup> or other method).	NA .....	NA.
Wet forming—fiberboard and hardboard (without PF resin).	0.0075 lb/MSF 1/2".	NA .....	0.0036 lb/MSF 1/2".	NA .....	NA .....	NA .....	NA.
Wet forming—hardboard (PF resin).	0.0067 lb/ODT.	NA .....	0.00039 lb/ODT.	0.00075 lb/ODT.	NA .....	NA .....	NA.
Miscellaneous coating operations, Log chipping, Softwood veneer dryer fugitive emissions.	NA .....	NA .....	NA .....	NA .....	NA .....	NA .....	NA.
Other ancillary processes (not listed elsewhere in this table) that may emit HAP listed in this table.	Engineering estimate.	Engineering estimate.	Engineering estimate.	Engineering estimate.	Engineering estimate.	Engineering estimate.	Engineering estimate.

Test: Emissions testing must be conducted for the process unit and pollutant according to the test methods specified in table 2B to appendix B to subpart DDDD.

NA: Not applicable. No emission estimates or emissions tests are required for purposes of the low-risk demonstration.

lb/MSF: Pounds of HAP per thousand square feet of board of the inches thickness specified (e.g., lb/MSF 3/4 = pounds of HAP per thousand square feet of 3/4-inch board). See equation in § 63.2262(j) of subpart DDDD to convert from one thickness basis to another.

lb/ODT: Pounds of HAP per oven dried ton of wood material.

lb/MBF: Pounds of HAP per thousand board feet.

lb/MLF: Pounds of HAP per thousand linear feet

<sup>a</sup>Direct-fired process units firing natural gas or propane are NA; thus, no emissions estimates, emissions tests, or fuel analyses are required for the purposes of the low-risk demonstration.

<sup>b</sup>Estimation of formaldehyde emissions is only necessary for facilities that use resin containing formaldehyde.

<sup>c</sup>TANKS and WATER9 software is available at <http://www.epa.gov/ttn/chief/software/index.html>.

TABLE 2B TO APPENDIX B TO SUBPART DDDD OF 40 CFR PART 63.—EMISSION TEST METHODS

For . . .	You must . . .	Using . . .
(1) each process unit required to be tested according to table 2A to this appendix.	select sampling ports' location and the number of traverse points.	Method 1 or 1A of 40 CFR part 60, appendix A (as appropriate).
(2) each process unit required to be tested according to table 2A to this appendix.	determine velocity and volumetric flow rate; ...	Method 2 in addition to Method 2A, 2C, 2D, 2F, or 2G in appendix A to 40 CFR part 60 (as appropriate).
(3) each process unit required to be tested according to table 2A to this appendix.	conduct gas molecular weight analysis .....	Method 3, 3A, or 3B in appendix A to 40 CFR part 60 (as appropriate).
(4) each process unit required to be tested according to table 2A to this appendix.	measure moisture content of the stack gas ....	Method 4 in appendix A to 40 CFR part 60.
(5) each process unit required to be tested according to table 2A to this appendix.	measure emissions of acetaldehyde .....	NCASI Method IM/CAN/WP-99.02 (IBR, see 40 CFR 63.14(f)); OR Method 320 in appendix A to 40 CFR part 63; OR the NCASI Method ISS/FP-A105.01 (IBR, see § 63.14(f)); OR Method 0011 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (EPA Publication No. SW-846); OR ASTM D6348-03 <sup>b</sup> (IBR, see 40 CFR 63.14(b)).
(6) each process unit required to be tested according to table 2A to this appendix.	measure emissions of acrolein .....	NCASI Method IM/CAN/WP-99.02 (IBR, see 40 CFR 63.14(f)); OR Method 320 in appendix A to 40 CFR part 63; OR the NCASI Method ISS/FP-A105.01 (IBR, see § 63.14(f)); OR ASTM D6348-03 <sup>b</sup> (IBR, see 40 CFR 63.14(b)).

TABLE 2B TO APPENDIX B TO SUBPART DDDD OF 40 CFR PART 63.—EMISSION TEST METHODS—Continued

For . . .	You must . . .	Using . . .
(7) each process unit required to be tested according to table 2A to this appendix.	measure emissions of formaldehyde .....	NCASI Method IM/CAN/WP-99.02 (IBR, see 40 CFR 63.14(f)); OR Method 320 in appendix A to 40 CFR part 63; OR the NCASI Method ISS/FP-A105.01 (IBR, see § 63.14(f)); OR the NCASI Method CI/WP-98.01; OR Method 316 in appendix A to 40 CFR part 63; OR Method 0011 in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods” (EPA Publication No. SW-846); OR ASTM D6348-03 <sup>b</sup> (IBR, see 40 CFR 63.14(b)).
(8) each process unit required to be tested according to table 2A to this appendix.	measure emissions of phenol .....	NCASI Method IM/CAN/WP-99.02 (IBR, see 40 CFR 63.14(f)); OR Method 320 in appendix A to 40 CFR part 63; OR the NCASI Method ISS/FP-A105.01 (IBR, see § 63.14(f)); OR the NCASI Method CI/WP-98.01; OR ASTM D6348-03 <sup>b</sup> (IBR, see 40 CFR 63.14(b)).
(9) each process unit required to be tested according to table 2A to this appendix.	measure emissions of benzene .....	Method 18 in appendix A to 40 CFR part 60; OR NCASI Method IM/CAN/WP-99.02 (IBR, see 40 CFR 63.14(f)); OR Method 320 in appendix A to 40 CFR part 63; OR ASTM D6348-03 <sup>b</sup> (IBR, see 40 CFR 63.14(b)).
(10) each process unit that processes material containing MDI resin required to be tested according to table 2A to this appendix.	measure emissions of MDI .....	Method 320 in appendix A to 40 CFR part 63; OR Method 207 in appendix M to 40 CFR part 51; OR Conditional Test Method (CTM) 031 which is posted on <a href="http://www.epa.gov/ttn/emc/ctm.html">http://www.epa.gov/ttn/emc/ctm.html</a>
(11) each direct-fired process unit <sup>a</sup> required to be tested according to table 2A to this appendix.	measure emissions of the following HAP metals: Arsenic, beryllium, cadmium, chromium, lead, manganese, and nickel.	Method 29 in appendix A to 40 CFR part 60 OR fuel analysis (see section 5(m) of this appendix).
(12) each reconstituted wood product press or reconstituted wood product board cooler with a HAP control device.	meet the design specifications included in the definition of wood products enclosure in § 63.2292 of subpart DDDD of 40 CFR part 63; or determine the percent capture efficiency of the enclosure directing emissions to an add-on control device.	Methods 204 and 204A through 204F of 40 CFR part 51, appendix M to determine capture efficiency (except for wood products enclosures as defined in § 63.2292). Enclosures that meet the definition of wood products enclosure or that meet Method 204 requirements for a PTE are assumed to have a capture efficiency of 100 percent. Enclosures that do not meet either the PTE requirements or design criteria for a wood products enclosure must determine the capture efficiency by constructing a TTE according to the requirements of Method 204 and applying Methods 204A through 204F (as appropriate). As an alternative to Methods 204 and 204A through 204F, you may use the tracer gas method contained in appendix A to subpart DDDD.
(13) each reconstituted wood product press or reconstituted wood product board cooler required to be tested according to table 2A to this appendix.	determine the percent capture efficiency .....	a TTE and Methods 204 and 204A through 204F (as appropriate) of 40 CFR part 51, appendix M. As an alternative to installing a TTE and using Methods 204 and 204A through 204F, you may use the tracer gas method contained in appendix A to subpart DDDD. Enclosures that meet the design criteria (1) through (4) in the definition of wood products enclosure, or that meet Method 204 requirements for a PTE (except for the criteria specified in section 6.2 of Method 204) are assumed to have a capture efficiency of 100 percent. Measured emissions divided by the capture efficiency provides the emission rate. Fugitive emissions are equal to the difference in the emission rate and measured emissions.

TABLE 2B TO APPENDIX B TO SUBPART DDDD OF 40 CFR PART 63.—EMISSION TEST METHODS—Continued

For . . .	You must . . .	Using . . .
(14) each process unit with a HAP control device required to be tested according to table 2A to this appendix.	establish the site-specific operating requirements (including the parameter limits or THC concentration limits) in table 2 to subpart DDDD.	data from the parameter monitoring system or THC CEMS and the applicable performance test method(s).

<sup>a</sup> Excludes direct-fired process units fired with only natural gas or propane.

<sup>b</sup> Provided that percent R as determined in Annex A5 of ASTM D6348–03 is equal or greater than 70 percent and less than or equal to 130 percent.

TABLE 3 TO APPENDIX B TO SUBPART DDDD OF 40 CFR PART 63.—MAXIMUM ALLOWABLE TOXICITY-WEIGHTED CARCINOGEN EMISSION RATE [(lb/hr)/(µg/m<sup>3</sup>)]

Stack height (m)	Distance to property boundary (m)											
	0	50	100	150	200	250	500	1000	1500	2000	3000	5000
5	8.72E-07	8.72E-07	8.72E-07	9.63E-07	1.25E-06	1.51E-06	2.66E-06	4.25E-06	4.39E-06	4.39E-06	4.39E-06	5.00E-06
10	2.47E-06	2.47E-06	2.47E-06	2.47E-06	2.47E-06	2.61E-06	3.58E-06	5.03E-06	5.89E-06	5.89E-06	5.89E-06	6.16E-06
20	5.81E-06	5.81E-06	5.81E-06	5.81E-06	5.81E-06	5.81E-06	5.90E-06	7.39E-06	8.90E-06	8.90E-06	9.97E-06	1.12E-05
30	7.74E-06	7.74E-06	7.74E-06	7.74E-06	7.74E-06	7.74E-06	8.28E-06	9.49E-06	1.17E-05	1.35E-05	1.55E-05	1.61E-05
40	9.20E-06	9.20E-06	9.20E-06	9.20E-06	9.20E-06	9.20E-06	9.24E-06	1.17E-05	1.34E-05	1.51E-05	1.98E-05	2.22E-05
50	1.02E-05	1.02E-05	1.02E-05	1.02E-05	1.02E-05	1.02E-05	1.02E-05	1.36E-05	1.53E-05	1.66E-05	2.37E-05	2.95E-05
60	1.13E-05	1.13E-05	1.13E-05	1.13E-05	1.13E-05	1.13E-05	1.13E-05	1.53E-05	1.76E-05	1.85E-05	2.51E-05	3.45E-05
70	1.23E-05	1.23E-05	1.23E-05	1.23E-05	1.23E-05	1.23E-05	1.23E-05	1.72E-05	2.04E-05	2.06E-05	2.66E-05	4.07E-05
80	1.34E-05	1.34E-05	1.34E-05	1.34E-05	1.34E-05	1.34E-05	1.34E-05	1.92E-05	2.15E-05	2.31E-05	2.82E-05	4.34E-05
100	1.52E-05	1.52E-05	1.52E-05	1.52E-05	1.52E-05	1.52E-05	1.52E-05	1.97E-05	2.40E-05	2.79E-05	3.17E-05	4.49E-05
200	1.76E-05	1.76E-05	1.76E-05	1.76E-05	1.76E-05	1.76E-05	1.76E-05	2.06E-05	2.94E-05	3.24E-05	4.03E-05	5.04E-05

MIR=1E-06.

TABLE 4 TO APPENDIX B TO SUBPART DDDD OF 40 CFR PART 63.—MAXIMUM ALLOWABLE TOXICITY-WEIGHTED NONCARCINOGEN EMISSION RATE [(lb/hr)/(µg/m<sup>3</sup>)]

Stack height (m)	Distance to property boundary (m)											
	0	50	100	150	200	250	500	1000	1500	2000	3000	5000
5	2.51E-01	2.51E-01	3.16E-01	3.16E-01	3.16E-01	3.16E-01	3.16E-01	3.46E-01	4.66E-01	6.21E-01	9.82E-01	1.80E+00
10	5.62E-01	5.62E-01	5.62E-01	5.62E-01	5.62E-01	5.62E-01	5.62E-01	5.70E-01	6.33E-01	7.71E-01	1.13E+00	1.97E+00
20	1.43E+00	1.43E+00	1.43E+00	1.43E+00	1.43E+00	1.43E+00	1.43E+00	1.43E+00	1.68E+00	1.83E+00	2.26E+00	3.51E+00
30	2.36E+00	2.36E+00	2.36E+00	2.36E+00	2.36E+00	2.36E+00	2.36E+00	3.04E+00	3.04E+00	3.33E+00	4.45E+00	5.81E+00
40	3.11E+00	3.11E+00	3.11E+00	3.11E+00	3.11E+00	3.11E+00	3.11E+00	4.04E+00	5.07E+00	5.51E+00	6.39E+00	9.63E+00
50	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	3.93E+00	4.92E+00	6.95E+00	7.35E+00	8.99E+00	1.25E+01
60	4.83E+00	4.83E+00	4.83E+00	4.83E+00	4.83E+00	4.83E+00	4.83E+00	6.13E+00	7.80E+00	1.01E+01	1.10E+01	1.63E+01
70	5.77E+00	5.77E+00	5.77E+00	5.77E+00	5.77E+00	5.77E+00	5.77E+00	7.71E+00	8.83E+00	1.18E+01	1.36E+01	1.86E+01
80	6.74E+00	6.74E+00	6.74E+00	6.74E+00	6.74E+00	6.74E+00	6.74E+00	9.50E+00	1.01E+01	1.29E+01	1.72E+01	2.13E+01
100	8.87E+00	8.87E+00	8.87E+00	8.87E+00	8.87E+00	8.87E+00	8.87E+00	1.19E+01	1.37E+01	1.55E+01	2.38E+01	2.89E+01
200	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	1.70E+01	2.05E+01	2.93E+01	3.06E+01	4.02E+01	4.93E+01

HI=1.

■ 13. Add appendix C to subpart DDDD to read as follows:

### **Appendix C to Subpart DDDD of Part 63—Considerations for a Small-Scale Kiln Emission Testing Program**

#### **1.0 Purpose**

Emissions test data from small-scale lumber kilns can be used to reasonably approximate emissions from full-scale lumber kilns if representative lumber samples are dried and the venting characteristics of the small-scale kiln mimic those of the full-scale kiln. This appendix provides a list of considerations that must be taken into account by facilities conducting small-scale lumber kiln emissions testing to approximate emissions from their full-scale lumber kilns for purposes of the low-risk demonstration described under appendix B to subpart DDDD of part 63.

The considerations described in this appendix apply only for small-scale lumber kiln emissions testing conducted to provide data for the low-risk demonstration described under appendix B to subpart DDDD of part 63. Permitting authorities may require different procedures for testing or estimating lumber kiln emissions for purposes other than the low-risk demonstration described under appendix B to subpart DDDD of part 63.

#### **2.0 Considerations for Lumber Samples**

2.1 A written plan must be developed for obtaining representative lumber samples to use as charges at the small-scale kilns. The plan must discuss how the samples are selected and handled and the basis upon which they are considered to be representative. If possible, information on the harvest site, date harvested, segregation from other lumber (if segregated), and processing at the sawmill must be included. If this information is unavailable, a general description of the sawmill's wood procurement and processing practices must be provided. The affected source and testing laboratory must approve the written test plan before beginning the small-scale kiln testing.

2.2 Samples must not be subject to significant air drying during processing, shipping, or storage prior to charging into the small-scale kiln.

2.3 Enough lumber must be collected to provide for extra lumber charges in case of testing failures.

2.4 Information on the lumber used for each small-scale kiln charge must be reported including the items in paragraphs 2.4.1 through 2.4.4 of this section:

2.4.1 Total kiln charge, board feet,  
2.4.2 Nominal dimensions of lumber dried (for example, 2x4s),

2.4.3 Moisture content (dry basis) of the green lumber, and

2.4.4 Moisture content (dry basis) of the kiln dried lumber.

#### **3.0 Considerations for Kiln Operating Parameters**

The small-scale kiln must operate in a similar manner to the full-scale kilns for items 3.1 through 3.3 of this section. The small-scale kiln must operate in a reasonably consistent manner from charge-to-charge for all items (3.1 through 3.5) listed in this section.

3.1 Air velocity through the kiln charge.

3.2 Temperature profiles or kiln schedules (wet-bulb/dry-bulb temperatures throughout the kiln cycle).

3.3 Ending moisture content (dry basis) of the lumber (may need to be mathematically adjusted for small-scale kilns).

3.4 Kiln venting profile (trend) for the sample event/kiln cycle (normalized to a board foot or thousand board feet).

3.5 Mass emission rate profile (trend) for the sample event/kiln cycle.

#### **4.0 Considerations for Emission Sampling**

4.1 Sample equipment must be able to sample gases with high moisture content.

4.2 You must accurately measure/calculate total kiln exhaust and exhaust moisture content. If direct measurements are impractical other methods used must be explicitly discussed in the report.

4.3 You must accurately measure the concentration of the compounds of concern either in the kiln exhaust or at a proper location within the kiln.

#### **5.0 Considerations for Sample Intervals and Sampling Runs**

5.1 A minimum of two full kiln cycles or batches must be tested to determine the emissions for a particular wood species or for a facility utilizing only one wood species.

5.2 You may use a single kiln cycle for emission values for wood species that require more than 3 days to dry.

5.3 Since kiln drying cycles typically exceed 20 hours, it is suggested that sampling be conducted in intervals throughout the drying cycle. Three hours provide a reasonable sample interval (sample run), but sampling equipment or manpower may dictate other schedules. Sampling equipment "turnaround" will result in gaps in the kiln emission data. The gaps must not exceed 45% of the kiln cycle. Data for the gaps occurring at certain periods of time in the drying cycle can be calculated by linear interpolation from the sampling values on either side of the gap. Other techniques may be required if the data gap occurs when the measured data exhibit high levels of variability. As a minimum, sampling

intervals must include initial hours of the kiln operating cycle once the kiln has warmed to target wet bulb and/or dry bulb temperatures and begins venting, hours of kiln operation during the middle of the kiln drying cycle, and hours of kiln operation towards the end of the kiln drying cycle.

5.4 The final production-based mass emission rate for the small-scale kiln sample event is determined by integrating the area under the mass emission rate profile curve.

#### **6.0 Considerations for Reporting**

The emissions report must contain the information in paragraphs 6.1 through 6.9 of this section.

6.1 Graphical, charge-by-charge results for items 3.2, 3.4, and 3.5 above and numerical data for items 3.1 and 3.3. Describe how the full-scale kiln operates in comparison to the small-scale kiln in order to show that the full-scale kiln drying cycle was reasonably reproduced in the small-scale kiln.

6.2 A moisture balance by comparing the water loss (from the green versus dry lumber charge weight difference) to the water exhausted from the kiln (using the exhaust flow rate and moisture content of the exhaust).

6.3 A description of the sampling system and sampling methodology.

6.4 A summary and background data for all quality assurance measures required by the sampling methods.

6.5 Discussion of method detection limits and treatment of values below the detection limit.

6.6 An example of emission rate calculations.

6.7 Explanation or reference to the methodology used to calculate emissions to the target or desired ending lumber moisture content.

6.8 Information outlined in section 2.0 of this appendix, including a discussion of collection and handling of lumber samples.

6.9 Data and show calculations for developed emission factors.

#### **7.0 Guidance**

7.1 NCASI Technical Bulletin 845 provides a large amount of detail that can be of assistance in many phases of a small-scale kiln testing program. This report should be viewed as "one way," not "the only way" to conduct testing.

7.2 Oregon State University, Mississippi State University, the University of Idaho, and others have published information regarding operation and testing of small-scale kilns. These publications are a very good source of information on small-scale kilns.

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