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EPA Docket Center
Environmental Protection Agency
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Washington, DC 20460

RE: Docket ID No. EPA-HQ-OAR-2016-0243; National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products Residual Risk and Technology Review (88 Fed. Reg. 31856, May 18, 2023)

The American Wood Council (AWC), Composite Panel Association (CPA), Southeastern Lumber Manufacturers Association (SLMA), Treated Wood Council (TWC), Decorative Hardwoods Association (DHA), APA – The Engineered Wood Association (APA), and the Kitchen Cabinet Manufacturers Association (KCMA) submit these comments on the proposed revisions to the National Emission Standards for Hazardous Air Pollutants (NESHAP): Plywood and Composite Wood Products (PCWP) Residual Risk and Technology Review (RTR) (88 Fed. Reg. 31856, May 18, 2023).

The AWC is the voice of North American wood products manufacturing, representing over 80 percent of an industry that provides approximately 400,000 men and women in the United States with family-wage jobs. AWC members make products that are essential to everyday life from a renewable resource that absorbs and sequesters carbon. Staff experts develop state-of-the-art engineering data, technology, and standards for wood products to assure their safe and efficient design, as well as provide information on wood design, green building, and environmental regulations. AWC also advocates for balanced government policies that affect wood products working with other wood product trade groups.

CPA was founded in 1960 and is a trade association representing more than 95% of the North American manufacturing capacity of the following composite wood products: particleboard, medium density fiberboard (MDF), and hardboard. CPA members also include those companies that supply, distribute, and use these panels to make other value-added products, such as furniture, cabinets, flooring, moldings, exterior siding and trim, among other products. The total impact of the industry on the U.S. economy is over of $7 billion annually, reflecting direct, indirect and induced economic effects. The industry supports over 22,500 well-paying jobs, many of which are in rural parts of the country.

SLMA's membership footprint spans from Texas to Maryland and includes sawmills, lumber treaters and lumber remanufacturers. In total, there are 90 member companies operating over 130 locations. The mills directly employ nearly 10,000 people, in addition to the countless secondary jobs that are supported in the rural economies across the Southeast. Our members also manage over 2 million acres of timberland.

TWC is an international trade association serving the treated wood industry with more than 550 member organizations. TWC serves all segments of the treated wood industry, from growers and sawmills to wood treaters and finally to end-users and recyclers. TWC treater members manufacture pressure-treated lumber, railroad ties, plywood, utility poles and crossarms, marine and foundation pilings, highway guard rail systems, sign and fence posts, and shake and shingle roofing. Many TWC members own and operate lumber or pole kilns.

The DHA was founded in 1921 and represents the hardwood plywood, hardwood veneer, and engineered hardwood flooring industries. DHA members produce 90% of the hardwood plywood stock panels and hardwood veneer manufactured in North America.

APA is a nonprofit trade association representing U.S. and Canadian manufacturers of structural engineered wood products, including approximately 175 member mills in 23 states and seven provinces. For nearly 90 years, APA has supported the industry's creation of structural wood products of exceptional strength, versatility, and reliability. Combining the research efforts of scientists at APA's 42,000-square-foot research center with the knowledge gained from decades of fieldwork, and cooperation with our member manufacturers, APA promotes new solutions and improved processes that benefit the entire industry. APA's primary functions are product certification and testing, quality assurance, applied research, and market support and development. APA members are industry leaders whose mills produce the majority of the structural wood panel products manufactured in North America, plus all other structural engineered wood products that include cross-laminated timber, specialty panels, glued-laminated timber (glulam), wood I-joists and structural composite lumber (SCL).

KCMA is a non-profit organization founded in 1955 to represent companies who manufacture cabinets, bath cabinets, or other residential cabinets, and key kitchen and bath industry suppliers. With a membership of almost 300 companies throughout North America, KCMA works to advance the cabinet industry through advocacy, set cabinet quality standards, sponsor kitchen and bath cabinet-related research, and provide the cabinet industry with management tools and educational programs.

We offer the following specific comments on behalf of the above groups on the PCWP proposal for your consideration. Please reach out to Tim Hunt of AWC with any questions or if you need clarification or information on any of our comments.

Sincerely,

Jackson Morrill
President & CEO
American Wood Council on behalf of the industry coalition

cc: Katie Hanks, EPA
Penny Lassiter, EPA
Robin Dunkins, EPA
Peter Tsirigotis, EPA
Tim Hunt, AWC
Andrew O'Hare, CPA
Bryan Smalley, SLMA
Mark Tibbetts, APA
Jeff Miller, TWC
Keith Christman, DHA
Betsy Natz, KCMA

Table of Contents

1. Executive Summary

EPA has proposed additional standards for plywood and composite wood products (PCWP) manufacturing facilities, including lumber mills, that it estimates will cost industry $130 million but has estimated no benefits from these additional standards. The original PCWP National Emission Standards for Hazardous Air Pollutants (NESHAP) achieved significant emissions reductions, and EPA's own analysis showed that it has reduced risk from hazardous air pollutant (HAP) emissions to acceptable levels. The additional proposed standards may result in unintended consequences, such as incentivizing PCWP facilities to move away from carbon-neutral biomass combustion for process heat and toward additional natural gas combustion for both process heat and for organic HAP emissions control. Wood products facilities burn biomass residuals from their processes as a low-cost, carbon-neutral fuel, and not all facilities have access to a natural gas pipeline. We are concerned that the level of stringency of the proposed new source limits for biomass-fired dryers will discourage combustion of biomass at new facilities, increasing their carbon footprint and potentially increasing the generation of solid waste, as there may not be a local market for use or combustion of biomass residuals offsite. Our comments include several options to reduce the burden that would be imposed by these new standards.

If EPA can justify that additional standards are necessary, then it should focus on reasonable work practice standards. For example, the proposed numerical standards for polyaromatic hydrocarbon (PAH) and methylene diphenyl diisocyanate (MDI) emissions have the potential to cost industry millions of dollars. Emissions of these HAPs should be covered under work practices, not numerical emissions limits, because they are almost undetectable, pose no risk, are already limited by the control strategies being used under the current rule, and impose significant compliance cost with no quantified benefit or reduction in risk. EPA projects that the proposed numeric standards for atmospheric refiners will not result in the need for installation of additional controls at existing facilities, but this projection is based on little data and our members may be forced to install additional expensive oxidation-based controls to comply with a standard that provides no quantified benefit.

Work practice standards are proposed for several source types, but EPA could improve on its proposed standards. For example, our comments provide extensive feedback on how to improve the lumber kiln work practices. We propose a replacement approach for the in-kiln moisture monitoring work practice option that we believe is the most workable option for facilities not drying western species at low temperatures. This "hybrid" work practice would limit both temperature and finished lumber moisture content for facilities (such as those in the Southern U.S. drying southern yellow pine) that cannot utilize the low-temperature work practice option. Facilities need a pre-approved work practice that acknowledges this species is dried at higher temperatures than western species and still minimizes over drying and any associated HAP emissions without having to get a site-specific work practice reviewed and approved, which is burdensome for both facilities and agencies. Our suggested approach mirrors best available control technology (BACT) for many facilities. We also make various suggestions around temperature monitoring requirements to improve clarity.

The proposed work practice standards for wastewater operations are generally unworkable and will be costly to implement, especially as EPA estimates its proposed standards for other PCWP process units will result in an increase in wastewater generated of over 34 million gallons. They should be eliminated or significantly narrowed to apply only to onsite wastewater treatment operations, as this is the process unit listed in the affected source, not all uses of water within a PCWP manufacturing facility. Without the ability to continue to process water and wastewater as they do now, facilities could be required to modify their entire industrial wastewater system, which is not required by this MACT review and EPA has not accounted for these costs in its analysis. The proposed work practice standards for log vats also need to be revised to accommodate how facilities need to operate. The requirement to keep tub style log vats covered is not feasible and will not reduce emissions from these vats.

We support EPA's proposed work practice approach to cover a broad list of resin material handling (RMH) process units that are not currently subject to standards. This approach is the only practicable way to address these units, given the inability to capture and convey organic HAP emissions, and could also be used to address MDI emissions from various process units. However, we propose a few clarifying adjustments to reduce burden and streamline compliance.

The startup and shutdown work practices should also be retained; they are critical to the safety of workers and the proper operation of our members' facilities. We support EPA's decision to retain them and have included responses to EPA's request for comments regarding how they are used and why they are necessary. In addition, we agree with EPA that three years are required to comply with both the numerical emission limits and additional work practice standards that EPA proposes.

As we detail in Section 2.1 below, we believe it is not necessary for EPA to establish many of the proposed additional standards in this rule. As suggested above, certain pollutants could be covered under work practice standards because either the available emissions data challenge the ability of the measurement methods or because control strategies already in use serve to control HAPs other than those specifically called out in the rule. EPA's proposed HCl emissions limits for biomass direct-fired dryers are another example where EPA could instead rely on its risk analysis to determine that acid gas emissions are eligible for health-based standards, instead of stringent MACT-based emissions limits.

From a general standpoint, however, Clean Air Act (CAA) §112(d)(6) directs that the "Administrator shall review, and revise as necessary (taking into account developments in practices, processes, and control technologies), emission standards promulgated under this section no less often than every 8 years." There is no requirement or authorization for EPA to establish new standards for pollutants the process unit is not even known to emit (for example, PAH from veneer dryers, 1-bromopropane from any PCWP process unit). EPA's consideration of whether it is "necessary" to revise emission standards should also involve several considerations, including (1) whether existing limits require the same control technology or work practice that would be used to meet a new limitation for an additional HAP; (2) whether the HAP is present at only a few facilities or is absent in many emissions tests; (3) whether existing emissions of the HAP are already well-controlled (versus a situation where much more effective control technology is available); (4) whether the HAP is emitted in large amounts or can hardly be detected; (5) whether the HAP is relatively toxic, versus a HAP with relatively low toxicity, like methanol; and so forth. Certainly, low risk to human health and the environment could be a factor weighing against a determination that a new limit is necessary, and high cost for a low (or no) reduction in risk would also be a relevant factor. Over and over again, the preamble for the proposed rule states that EPA does not expect any reduction in emissions to result from new requirements proposed for additional HAPs. If there are little to no emissions reductions and no risk reduction to be gained but great cost to industry, a proposed new requirement is not necessary.

2. The Proposed New Requirements Are Not Justified

2.1. It Is Not Necessary To Establish Many of the Proposed Additional Emissions Standards

The proposed rule contains two types of new emission standards: (1) numerical emission limitations or work practice standards addressing HAPs that were not [explicitly] regulated by the MACT standards first adopted for various PCWP emission units in 2004; and (2) standards for equipment that is not subject to requirements under the current MACT standards because EPA previously determined that the "MACT floor" for the equipment was no control, and, at least for existing sources, no beyond-the-floor requirements for that equipment were justified. (The latter proposed standards address types of equipment sometimes referred to as the "remanded process units," because EPA's 2004 "no control" decisions were vacated and remanded to EPA for further consideration in *NRDC v. EPA*, 489 F.3d 1364 (D.C. Cir. 2007).) EPA need not and should not promulgate many of the proposed new requirements of both types, for overlapping reasons.

With respect to proposed requirements for HAPs that may be emitted from PCWP process units, but were not explicitly regulated by emission standards that EPA promulgated for various process units in the 2004 NESHAP (which were not challenged successfully in judicial review of the 2004 NESHAP and therefore have been in effect since 2004), EPA is subject to and constrained by the provisions of CAA §112(d)(6). Those provisions direct that the "Administrator shall review, and revise as necessary (taking into account developments in practices, processes, and control technologies), emission standards promulgated under this section no less often than every 8 years." The U.S. Court of Appeals for the District of Columbia Circuit reviewed an aspect of that directive in *Louisiana Environmental Action Network v. EPA*, 955 F.3d 1088 (D.C. Cir. 2020) ("*LEAN*"). That case involved a challenge to EPA's action in reviewing the emission standards promulgated in 2001 for pulp mill combustion sources in 40 CFR Part 63, Subpart MM.

In *LEAN*, "the issue [was] whether section 112(d)(6)'s periodic, mandatory review and revision 'as necessary' is textually confined to those air toxics already limited under the source's existing emission standard, or whether that provision compels consideration of the adequacy of the emission standard to control all the air toxics the source category emits." 955 F.3d at 1096; see also *id*. at 1100 (Sentelle, J., dissenting). The Court rejected EPA's position that its only obligation under §112(d)(6) was to review the emission limitations already contained in Subpart MM, and to do so only in terms of whether revisions were necessary because of technology developments. The proposed rule is, in part, EPA's attempt to make the PCWP

RTR rule that it initially completed in 2020 consistent with the *LEAN* decision (which was handed down shortly before EPA issued the 2020 rule), and to now apply the §112(d)(6) periodic review of the existing regulation in a way not confined to the HAPs already subject to emission limitations in the existing NESHAP.

Section 112(d)(6) and the *LEAN* decision impose two significant constraints on EPA's revision of the existing NESHAP to address additional pollutants.[1] First, EPA is only directed to address additional HAPs that the affected process units are known to emit but EPA has left unregulated. 955 F.3d at 1090; 1091 ("direct[ing] EPA to set limits on the listed air toxics that pulp mill combustion sources are known to emit but that EPA has yet to control"); 1098. There is no requirement for EPA to conduct a new investigation to identify other HAPs that might be emitted by the affected source (and thereby turn the §112(d)(6) process into a research project and a "do-over" that the D.C. Circuit has said is inappropriate for MACT standards published long ago and no longer subject to judicial review). Certainly, there is no requirement

[1] At various points in the preamble to the proposed rule, EPA asserts that it is adding requirements for additional HAPs pursuant to CAA § 112(d)(2) & (3). That statement is inaccurate, or at best incomplete. Except for the remanded emission units, EPA is revising existing emission standards for various process units, to add numerical emission limitations or work practice standards for additional pollutants. Such revision of existing standards is only authorized by, and is subject to the requirements of, CAA § 112(d)(6). Congress explicitly provided for periodic review of existing standards through § 112(d)(6). The *LEAN* court concluded that this periodic review should address any factors that might make revision of the existing standards necessary, and not just "developments in practices, processes, and control technologies." But the *LEAN* court did not conclude that EPA could revise existing emission standards without regard to the requirements of CAA §112(d)(6). In fact, quite the opposite: a major consideration supporting the Court's decision that the §112(d)(6) review should not be limited to the HAPs for which explicit emission limitations had already been promulgated was that § 112(d)(6) is the *only* way that EPA could add limits for additional HAPs, and therefore Congress must have intended the periodic technology review in §112(d)(6) to address potential limits for additional HAPs, because otherwise there would be no way to impose limitations for newly listed HAPs on source categories for which MACT standards had already been promulgated when the new HAP was listed. See 955 F.3d at 1098; see also *id*. at 1095 ("Section 112(d)(6) is the statutory mechanism for reviewing and updating emission standards"); *id*. at 1099 ("Section 112(d)(6) review is the sole periodic, ongoing review of emission standards the Act requires"). That is also the interpretation of the CAA that Earthjustice argued on behalf of the Sierra Club and the other petitioners in *LEAN*. See Petitioners' Opening Brief in D.C. Cir. Case No. 17-1257, at 34 ("Section 112(d)(6)'s requirement to revise emission standards 'as necessary' is the statute's only mechanism for ensuring that previously unregulated hazardous air pollutants are brought under control." Without it, there would not be "any statutory requirement" to set limits for newly listed pollutants.). The interpretation adopted by the *LEAN* decision is also consistent with other D.C. Circuit decisions holding that periodic reviews under § 112(d)(6) are not an opportunity for EPA to go back and assess new MACT floors under CAA § 112(d)(3). See *NRDC* v. *EPA*, 529 F.3d 1077 (D.C. Cir. 2008); *Nat'l Ass'n for Surface Finishing v. EPA*, 795 F.3d 1, 7-9 (D.C. Cir. 2015); see also 88 Fed. Reg. at 31881 col. 3. [In other parts of these comments, we explain how an EPA action might be consistent or inconsistent with CAA § 112(d)(2) & (3) or with the "MACT floor," because that is the way in which EPA has attempted to justify its proposed actions. But those statements are not intended to ignore or waive the discussion in this section about the constraints EPA is subject to when it considers revising existing NESHAP pursuant to CAA §112(d)(6).]

or authorization for EPA to establish new standards for pollutants the process unit is not even known to emit. (For example, EPA published a rule on January 5, 2022[2] that added 1-bromopropane to the HAP list. This HAP is not known to be emitted from PCWP facilities and EPA is justified in excluding it from consideration in this rulemaking.)

Secondly, EPA is required by §112(d)(6) to make a determination that revision of the previously promulgated standards – in this case, to add explicit requirements directed at additional HAPs – is "necessary." See *id*. ("The Administrator shall review, and revise as necessary" emission standards EPA has promulgated under §112). Congress did not speak directly to the question of how EPA should determine whether it is necessary to revise an existing NESHAP (beyond the directive for EPA to take into account developments in practices, processes, and control technologies, which the *LEAN* decision says is "a non-exhaustive list of considerations," 955 F.3d at 1097). The ordinary meaning of a directive to review something and determine whether revision is "necessary" involves both an identification of any deficiencies and an exercise of judgment about whether there is a need to remedy the deficiencies. (The dictionary defines "necessary" to mean "absolutely needed; required.") The most natural reading of the statutory directive is that EPA should, in its eight-year review, consider all relevant factors and make a determination whether revision of the NESHAP is needed. (The Supreme Court, in *Motor Vehicle Mfrs. Assn. of United States, Inc. v. State Farm Mut. Automobile Ins. Co*., 463 U.S. 29 (1983), explained that an agency, in deciding whether to revise its regulations, must consider all relevant factors and explain how its decision was reached in light of those facts.)

There are numerous considerations that may be relevant to deciding whether additional limitations are needed in order for the existing NESHAP to be adequate for the control of all the HAPs the source category emits. For example: (1) whether existing limits require the same control technology or work practice that would be used to meet a new limitation for an additional HAP;[3] (2) whether the HAP is present at only a few facilities or is absent in many emissions tests; (3) whether existing emissions of the HAP are already well-controlled (versus a situation where much more effective control technology is available); (4) whether the HAP is emitted in large amounts or can hardly be detected; (5) whether the HAP is relatively toxic, versus a HAP with relatively low toxicity, like methanol; and so forth. Certainly, low risk to human health and the environment could be a factor weighing against a determination that a new limit is necessary, and high cost for a low reduction in risk would also be a relevant factor.

In reviewing another provision of CAA §112, which directed EPA to determine whether it is "appropriate and necessary" to subject electric utilities to MACT standards under CAA §112, in light of other controls being imposed on electric utilities by the CAA Amendments of 1990, the Supreme Court held that it was arbitrary and capricious for EPA *not* to consider costs of compliance with MACT standards as a relevant factor. *Michigan v. EPA*, 135 S. Ct. 2699 (2015). Likewise, in *Entergy Corp. v. Riverkeeper, Inc*., 556 U.S. 208 (2009), the Court found that "it is eminently reasonable to conclude," where a statutory directive does not explicitly address consideration of costs and benefits in a rulemaking, that Congress did not intend to preclude the agency from doing so. Neither §112(d)(6) nor its legislative history indicates

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[2] 87 Fed. Reg. 393

[3] Although this might be grounds for adding the HAP to an existing list of HAPs addressed by a limit on a surrogate pollutant or by a work practice, it also could be grounds for not taking any action at the CAA §112(d)(6) stage.

that Congress intended to prohibit EPA's logical consideration of the benefits to be achieved and the costs to be incurred before determining that revising an existing NESHAP by adding more limitations is necessary.[4]

Over and over again, the preamble for the proposed rule states that EPA does not expect any reduction in emissions to result from new requirements proposed for additional HAPs. Where EPA did calculate an estimated emission reduction, it often is only a small amount of HAP reduced per year for the entire industry. This reflects the facts that the additional HAPs are only generated in very small amounts (which may be why EPA chose not to promulgate specific limits of those HAPs when it promulgated the initial MACT standards for those process units) and/or the measures that facilities currently have in place to meet the promulgated MACT standards also result in control of the additional HAPs. It is simply irrational and ignores the Congressional directive to "revise [the promulgated MACT standards] as necessary" for EPA to conclude that new emission standards are necessary although they would not produce any significant reduction, or any reduction at all, in emissions.

The *LEAN* decision did not address how EPA determines whether revision of the existing NESHAP is necessary; as noted above, the issue before the Court was whether the CAA §112(d)(6) periodic review of previously promulgated standards was limited to consideration of whether new technology developments warranted revision of emission standards for HAPs already subject to regulation. EPA therefore never took a position in that case on what "review, and revise as necessary" would mean if applied to a general review of the NESHAP as a whole. And the *LEAN* majority opinion, having concluded that Congress intended for EPA to determine whether the NESHAP as a whole is adequate to control all the HAPs that a source emits, never really analyzed whether Congress intended that review to be a rote comparison of existing emission limitations to the list of HAPs known to be emitted, rather than a qualitative assessment of whether adding new emission limitations is in fact "necessary" to "adequately" control those additional HAPs, consistent with the purposes of CAA §112.[5] The parties did not argue the question of what EPA must do if it applies §112(d)(6) to "missing HAPs," and that question was not before the Court. Thus, to the extent that some phrases in the *LEAN* opinion might be read to specify that EPA has no choice but to determine that a new emission standard is "necessary" for every HAP the source is known to emit, such an interpretation of the CAA would be *dicta* and not binding on EPA (besides being irrational and contrary to principles of statutory construction). And in any case, the overall premise of the *LEAN* opinion is that EPA cannot ignore known HAP emissions during a §112(d)(6) review

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[4] Note that EPA's prior statements that it could not consider costs or risks when adding limitations for other HAPs to an existing NESHAP were not interpreting EPA's obligations and discretion under CAA §112(d)(6) (which EPA was viewing at the time as solely limited to a review of already-promulgated emission limits in light of subsequent technology developments). Now the *LEAN* decision has told EPA that "Section 112(d)(6) is the statutory mechanism for reviewing and updating emission standards," 955 F.3d at 1095, and "Section 112(d)(6) review is the sole periodic, ongoing review of emission standards the Act requires," *id*. at 1099, so the "revise as necessary" criterion of §112(d)(6) applies.

[5] The Court certainly did not cite to any specific statutory language or legislative history supporting the novel idea that, rather than intending an assessment of the adequacy of an existing NESHAP in a general sense, Congress adopted §112(d)(6) specifically so that EPA could be forced, eight years later, to correct omissions Congress expected EPA to make when it promulgated the NESHAP, but that were not challenged at the time. Cf. 955 F.3d at 1099.

simply because those pollutants were not addressed in the original MACT standards. EPA can address those "missing HAPs" in its §112(d)(6) review, in a matter consistent with §112(d)(6), without necessarily promulgating additional limitations for those HAPs.[6]

In a number of instances, EPA has proposed numerical emission limitations for additional HAPs that are so low that EPA does not have data showing that existing sources will be able consistently to meet the limitations by installing available emissions control technology. That results from EPA's purported determination of the "MACT floor" specified in CAA §112(d)(3). This is also why EPA has proposed some emission limitations that, as discussed below, would cost millions of dollars per ton of HAP removed, a cost-effectiveness that EPA would inevitably conclude would not support a beyond-the-floor requirement. But, as discussed above, the *LEAN* court and Sierra Club and other environmental activist groups have recognized that CAA §112(d)(6) is the mechanism Congress provided for revising existing NESHAP, and §112(d)(6) plainly does not require imposition of limitations reflecting the MACT floor, regardless of whether those limitations are "necessary."[7] Not only does the language of §112(d)(6) not specify a MACT floor analysis, it is inconsistent with it. If Congress intended the MACT floor to be a requirement imposed through §112(d)(6) reviews, it would not have directed EPA to "tak[e] into account developments in practices, processes, and control technologies" in determining whether to "revise as necessary" existing NESHAPs, since those factors are essentially irrelevant to setting emission limitations at the MACT floor under §112(d)(3), as D.C. Circuit precedent is currently interpreted by EPA.

Even for the remanded sources, EPA cannot hide behind CAA §112(d)(3) as justification for imposing additional regulatory requirements that even EPA acknowledges will produce little or no additional benefits. The Supreme Court and the D.C. Circuit, in many contexts, including rulemaking under the Clean Air Act, have declined to require agencies to impose requirements that might be required by a literal reading of the relevant statutory authority but that would irrationally impose regulatory burdens that will produce little or no regulatory benefit. See, e.g., *Wis. Dep't of Revenue v. William Wrigley, Jr., Co.*, 505 U.S. 214 (1992); *New York v. EPA*, 443 F.3d 880, 888 (D.C. Cir. 2006); *Shays v. Federal Election Com'n*, 414 F.3d 76, 113-114 (D.C. Cir. 2005). The Supreme Court has indicated, in fact, that EPA must assess whether there is a greater than *de minimis* benefit to a regulatory requirement before imposing it. See *Utility Air Regulatory Group v. EPA*, 134 S. Ct. 2427, 2449 (2014) ("EPA may require an 'anyway' source to comply with greenhouse-gas BACT only if the source emits more than a *de minimis* amount of greenhouse gases"). In a similar vein, a long line of cases have

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[6] The *LEAN* decision says EPA must, in a §112(d)(6) review, "consider[] the adequacy of the emission standard to control all the air toxics the source category emits," 955 F.3d at 1096, concluding that EPA's review must "address" all HAPs "the source category emits," 955 F.3d at 1091, assuring that the NESHAP "includes as many limits as are needed to control" all the HAPs emitted by the source category, 955 F.3d at 1097, and "imposes appropriate limits," 955 F.3d at 1097. How EPA must "address" those HAPs, and whether specific new limits are "needed" or "appropriate" was not the subject of the decision and was not dictated by the opinion.

[7] EPA even recognizes this in the preamble to the proposed rule, stating that, if in fact there had been resin changes that constituted a technological development under 112(d)(6), EPA "disagree[s] with the Petitioners' claim that … EPA would be required to establish MACT standards under CAA section 112(d)(2) and (3) as a consequence of that development," noting that "the D.C. Circuit made clear in *NRDC v. EPA*, 529 F. 3d 1077 (D.C. Cir. 2008)," that setting new MACT standards under 112(d)(2) and (3) would not be required in that situation. 88 Fed. Reg. 31881.

endorsed the common-sense principle that an agency should not slavishly implement a regulatory provision Congress has authorized, when to do so would produce absurd results. See, e.g., *Environmental Defense Fund, Inc. v. EPA*, 82 F.3d 451, 466 (DC Cir. 1996).

The purpose of CAA §112(d)(3) is to assure that NESHAPs impose at least as stringent a level of control on emissions of HAPs as is already being achieved by the best-performing existing sources. Nothing about that purpose or the structure of §112 indicates that Congress intended for EPA to impose additional requirements that will produce little or no HAP reduction benefits, just because EPA can perform a mathematical calculation from some emissions data for one or more facilities that EPA considers to be the best performers. Where, for example, a HAP is already being controlled by measures a facility must use to meet other emission standards, or by measures a facility necessarily must take to produce its products cost-effectively; or where for whatever reason the HAP is already emitted at a level so low that calculating and imposing a numerical emission limitation will not necessarily produce any reduction in emissions at all; neither §112(d)(3) nor §112(d)(6) should be read to require EPA to promulgate an additional emission limitation for the HAP.

It also would produce an absurd result, and therefore rational rulemaking and applicable case law requires EPA to avoid it, for EPA to implement §112(d)(2) & (3) or §112(d)(6) by promulgating additional limitations in the PCWP NESHAP without giving adequate consideration to, or without considering at all, what those limitations would cost, what benefits those limitations would produce, and whether the benefits justify the cost. The Supreme Court has emphasized the point (with the support, in some form, from all of the justices) that rational rulemaking requires such an assessment. This is rooted in *Motor Vehicle Mfrs. Ass'n, Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (holding it is arbitrary for an agency to ignore an important aspect of a regulatory problem), made more explicit in *Entergy Corp. v. Riverkeeper, Inc.*, 556 U.S. 208 (2009) (EPA may consider cost even under a "maximal regulation" statutory provision that is silent on cost ("best technology available for minimizing adverse environmental impact")), and fully developed in *Michigan v EPA*, 135 S. Ct. 2699 (2015) (EPA's refusal to consider cost under a statutory provision silent on cost (in determining whether regulation was "appropriate and necessary") was arbitrary; it was not enough for EPA to say cost would be considered in a subsequent round of the rulemaking process). EPA has not adequately estimated the costs the proposed rule would impose and has failed to assess the benefits of the proposed rule and weigh them against the costs.

By EPA's own admission, the 2020 RTR rule showed "that the risk associated with air emissions from the PCWP manufacturing industry (including lumber kilns) are acceptable and that the current PCWP NESHAP provides an ample margin of safety to protect public health."[8] EPA concluded that there were no additional developments that would warrant revisions to the standards as part of that review, and has affirmed that conclusion with this review. The current PCWP NESHAP serves to control the largest sources of HAP emissions. EPA admits that the "2004 promulgated emission standards significantly reduced HAP emissions from the processes within the PCWP source category responsible for most of the HAP emitted."[9] Other requirements set out by the California Air Resources Board (CARB) and the Toxic Substances Control Act (TSCA) also have resulted in reductions of emissions of formaldehyde from the source category. Many of the sources not currently subject to numerical emissions limits are not amenable to additional controls, as discussed in Section 3 of these comments. In addition,

[8] 88 Fed. Reg. 31859
[9] EPA-HQ-OAR-2016-0243-0420

it is not reasonable or necessary to finalize additional requirements that will add costs to the production of renewable, carbon neutral products that are important to reducing greenhouse gas (GHG) emissions in the built environment.

The sources for which EPA is proposing to set numerical limits and require expensive, ongoing stack testing contribute very little to the small risk remaining after promulgation of the rule. The HAP emissions reductions estimated for existing sources in the preamble add up to 502 tons per year (tpy). More than 501 of these tons are a result of the proposed work practice requirements. The numerical standards EPA is proposing only result in 0.44 tpy HAP reduction, come at a very high cost, and result in no measurable benefit. The same control strategies that EPA analyzes in its beyond the floor analyses and rejects due to "high costs, unfavorable cost effectiveness, energy usage, and non-air-quality environmental impacts" for several sources described in the preamble are being required for rotary strand dryers because EPA's math equation results in emissions limits for metals and PAH that several of these dryers will need control upgrades to meet. The public health benefits from establishing numerical emissions limits on dryers and requiring $80 million in additional controls are not measurable. However, if the six rotary strand dryers for which EPA projects additional controls will be required instead are converted to natural gas-fired dryers, based on the biomass hourly heat input capacity and the operating hours per year, an additional 250,000 metric tons of CO_2 from fossil fuel combustion will result.

Almost 100% of the HAP emissions reductions that EPA claims will result from this rule are from the proposed work practice approaches. EPA should finalize a determination that it is not necessary to set additional numerical emissions standards for dryers, presses, and refiners, and doing so would produce little or no benefit at a high cost. EPA has not actually quantified the benefits of their proposed additional standards (see 88 Fed. Reg. 31882 for a "qualitative discussion of the benefits of this proposed rule"). Supreme Court precedent in recent years emphasizes the common-sense principle that rational rulemaking requires EPA to assess and compare the benefits a proposed rule would produce to the costs it would impose.[10] EPA's failure to do so for the proposed rule renders the notice of proposed rulemaking inadequate under CAA §307(d) and applicable case law. And since EPA acknowledges that many of the proposed new requirements are not expected to produce actual reductions in HAP emissions, and any HAP emission reductions that the rule would produce are from a baseline that already presents an acceptable health risk with an ample margin of safety, it is clear even without the explicit weighing of benefits and costs that EPA omitted that the proposed rule would irrationally impose economic and other costs that exceed any expected benefits.

What EPA has assessed, on the other hand, is the cost-effectiveness of the measures EPA is proposing, and EPA's cost-effectiveness estimates[11] for the proposed numerical limits show that they clearly are not even remotely reasonable:

- $52,202,618/ton for the proposed PM standards for rotary strand dryers,
- $32,097,456/ton for the proposed PAH standards for rotary strand dryers, and
- $17,032,775/ton for the proposed press MDI standards.

[10] See, e.g., the Supreme Court's *State Farm*, *Riverkeeper*, and *Michigan* opinions cited above.
[11] EPA-HQ-OAR-2016-0243-0419

EPA has not estimated costs for many of its proposed numerical standards because it assumes, based on the limited amount of data collected in its information collection requests (ICRs), that most units will be able to meet them (see various points in the preamble where EPA states "zero HAP reduction is estimated"). If, as PCWP facilities begin to gather more site-specific data, this assumption proves to be false, then EPA will have underestimated the costs of its rule without any quantification of benefits from imposing new numerical standards.

EPA's position appears to be that, when Congress directed EPA to review and revise MACT standards as necessary, it required (or allowed?) EPA to impose new requirements costing hundreds of millions of dollars, even though little or no real benefit will result. Such an interpretation of the CAA, when applied to over 100 source categories, clearly has major economic and social consequences, and therefore Congress must have clearly granted EPA that regulatory authority, under the major questions doctrine. See, e.g., *Biden v. Nebraska*, S. Ct. No. 22-506 (June 30, 2023), slip op at 19-25. There is no such clear statement from Congress authorizing EPA to engage in such plainly arbitrary and unreasonable rulemaking.

2.2. Unintended Consequences of Establishing Additional Numerical Emissions Standards

EPA is proposing additional numerical emissions limits for various types of PCWP process units that may result in facilities having to make process or emissions control changes in a source category where EPA has determined that risk from current HAP emissions is acceptable. These changes could include switching combustion units from biomass to gas and installing additional control devices that consume fossil fuels and/or energy. We are concerned that the proposed additional standards for organic HAPs could result in the need to replace biofilters with oxidizers; in fact, EPA has included oxidizers in its cost analyses for this proposal for several types of equipment.[12] The rule should not provide an incentive to shift away from biomass combustion to natural gas combustion to avoid the stringent proposed numerical limits for biomass-fired dryers. Wood products facilities burn biomass residuals from their processes as a low-cost, carbon-neutral fuel, and not all facilities have access to a natural gas pipeline. We are concerned that the level of stringency of the proposed new source limits for biomass-fired dryers will discourage use of biomass at new facilities, increasing their carbon footprint and potentially increasing the generation of solid waste, as there may not be a local market for use or combustion of biomass residuals offsite.

A life cycle inventory was conducted in 2002 to more fully identify the trade-offs involved in controlling volatile organic compound (VOC) and HAP emissions from presses and dryers at wood products plants.[13] The study evaluated the environmental burdens associated with different control strategies. Oxidizers burn natural gas, and emissions control systems also require electricity for the fans used to route exhaust through the control system and material resources for production of ceramic media or biofilter media. Median energy consumption was found to be 0.5 million British thermal unit per year per standard cubic foot per minute (MMBtu/yr/scfm) for biofilters, 1.6 MMBtu/yr/scfm for regenerative catalytic oxidizers (RCOs), and 2.7 MMBtu/yr/scfm for regenerative thermal oxidizers (RTOs). Purchased electricity accounts for almost all the energy required by biofilters, while both natural gas and electricity account for most of the energy required by RCOs and RTOs. Emissions from each system

[12] Id.

[13] "Environmental Tradeoffs: Life Cycle Approach to Evaluate the Burdens and Benefits of Emission Control Systems in the Wood Panel Industry," Franklin Associates and NCASI, Forest Prod. J. 52(3):50-59.

consist of both onsite (e.g., emissions from the control device) and offsite emissions (e.g., those from the production and transport of materials and fuels, generation of electricity, combustion of fuels, and disposal processes). Oxidation technologies result in emissions of nitrogen oxides (NOx) and greenhouse gases, while bio-based technologies do not. EPA demonstrated in their Guidance on the Development of Modeled Emission Rates for Precursors (MERPs)[14] that emissions of NOx have a far greater impact on ozone and secondary fine particulate matter ($PM_{2.5}$) formation than emissions of VOC. EPA performed several hypothetical modeling runs at locations across the U.S. and found that it generally takes about 10 times more VOC emissions than NOx emissions to have a significant impact on ozone formation (see Table 4-1 in the guidance). It would be counter to EPA's goals of lowering ambient ozone and $PM_{2.5}$ concentrations to revise the PCWP NESHAP in a way that led to additional NOx emissions. Consumption of natural gas also leads to additional GHG emissions, both onsite (from combustion of the gas) and offsite (production and transmission emissions from combustion and leaks). In summary, use of oxidation controls increases life cycle burdens for energy and fossil fuel-related emissions.

We also note that countries such as Canada do not require the level of emissions controls on wood products plants that the U.S. requires (oxidizers and biofilters are not automatically required for dryers or presses), and increasing the stringency of the standards could cause companies with plans for expansion to determine that it is more economically attractive to produce wood products outside of the U.S. rather than building a new plant or expanding an existing plant in the U.S. Imposing costly new control requirements for emissions that already have been reduced to levels presenting acceptable risk also would place U.S. manufacturers at a significant cost disadvantage as compared to almost all foreign producers in this very competitive commodity market.

Another unintended consequence of this rule may be related to 4,4'-diphenylmethane diisocyanate (MDI) resins. Many PCWP facilities transitioned to MDI resins and as a result, reduced their usage and emissions of formaldehyde. If compliance with the proposed MDI standards will require additional controls, these facilities may be incentivized to switch back to formaldehyde-based resins if compliance with the revised NESHAP can be achieved with formaldehyde resins and their existing emissions controls. EPA's own analysis shows that two presses currently using the production-based compliance option (PBCO) might have to install controls to meet the proposed MDI standard.[15] It is counterintuitive that a process unit with low emissions might have to increase its emissions and energy usage to comply with the PCWP NESHAP.

EPA has proposed first-time particulate matter (PM) standards for which it expects wet electrostatic precipitators (WESPs) will be needed to comply for various existing and new process units. WESPs utilize energy and produce wastewater that must be recycled within the process or evaporated at wood products mills because they are typically zero discharge facilities. EPA has estimated an increase in wastewater generated of over 34 million gallons per year and an increase in solid waste generation of over 7,000 tpy from the proposed standards.[16] Again, for a source category where risk from HAP metals is acceptable with an ample margin of safety, it is counterintuitive that facilities would have to now increase energy and water usage and generate substantial new amounts of wastewater and solid waste to be

[14] https://www.epa.gov/sites/production/files/2019-05/documents/merps2019.pdf
[15] EPA-HQ-OAR-2016-0243-0419
[16] Id.

disposed of, in order to comply with the proposed requirements (many of which EPA predicts will produce little or no reduction in HAP emissions). In addition, these stringent new standards for biomass direct-fired units may cause facilities to replace biomass combustion with natural gas combustion, instead of adding additional controls, which will increase fossil fuel CO_2 emissions. If a facility can no longer burn its biomass residuals, it may not be able to find a local market for use or combustion of these residuals offsite, which increases generation of solid waste and the associated cost of waste disposal.

3. Comments on Proposed Standards

3.1. We Agree with EPA that Work Practice Standards Are Justified for Many Types of Units[17]

EPA has the authority to choose a "design, equipment, work practice, or operational standard" ("work practice standards") under CAA §112(h) in lieu of establishing numerical emissions limits. Section 112(h) allows EPA to use work practice standards where, in the Administrator's "judgment," "it is not feasible…to prescribe *or* enforce [a numeric] emission standard" (emphasis added). That requirement is further defined as when either (A) the HAP "cannot be emitted through a conveyance designed and constructed to emit or capture such pollutant" or (B) "the application of measurement methodology to a particular class of sources is not practicable due to technological and economic limitations."[18] Many of the unit processes at PCWP facilities meet both of these criteria.

One situation that implicates both CAA §112(h)(2)(A) and §112(h)(2)(B) is where the layout and function of the equipment is such that the only feasible collection of emissions would involve several different unit processes (and different processes at different facilities), and the volume of air collected would be so high that HAP concentrations would be very low, making it impracticable to measure them, or control them, or both[19]. That was the scenario that caused EPA to adopt work practice standards for iron and steel foundries at 67 Fed. Reg. 78274, 78293-94 (Dec. 23, 2002).

For many of the process units that are not currently subject to standards under the PCWP NESHAP, there is not currently a conveyance that was either designed or constructed to capture volatile organic emissions, or metals emissions, much less a particular HAP. And due to the nature of many of the processes – huge presses that require constant operator presence close to the high-temperature and high-humidity environment of the press; rapidly moving saws that are cutting large and continuous moving sheets of wood panels; etc. – it

[17] As explained in Section 2 of these comments, we believe that, in many cases, EPA should decide that additional standards under CAA §112 are not necessary or would irrationally impose costs for little or no regulatory benefit, or in some cases imposing environmental and energy disbenefits. The following comments support (or critique) the standards EPA proposes to revise or add to Subpart DDDD, assuming it is appropriate to add or revise emission standards in the first place.

[18] CAA §112(h)(2).

[19] From an environmental perspective, it could also be desirable to avoid energy intensive control strategies like incinerators on high air volume sources given the emissions of greenhouse gases and NOx that would be generated to control low levels of HAPs already found by EPA not to present an unacceptable risk.

would not be feasible to design and construct equipment that would capture most of the HAP emissions. For many of these types of equipment, EPA has correctly concluded that no numerical emissions limits are needed because work practice standards are authorized.

Note that CAA §112(h)(2)(B) may relate to either emissions measurement for purposes of developing ("prescribing") a standard or for purposes of determining compliance with a standard. And, as several courts have observed, the test in CAA §112(h)(2)(B) is "impracticable," rather than "infeasible," and it involves both technological and economic considerations. Many of the sources that currently are not subject to specific emission standards under the PCWP NESHAP are not configured to allow emissions capture or measurement. It would be particularly unreasonable to establish numerical emissions limits for these types of units given that EPA already found in its risk review that worst-case predicted ambient concentrations from PCWP facilities' current HAP emissions are protective of human health and the environment.[20]

Importantly, EPA's authority to use work practice standards does not require that stack tests or emissions monitoring be impracticable at all facilities in the subcategory. A work practice standard may be justified under CAA §112(h)(2)(B) even if it would be feasible to measure HAP emissions at many facilities or emissions units. See *Sierra Club v. EPA*, 884 F.3d at 1201 ("EPA's authority to resort to a work practice standard does not depend on its determining that numerically gauging emissions would be impractical throughout the entire startup period for every single source to which a work practice applies; the Act requires only that EPA determine that it is impractical to measure emissions for the 'particular class of sources' at issue."). So, for example, EPA is justified to rely on work practices if some emission points associated with resin blending at a facility, but not all, could not practicably be measured, or if the resin blending emission points at some facilities could practicably be measured but they could not at other facilities.

If the circumstances authorize use of work practice standards instead of numerical emission limitations, there is no requirement that EPA be able to quantify current HAP emissions or the expected HAP emissions reductions before EPA reasonably can conclude that a work practice is the best method for limiting HAP emissions. In fact, the criteria themselves for using work practice standards suggest that often such data will not be available, or at least it will not be practicable to collect it. There have been many prior NESHAP rulemakings where EPA has based its identification of work practice standards on general principles rather than a strict quantitative analysis. For example, EPA proposed work practice standards for HAP emissions at iron and steel foundries because the practices "will tend to reduce" HAP emissions, without being able to say by how much. See 67 Fed. Reg. 78283; see also, e.g., *U.S. Sugar v. EPA*, 830 F.3d 579, 614, 666-67 (D.C. Cir. 2016) (tune-ups and efficiency reviews for boilers); 75 Fed. Reg. 9663 (Mar. 3, 2010) (inspecting belts and hoses for diesel engines). The same is the case here; PCWP facilities can implement work practices that will tend to reduce HAP emissions.

Just as infeasibility of designing a system to capture the HAP emissions, or impracticability to measure the emissions to set a standard or to determine compliance, should cause EPA to address known HAP emissions through work practice standards, knowing that it will not be feasible to prescribe or enforce numerical standards for an emissions unit should cause EPA to rely on a work practice approach. If there is no proven control technology that could be

[20] 85 Fed. Reg. 49437

used to reduce emissions of a particular HAP (e.g., dioxin) from a PCWP process -- and therefore parametric monitoring is not possible and only a very expensive and difficult stack sampling procedure, if that, could ascertain compliance with a numerical limit -- then EPA is right to conclude that work practice standards are the appropriate end point of the NESHAP reconsideration process.

We support EPA's decision to propose work practice standards rather than numerical emissions limits for lumber kilns, resinated material handling (RMH) process units, stand-alone digesters, fiber washers, wastewater treatment operations, and log vats. We offer comments on the specifics of the proposed standards below.

3.2. Comments on Lumber Kiln Standards

3.2.1. We Agree with EPA that Lumber Kilns Are Eligible for Work Practice Standards

We agree with EPA's determination that it is not feasible to prescribe or enforce emissions standards for lumber kilns. Specifically, under CAA §112(h)(2)(A), lumber kilns, both batch kilns and continuous dry kilns (CDKs), have numerous vents or openings such that HAPs cannot be emitted through a conveyance designed to emit or capture HAP. Moreover, under CAA §112(h)(2)(B), we agree with EPA's decision that applying a measurement methodology in support of a numerical emission standard is infeasible due to technological and economic limitations, because of the multiple openings and vents, extended process cycle time, widely varying temperature and moisture content of exhaust gases, and significant variation in products being dried, for many kilns.

Thus, work practices are the only viable HAP emissions control measure for lumber kilns. A review of EPA's RACT/BACT/LAER Clearinghouse (RBLC) for lumber kilns indicates that work practices are the only compliance demonstration requirements set as BACT, not capture and control. Emissions of HAPs are largely proportional to the amount of moisture removal from the lumber (i.e., the lower the target moisture content, the higher the HAP emissions). Kilns must be properly operated to provide careful drying of lumber to a specific target moisture content over a carefully controlled drying schedule using well-established temperature profiles to achieve the desired properties for the application and consumer.

Over-drying the lumber would result in diminished lumber quality as well as the release of additional HAPs. In addition, most lumber is produced to meet a certain product grade that reflects the qualities of the final product for sale. The American Lumber Standard Committee developed standards for lumber grading that our members follow and moisture is a key component of those standards. For example, a product that is stamped as meeting the "KD 19" specification must have a moisture content no more than 19% and a product stamped as "MC 15" must have a moisture content no more than 15%. These restrictions on moisture content apply at the time of shipment, and kiln dried lumber must be adequately cooled after removal from the kiln before final moisture content testing. These types of stamps are required for any domestic or international trade of lumber products and the specifications must be adhered to.

Facilities are already incentivized to not over-dry lumber due to several negative impacts of over-dried lumber. The simplest of these is that over-drying consumes more energy, which directly increases cost and lowers profitability. Over-dried lumber also reduces the amount of high-grade lumber in facility's product mix and directly lowers profitability or increases the amount of waste produced if the degraded lumber must be trimmed. From a practical standpoint, over-dried lumber indicates that a given kiln was used for longer than it was needed, which reduces the overall availability and production capability of the kiln. Over-dried lumber also causes operational problems at the planer that reduces the production rate of a mill; over-dried lumber tends to warp, twist, or bow, which poses a safety risk at the planer. These hang-ups also cause the production line to stop, which in turn reduces the production capability of all downstream processes.

Therefore, careful control of the drying process to optimize moisture levels is necessary to maintain product quality, avoid waste, and minimize HAP emissions from lumber drying. The National Council for Air and Stream Improvement (NCASI) has used data from both small-scale and full-scale kiln studies to quantify the effect of over-drying on HAP emissions.[21] Additionally, proper maintenance of the kiln and direct-fired kiln burners help maintain efficiency of the units and maximize the lumber drying capacity of a given quantity of fuel combustion.

In addition to an operation and maintenance plan for all kilns at a facility and burner tune-ups for direct-fired kilns, EPA has proposed the following three (3) work practice options for lumber kilns at §63.2241(e)(3)(i):

1. Temperature set point,
2. In-kiln lumber moisture monitoring, or
3. Site-specific plan for temperature and lumber moisture monitoring.

We offer comments on EPA's proposed requirements below. It is very important that all of the proposed requirements for lumber kilns be understood in the context explained above, namely that kiln operators already have strong financial and operational incentives to minimize the energy required for drying and to minimize over-drying (and thereby minimizing emissions), to the extent practicable while still meeting product specifications.

3.2.2. We Support the Inclusion of Operating and Maintenance Plans for Kilns But Propose Edits to Plan Requirements

EPA has proposed to include requirements for a lumber kiln operation and maintenance (O&M) plan at §63.2253(a). We agree that the concept of the O&M plan is an important part of the kiln work practice standards that will reduce HAP emissions from kilns by optimizing energy use and promoting uniform drying across a charge. We agree that the O&M plan does not need to be included in the facility's air permit, similar to monitoring plans required by other NESHAP (e.g., the site-specific monitoring plan required by the industrial boiler NESHAP), but that any updates made to the plan must be described in the next semi-annual compliance report.

In order to clarify language describing the air flow and heat distribution components that must be addressed in the O&M plan, we propose that §63.2253(a)(1) be revised as follows:

> *Procedures for maintaining the integrity of lumber kiln internal air flow and heat distribution components (~~for example,~~ such as baffles, fans, vents, heating coils, ~~and~~ or temperature sensors) to provide as uniform a temperature and air flow as reasonably possible.*

This revision recognizes that the components covered by the O&M plan are not limited to the listed components given as examples in the proposed rule and could address other internal air flow and heat distribution components determined by the facility to impact temperature

[21] EPA-HQ-OAR-2016-0243-0337

and air flow uniformity. Nor does the list necessitate unique maintenance programs for each of the items listed.

Under proposed §63.2253(a)(2), the lumber kiln O&M plan would have to include: "Charge optimization practices to promote uniformity in lumber charged into the kiln (e.g., sizing, sorting, stickering, conditioning)." This requirement is not necessary and could result in disagreements with agencies about whether the facility has met this subjective standard. As discussed previously in Section 3.2.1, facilities already have strong safety and financial incentives to implement charge optimization practices to prevent over-drying, use energy efficiently, and achieve product quality goals, but whether those practices include what an agency would consider "uniformity in lumber charged to the kiln" could vary among kilns. For example, optimized charge practices for batch kilns are different than those of CDKs. Batch kilns might be optimized to ensure uniformity of lumber thickness within each batch, but could dry lumber of different lengths in the same batch. Lumber of nonuniform sizes could be charged to a CDK on opposite tracks and travel through the kiln at different speeds without over-drying the load on either track. Furthermore, requiring uniformity in lumber charged into the kiln could mean that kilns have to operate when partially filled due to lack of "uniform" lumber ready for drying, resulting in wasted energy. Because charge optimization is very site-specific and based on a great deal of operating experience, the potential for enforcement officials to have a different interpretation of "charge optimization practices" is problematic.

If EPA chooses to retain a charge optimization provision, we propose EPA revise this required O&M plan element to "Charge optimization practices to reduce over-drying." The revised language would still require the inclusion of charge optimization practices in a facility's O&M plan with the same goal of reducing over-drying, but it allows for the inherent differences in what is considered "optimized" across all types of lumber kilns.

EPA proposes at §63.2253(a)(3)(i) that the annual kiln integrity inspection should be conducted no more than 12 months apart. We request EPA allow the inspections to be performed every 13 months instead of every 12 months. Requiring a 12-month inspection is effectively requiring that facilities do the inspection more frequently than annually, as good practice requires some allowance for problems and possible delays due to process operation or personnel scheduling issues. Thus, facilities are likely to schedule the inspection a month earlier than required by rule, which will result in inspection performed once every 11 months and possibly twice in a calendar year, which is not included in EPA's cost analysis. In addition, EPA proposes at §63.2253(a)(3)(ii) that any corrective actions be completed within 180 days of the inspection. If parts must be ordered, it may not be possible to complete any corrective actions within 180 days. Therefore, we propose EPA instead require corrective actions to be completed "as soon as practicable."

3.2.3. We Support the Inclusion of Burner Tune-Up Work Practices for Direct-Fired Kilns

EPA has proposed that direct-fired kilns have an annual burner tune-up as a work practice standard to limit combustion-related HAP emissions. We support the inclusion of this work practice and believe that it is the appropriate work practice to address emissions of HAPs from direct-fired combustion units. Tune-ups have long been used in various regulations as an appropriate work practice to limit combustion emissions. The Industrial Boiler NESHAP at 40 CFR Part 63, Subpart DDDDD is an example of a recent NESHAP that uses a burner tune-up to regulate all combustion HAP emissions from natural gas-fired boilers and process heaters and dioxin/furan emissions from all other fuels fired in boilers and process heaters.

The same work practice justification that applied to those units (as described by EPA at 88 Fed. Reg. 31866) applies to the combustion HAP emissions from direct-fired lumber kilns.

We agree with the procedures EPA has included in the proposed rule. However, we would request that EPA allow the tune-ups to be performed every 13 months instead of every 12 months. Requiring a 12-month tune-up is effectively requiring that facilities do the tune-up more frequently than annually, as good practice requires some allowance for problems and possible delays due to process operation or personnel scheduling issues. Thus, facilities are likely to schedule the tune-up a month earlier than required by rule, which will result in tune-ups performed once every 11 months and possibly twice in a calendar year, which is not included in EPA's cost analysis. We request that EPA revise the language at §63.2241(d)(1) and §63.2271(c)(8) to require tune-ups at least once every 13 months. This language would also be consistent with the Boiler NESHAP tune-up frequency, which allows an extra month for annual, biennial, and 5-year requirements (see §63.7515(d)) such that the tune-up will actually be performed annually and not potentially twice per calendar year (e.g., in January and December).

We also agree with the requirement at §63.2271(c)(2) that following the tune-up and burner/grate inspection, any necessary cleaning, repairs, or replacement should be performed, but the current rule language is silent on the required timeframe of these repairs. We request that additional language be added to §63.2271(c)(2) to say that any cleaning, repairs, or replacements must be initiated within 30 days, to remove any interpretation that corrective action must be initiated immediately. This timeframe is consistent with §63.2253(a)(3)(ii) for initiation of the corrective actions identified during the annual lumber kiln integrity inspection. We do not propose a specific completion timeframe because parts may need to be ordered and it is likely not feasible to complete a burner replacement within 180 days.

3.2.4. We Generally Support EPA's Methodology To Define Over-Dried Lumber

We support EPA's general methodology of defining over-dried lumber through the proposed lumber minimum moisture content limits of Table 11 to Subpart DDDD. We generally agree that drying to a moisture content more than 7 percentage points lower than a particular moisture specification would indicate that the lumber was over-dried. The moisture delta of 7 percentage points allows adequate room for kilns to dry lumber sufficiently such that a measurement at the planer or once the lumber reaches equilibrium can be reasonably expected to meet the desired moisture specification. This moisture delta is consistent with guidance in the kiln-dried lumber standards and the moisture content provisions governing lumber grade inspectors that kiln-dried lumber be adequately cooled after removal from kilns before the final moisture content is tested. Furthermore, for the majority of lumber kilns that have a permitted minimum moisture content in their permits it is commonly 7 percentage points less than the moisture specification of lumber produced. For example, several of our members' lumber kilns throughout the southeast that produce "KD 19" (moisture specification of 19%) have minimum moisture content limits of 12%.

To that end, we support the moisture content limits of Table 11 to Subpart DDDD and do not support them being any higher. If the moisture content limits were raised by EPA, facilities would be more likely to accidentally under-dry lumber in pursuit of complying with the limits. Under-dried lumber could need to be re-dried, which would require additional energy input and indirect HAP emissions from the combustion source. Under-dried lumber might also be unsalvageable and not able to meet the targeted lumber grade resulting in wasted resources.

Both of these scenarios would result in substantial financial costs to facilities from under-dried lumber.

We also agree that the minimum moisture content limits should vary depending on the maximum lumber moisture specification, as opposed to setting a single minimum lumber moisture content limit (or a single allowed difference between actual moisture and moisture specification) for all types of lumber. EPA's proposed rule accurately reflects that the moisture content corresponding to over-dried lumber is inherently proportional to the specification to which lumber should be dried.

3.2.5. EPA's Language Around Moisture Grade Needs Clarification

As discussed in the previous comment, we agree with EPA's description of maximum lumber moisture grade in principle. However, we propose that "moisture specification" be used throughout the rule rather than "moisture grade." To a lumber mill, grade indicates the quality of the product, which includes other characteristics in addition to moisture. Moisture specification is a more accurate description of the values that EPA is requiring. To that end, we propose §63.2241(e)(4) be revised as follows:

> *(4) Over-dried lumber. As used in this subpart, the "maximum lumber moisture ~~grade~~ specification" means the upper limit of lumber moisture content (weight percent on a dry basis) that meets the relevant lumber grade standard for a lumber product. For each maximum lumber moisture ~~grade~~ specification, Table 11 to this subpart provides the corresponding minimum kiln-dried lumber moisture content limits below which lumber is considered to be over-dried for purposes of this subpart.*

Table 11 of Subpart DDDD should also be revised to be consistent with the revised definition and all references of moisture grade throughout the rule should be revised to moisture specification.

3.2.6. EPA Should Set Kiln Temperature Limits Instead of Temperature Set Point Limits

EPA has proposed to set temperature set point limits as the first option of the third element of the lumber kiln work practice [see §63.2241(e)(3)(i)]. Maximum dry bulb temperature set points are proposed for different kiln types (210°F for batch indirect fired (IF) kilns, 235°F for batch direct-fired (DF) kilns, and 245°F for continuous IF and DF kilns). EPA states that these temperatures were proposed because they represent temperatures below which approximately half of the kilns operate.[22]

We agree that a temperature limit is an appropriate work practice option for lumber kilns that operate at moderate temperatures, as there are several facilities that currently operate at moderate temperatures that only have temperature monitoring requirements (for example, Oregon kilns operating under the general air contaminant discharge permit are required to operate at temperatures below 200°F and several other Oregon facilities such as the Interfor Philomath Facility and three other facilities in Roseburg, Oregon, are required to operate at temperatures below 210°F).

However, EPA has proposed these temperature limits as "temperature set points" but compliance with the proposed temperature set point option would be based on the <u>actual</u> kiln dry bulb temperature readings according to §63.2269(m) and §63.2270(h)(1). Therefore, to

[22] 88 Fed. Reg. 31869

make the monitoring consistent with the standard, EPA should require facilities to maintain records of the kiln's temperature set point and not the actual temperature. EPA established a similar requirement in the industrial boiler NESHAP (40 CFR Part 63, Subpart DDDDD) at §63.7525(a)(7), which requires a boiler's oxygen trim system to be maintained at a certain oxygen level, or set point, instead of monitoring the actual 30-day average oxygen level. If EPA intended facilities to monitor actual kiln temperature and not keep records of the temperature set point, the regulatory language should be adjusted to require maximum temperature limits, not maximum temperature set points.

In general, we support the use of the dry bulb temperature measurement method as the basis for the proposed temperature limits and temperature monitoring as opposed to the wet bulb temperature. The dry bulb temperature is representative of the air temperature and is the more consistent reading within the kiln.

We also support the differentiation of operating limits based on kiln type, particularly between batch kilns and CDKs. We do have concerns that a few kilns could potentially not fully fall within the existing descriptions of batch kilns or CDKs as currently written in the preamble. In order to accommodate these facilities, we proposed that the description of batch kiln in the preamble be revised as follows:

> *~~In batch kilns, lumber is loaded into the kiln where it remains stationary during the entire drying cycle. When drying is complete, the batch kiln is shut down to remove the lumber. The kiln is restarted again after it is loaded with a new batch of lumber.~~ Batch kilns have doors that are closed during the drying process. Lumber is loaded into the kiln where it is stationary during a drying cycle. Batch kilns can be either track-loaded, where multiple packages of lumber are pushed into the kiln on tracks at once, or smaller package-loaded kilns, where lumber packages are loaded in the batch kiln with a forklift, or by other automated loading devices. The track loaded kilns tend to have higher annual throughput and are the type of batch kilns most commonly used at major source PCWP facilities.*

3.2.7. EPA Should Include a Longer Averaging Period for Kiln Temperature

EPA is proposing that compliance with the maximum dry bulb temperatures under this work practice option would be demonstrated on a three-hour block average (see §63.2241(e)(3)). A three-hour block average of air temperature would be impacted in a batch kiln during fan reversals. The internal fans on a batch kiln reverse the direction of air flow across the charge several times during each batch cycle as vents open and close. During these fan reversals, the air flow within the kiln temporarily stops, which causes the dry bulb temperature readings of the air exiting the lumber to increase for a brief period of time. However, a three-hour block average could be impacted by more than one fan reversal occurring during a single block.

We propose that compliance with the temperature limits be demonstrated with a longer averaging period. Just as the current rule allows a 24-hour averaging period for biofilter temperature, we believe an averaging period of longer than three hours is needed for kiln temperature. Many kilns operate according to a schedule that varies the temperature over the drying period. A longer averaging period of at least 24 hours would better accommodate such variation than a three-hour averaging period. A review of our members' permits indicates that some facilities currently required to monitor kiln temperature have longer averaging periods than three hours. Although some of our members' kilns have averaging times as long as monthly (e.g., Weyerhaeuser's Idabel, OK mill), we are requesting that EPA revise the temperature averaging time to represent a batch or a daily average. For batch kilns, we propose EPA require the dry bulb temperatures be monitored continuously (e.g., at least once every 15 minutes) and averaged over the entire batch cycle. Vaagen Brothers Lumber Company in Colville, WA has a per batch temperature limit on their kilns. Weyerhaeuser's Raymond, WA batch kilns have daily average temperature limits over the period the kiln is actively drying. Hampton Lumber's Morton and Randle, WA and Sierra-Pacific's Centralia, WA kilns also have monitoring requirements to monitor the dry bulb temperature of the kilns on a daily average basis. We propose that CDKs would demonstrate compliance with the temperature limits with a daily block average. For example, Weyerhaeuser's Plymouth, NC Mill and West Fraser's Augusta, GA Mill have daily temperature limits for their CDKs.

3.2.8. EPA Should Revise the Description of the Kiln Temperature Monitoring Location

We propose the EPA revise the language of §63.2269(m)(1) as follows in order to be consistent with §63.2270(h)(1).

> ***§63.2269(m)(1):*** *For purposes of complying with dry bulb temperature limits in §63.2241(e)(3)(i), dry bulb temperature monitor(s) must be located in a position to determine the dry bulb temperature of the heated air that exits ~~each load of~~ the lumber.*

The proposed rule should require dry bulb temperature sensors to be positioned to determine the temperature of the *heated air that exits the lumber* (emphasis added) rather than the heated air that exits each "load" of lumber. In addition to being consistent with the language of §63.2270(h)(1), not all kiln designs allow for thermocouples to be located after each stack of lumber.

We support the provision in §63.2270(h)(1) that readings from multiple dry bulb temperature monitors may be averaged together to determine the kiln-wide dry bulb temperature. The average of multiple temperature readings will be more representative of the actual drying conditions inside the kiln and the average temperature to which the lumber in the kiln is exposed.

3.2.9. EPA Should Replace the In-Kiln Moisture Monitoring Work Practice Option with a Hybrid Moisture/High-Temperature Drying Option

EPA has proposed in-kiln moisture monitoring as an option for the lumber kiln work practice at §63.2241(e)(3)(ii). Under the proposed approach, facilities would monitor in-kiln lumber moisture content using an automated system and maintain semi-annual average in-kiln lumber moisture at or above the values in Table 11 that are considered to be over-dried lumber.

We propose EPA replace the in-kiln moisture monitoring work practice option with a hybrid option that includes both temperature and moisture content components that would apply to a majority of lumber kilns conducting higher temperature drying (i.e., the 50% of kilns that operate higher than the median/mean temperatures identified by EPA for inclusion in Option 1). Because Option 1 is based on median/mean temperatures across all regions and wood species, the proposed temperature limits are not representative of the kilns that dry southern softwood species, most commonly southern yellow pine (SYP), that require drying at higher temperatures. This second option would be similar to the first temperature option, but the maximum dry bulb temperatures would be the 90th percentile of the 2017 ICR data reported for each kiln type, to represent kilns that operate at higher temperatures. The 90th percentile maximum dry bulb temperatures would be 240°F for batch IF kilns, 250°F for batch DF kilns, and 260°F for continuous IF and DF kilns. Compliance with these maximum dry bulb temperature limits would be demonstrated similarly to the proposed moderate temperature drying option (i.e., we propose an averaging period of daily for continuous kilns or per batch for batch kilns, rather than three hours, based on a review of current permit requirements and available data on temperature variability.) Using the 90th percentile to set temperature limits in this work practice option more closely approximates the 99% upper prediction limit (UPL) approach EPA uses to develop numerical standards, rather than selecting a mean or median of temperature data included in the ICR[23]. Percentiles are based on the distribution of the available observations and do not embody a predictive aspect as a UPL does. A percentile is a valid approach here because the kiln temperature data set is representative of the population of kilns being regulated by the proposed standards. EPA used a percentile approach to develop certain MACT floors in the PVC NESHAP[24] where a large and representative data set was available.

These temperatures are similar to those our members already have in their permits as a result of BACT or other state requirements to limit kiln emissions. (For example, several Georgia-Pacific lumber mills have temperature limits of 240°F for batch IF kilns; Hood Industries in Silver Creek, MS has a BACT limit of 250°F for batch DF kilns; Weyerhaeuser in Plymouth, NC has a BACT limit of 260°F for their continuous kilns.) Facilities dry their lumber at a certain temperature in order to meet product specifications and maintain quality. Certain wood species can be dried at higher temperatures than those EPA proposes to include in Option 1 without over-drying the lumber. EPA's own ICR data shows that Southern Yellow Pine, for example, is dried at higher temperatures than Western species. Drying Southern Yellow Pine at a lower temperature would require additional energy to produce the same volume of lumber as a load would be in the kiln for a longer period of time.

Because this second work practice option would include higher temperature limits, we propose that facilities would also have to monitor moisture content and meet the proposed minimum moisture content limits of Table 11 for a given maximum lumber moisture specification, but the moisture content could be measured either in the kiln or after the lumber has exited the kiln (e.g., at the planer). Few major source facilities monitor lumber moisture content in the kiln. In addition, it is more difficult to measure in-kiln moisture in a continuous kiln than in a batch kiln. Most facilities monitor lumber moisture content at a point after the lumber exits the kiln (such as the planer, for products that are planed, or prior to storage for products like poles that are not planed), per the guidance in the kiln-dried lumber standards to let the lumber cool prior to measuring moisture. The moisture content in the lumber comes to equilibrium after it exits the kiln; in the kiln, the surface of the wood will be drier than the interior of the wood. In order to minimize burden and maximize flexibility, EPA should give facilities the option of measuring moisture either in the kiln or after the lumber exits the kiln (e.g., in storage for items that are not planed, or at the planer for lumber that is planed).

We propose the lumber kiln temperature monitoring provisions of §63.2269(m) and the lumber moisture monitoring provisions of §63.2269(n) be revised for this hybrid work practice option as follows:

> (m) Lumber kiln temperature monitoring. Temperature monitors used in lumber kilns must meet the requirements in §63.2269(a) ~~and (b)~~ and (m)(1) and (2).

[23] EPA-HQ-OAR-2012-0522

[24] 77 Fed. Reg. 22852, 22872

(1) For purposes of complying with dry bulb temperature limits in §63.2241(e)(3)(i) or §63.2241(e)(3)(ii), dry bulb temperature monitor(s) must be located in a position to determine the dry bulb temperature of the heated air that exits ~~each load of~~ the lumber.
(2) Facilities complying with the site-specific plan in §63.2241(e)(3)(iii) must describe the number and location of temperature monitors in the site-specific plan.

(n) Lumber moisture monitoring under hybrid work practice. The requirements in paragraphs §63.2269(a) and (n)(1) apply for lumber kilns using the hybrid temperature and moisture monitoring work practice option in §63.2241(e)(3)(ii).

(1) The lumber moisture content (weight percent, dry basis) must be monitored either within the kiln or at a location after the lumber exits the kiln.

(a) For lumber moisture content measured after the lumber exits the kiln, you must obtain at least one lumber moisture content measurement per either twenty thousand board feet (20 MBF or 20,000 BF) of board lumber produced or 2,000 cubic feet (2,000 CF) of round lumber produced.

(b) For lumber moisture content measured in the kiln, lumber moisture measurements must be obtained as follows for each kiln type:

(i) For batch kilns with in-kiln moisture monitoring, lumber moisture measurements must be distributed in different areas of the kiln. At least one lumber moisture reading per crib must be obtained.

(ii) For continuous kilns with in-kiln moisture monitoring, lumber moisture measurements must be obtained for each crib of lumber dried.

Note that for in-kiln moisture monitoring, we are proposing to make the following simplification of the proposed language: "lumber moisture measurements must be ~~spatially~~ distributed in different areas of the kiln." The word "spatially" is redundant and could be a source of confusion. Also, the proposed revision to §63.2269(m) above removes the reference to the temperature monitoring provisions of §63.2269(b). This is addressed further in Section 7.3 of these comments. For in-kiln moisture monitoring, we also propose to revise the frequency of monitoring to once per crib of lumber, rather than once per certain amount of production, as facilities with large kilns measuring in-kiln moisture content do not typically measure in more than two or three locations in the kiln. Lumber kiln operators put packages of lumber into vertical stacks. Multiple stacks make up a crib of lumber that typically travels on a track (unless the kiln is small and is manually loaded). A crib is a volume of wood that fills a vertical and horizontal section of the kiln for any given length of product (for example, stacks of 12-foot product that extend vertically to the top baffle line and horizontally to the side baffle line inside the kiln). Multiple cribs of lumber can make up a charge (the number of cribs per charge will depend on the length of the kiln). For a batch kiln, a charge is the volume of wood necessary to fill the kiln vertically and horizontally, within the given drying area of the kiln, determined by the height of the top baffles, the width between side baffles of the kiln, the length of the kiln, and the number of tracks. This specific volume of lumber will remain in the dry kiln for a specific time to complete the drying process to meet target residual moisture content in the lumber to meet product specifications. For a CDK, a charge is the volume of wood processed to its target moisture content in a 24-hour period that fills the kiln vertically and horizontally, determined by the push rate, height of the top baffles, the width between side baffles of the kiln, the length of the kiln, and the number of tracks.

We also propose alternative increments of lumber in units of cubic feet of lumber in order to accommodate facilities that produce round stock, such as poles. Round stock is generally measured in cubic feet (CF) as opposed to board feet (BF) so the existing language of the proposed rule does not address how those facilities would demonstrate compliance.

Similarly, we also propose the lumber kiln temperature data averaging procedures in §63.2270(h) be revised to reflect the hybrid work practice option. The proposed longer averaging period for the temperature limits (per batch for batch kilns and daily for CDKs) from Section 3.2.7 are also proposed in the revised language.

(h) Lumber kiln temperature data averaging

(1) Temperature limit ~~set point~~ and hybrid work practice options. You must continuously monitor and record the dry bulb temperature during the kiln drying cycle and record the dry bulb temperature at least once every 15 minutes as specified in §63.2269(m). The readings from multiple dry bulb temperature monitors positioned to determine the temperature of the heated air that exits the lumber may be averaged together to determine the kiln-wide dry bulb temperature.

(i) For batch kilns, calculate the average from the recorded readings during each batch cycle, and maintain the batch cycle average dry bulb temperature at or below the maximum temperature limits specified in either §63.2241(e)(3)(i) or (ii).

(ii) For continuous dry kilns, calculate the daily block average from the recording readings and maintain the daily block average dry bulb temperature at or below the maximum temperature limits specified in either §63.2241(e)(3)(i) or (ii).

(2) Site specific plan option. You must continuously monitor the temperature parameter (such as wet or dry bulb temperature, wet bulb depression, or temperature drop across the load) specified in your site-specific plan. You must record the temperature parameter at least every 15 minutes and calculate the 3-hour block average for comparison to the site-specific temperature limit.

We also propose the lumber moisture data averaging procedures in §63.2270(i) would be rewritten to be similar to the lumber moisture data averaging under the site-specific plan option in §63.2270(j). However, we propose the moisture data be averaged on a semiannual basis rather than monthly.[25] We propose §63.2270(i) would be rewritten as follows:

(i) Lumber moisture data averaging under hybrid work practice

(1) Using the lumber moisture content measurement data collected according to §63.2269(n), calculate and record the semiannual average kiln-dried lumber moisture content for lumber with a given moisture specification produced at the facility.

(2) Compare the semiannual average lumber moisture content for each moisture specification produced at the facility to the applicable minimum kiln-dried moisture content limits included Table 11 of subpart DDDD to determine compliance.

[25] The Weyerhaeuser Idabel, OK mill's air permit is an example where kiln moisture is subject to a longer averaging time; the permit specifies a rolling 12-month average minimum moisture content.

This approach is more robust than simply monitoring in-kiln moisture as EPA has proposed and would better accommodate the facilities producing SYP that would be unable to meet the temperature limits of Option 1. The combination of temperature and moisture limits based on what the majority of kilns that dry lumber at temperatures above the Option 1 temperature limits are already using as work practice standards in their permits to meet BACT requirements is an appropriate approach to set an approved work practice in the PCWP NESHAP. Rather than requiring facilities to submit a site-specific plan to have this work practice approach approved, we are requesting that EPA replace the second work practice option that includes only in-kiln moisture monitoring with this approach that would not require agency approval because it is based on data in EPA's hands. This approach reduces burden on both facilities and agencies.

3.2.10. We Support the Option for a Site-Specific Work Practice, But EPA Should Extend the Lumber Kiln Site-Specific Plan Submission Timeframe

The third work practice option proposed at §63.2241(e)(3)(iii) is a site-specific approach. Facilities would develop and operate according to a site-specific plan to minimize lumber over-drying through temperature and moisture monitoring. We support the inclusion of this approach as an option for facilities that need to tailor their lumber kiln work practices to a specific site, similar to how a BACT analysis would be performed. We agree that the moisture data under the site-specific plan should be examined on a monthly basis and should require corrective action if the monthly average moisture content is below the minimum moisture content limit of the site-specific plan. More frequent data averaging would be unnecessarily burdensome.

EPA has proposed that facilities that choose to comply with the work practice option using a site-specific plan for temperature and moisture monitoring must submit the site-specific plan to the delegated authority within 180 days of final rule publication. Our members anticipate that developing a site-specific plan for lumber kilns could reasonably take more than 12 months. We propose that EPA extend the deadline to submit site-specific plans to 18 months to allow time for facilities to properly develop an effective site-specific plan and gather data to support the elements of the plan. This timeframe would also give ample time for regulatory bodies to review and approve the plans prior to the compliance date of the revised rule. We also agree with the language of §63.2253(b)(2) such that the site-specific plan is enforceable upon the 3-year compliance date, not when it is approved by the delegated authority.

3.2.11. EPA Should Not Require the Site-Specific Plan To Be Incorporated into a Facility's Title V Permit

EPA proposes in §63.2253(b)(4) that once the site-specific plan is approved by the delegated authority, the limits from the plan must be incorporated into the facility's Title V operating permit during the next reopening or renewal opportunity. Instead, we propose that provisos stating that the applicable lumber kilns must operate according to the site-specific plan be added to the facility's Title V permit. Incorporating details from the plan itself into the Title V permit is not necessary for the plan to be enforceable, and the incorporation process would create surplus regulatory burdens for regulatory agencies and affected facilities when the plan is developed and every time it is revised. Other MACT rules include site-specific plans that are not required to be incorporated into Title V permits (e.g., the site-specific monitoring plan in the MACT standard for Industrial Boilers). As mentioned in Section 3.2.2, we agree that the lumber kiln O&M plans do not need to be incorporated into the facility's Title V operating permit and request EPA to make the same determination for a facility's site-specific plan.

3.2.12. We Support that the Standards for New and Existing Lumber Kilns Are the Same

EPA has not proposed to differentiate between new and existing lumber kilns with respect to the required work practices. We agree with this approach because there is no difference in the approaches that would be used to minimize over drying of lumber between new and existing lumber kilns. Recent BACT analyses for air permitting actions bear this out, as the required BACT work practices in our members' permits are very similar to EPA's proposed PCWP NESHAP work practices for lumber kilns.

3.3. Comments on Resinated Material Handling Process Units Standards

3.3.1. We Agree with EPA that Resinated Material Handling Process Units Are Eligible for Work Practice Standards

There are several fugitive sources at PCWP facilities that are part of the affected source but not subject to standards under the current PCWP NESHAP. When the rule was finalized in 2004, EPA determined that the MACT floor for these processes was no control, in general because less than 6% of existing sources used add-on controls to reduce HAP emissions (and for many types of equipment, no facilities were using add-on controls). RMH process units meet the requirements for establishment of a work practice standard for organic HAPs.

Clean Air Act §112(h) allows EPA to set design, equipment, work practice, or operational standards for situations where "it is not feasible in the judgment of the Administrator to prescribe or enforce an emission standard . . . ." and independently authorizes EPA to use a work practice standard in two situations. The first [§112(h)(2)(A)] is where the emissions are not susceptible to control after the underlying source generates them, as is the case with fugitive emissions. Section 112(h)(2)(B) authorizes EPA to establish work practice standards when "the application of measurement methodology to a particular class of sources is not practicable due to technological and economic limitations." Where HAP emissions are so low as to be indistinguishable from the limit of detection of the measurement method, the proximity of any numerical standard to the detection limit makes testing for compliance not technologically practicable, while the inability to accurately measure at the level of the proposed standard is economically impracticable because spending more money on the prescribed method will not resolve the inherent problem of setting the standard at the method detection limit.

Organic HAP emissions from the sources that currently are not subject to HAP emissions standards under the PCWP NESHAP ("miscellaneous" sources) are not individually captured and conveyed through stacks. The layout of PCWP facilities is generally open to allow for flow of materials and product throughout the plant. The HAP emissions from the sources that are not subject to specific emission limitations under the PCWP NESHAP are fugitive in nature and generally cannot be attributed to a single source type because equipment is co-located within a production building or a section of a production building.

Because emissions data for these types of sources are infeasible to obtain, HAP emissions are oftentimes estimated using limited data obtained through pilot scale testing. The nature of a pilot scale testing program and the ability to completely enclose a smaller scale source likely results in a higher emissions estimate than full scale testing would achieve, due to the difficulties associated with capturing emissions from a full scale source, but is an approach that provides a balanced estimate between an engineering estimate and an attempt to enclose and test a full-size source.

Sources like engineered wood product (EWP) presses or curing chambers and plywood presses are situated in large buildings and any HAP emissions would be released through building openings or exhausted through fans above the press that may capture some or all of the press emissions as well as other fugitive emissions from other sources in the mill. In order to obtain accurate emissions measurements, large enclosures would have to be constructed and flow would have to be induced to exhaust HAP emissions through a stack in the top of the enclosure or building. The enclosure would have to be designed to meet EPA Method 204, which restricts the location and size of openings and could impede product flow and thus production or result in unsafe conditions for employees within the enclosure, especially with plywood presses that typically require employees to operate within the press footprint.

EPA is justified in establishing a work practice standard to limit fugitive organic HAP emissions from formers, blenders, plywood presses, EWP presses or curing chambers, existing board coolers, panel trim chippers, saws, sanders, resin storage tanks, and certain wastewater treatment operations at facilities producing resinated wood products.[26] These process operations are generally small sources of organic HAP emissions. A detailed assessment of emission characteristics of miscellaneous process units, conducted by NCASI in recent years through focused technical studies, suggests that any available emissions data would be unsuitable for the development or enforcement of numeric emission standards. There are multiple reasons why it is impractical or infeasible to develop reliable emissions data for the miscellaneous process units. Many of these sources are co-located in such a way that it would be impossible to distinguish organic HAP emissions from each type of process for purposes of developing emission standards or monitoring compliance. Collection systems are designed for dust control or solid material collection, often serving multiple pieces of process equipment, and are open systems that do not and cannot achieve anything close to 100% capture

[26] Note that the PCWP affected source is defined to include "resin preparation," which is not specifically included in the definition of the resinated material handling (RMH) process units for which EPA has proposed work practice standards. Compare 40 CFR 63.2232(a) with 63.2292. Although "resin preparation" is not a defined term, EPA did describe it in the preamble to the 2004 PCWP MACT rule, at 69 Fed. Reg. 45961, as "includ[ing] any mixing, blending, or diluting of resins used in the manufacture of PCWP products which occurs at the PCWP manufacturing facility." EPA explained that it was appropriate to include "resin preparation" in the definition of the PCWP affected source, rather than regulating that activity in Miscellaneous Organic Chemical Manufacturing (Subpart FFFF) or Miscellaneous Coating Manufacturing (Subpart HHHHH), because resin preparation activities were included in the MACT analysis EPA performed for "new and existing blenders and resin storage/mixing tanks" in the PCWP rulemaking. Id. We believe activities that might be considered resin preparation occur in tanks, blenders, or formers, and so the proposed work practice standards for RMH process units would cover that aspect of the affected source. (EPA reached a similar conclusion in Applicability Determination Control No. M060041, a memorandum from Michael Alushin titled "Typical Manufacturing Component Scenarios," July 13, 2005, response to scenario 5. EPA should make this clear by including a statement in the preamble to the final rule explaining that the resin preparation aspect of the affected source falls within the RMH process units for which EPA is promulgating work practice standards.

because this would interfere with product flow. In addition, some baghouse configurations are not conducive to testing.

Reconstituted wood products are formed by mixing wood with a resin system (which could include both the base resin and also a scavenger or catalyst to limit the amount of HAP emitted). Plywood and EWP are formed by applying the resin system to the wood surface, then applying heat and pressure to cure the resin and assure good bonding. There are many types of resin systems used in the manufacture of PCWP. Each resin system is used to impart specific qualities to the end product, with its final use in mind. Use of a resin system that doesn't meet quality or performance standards for a particular product is not acceptable. Even within each class of resin, the specific formulations vary based on the product being made and the operating conditions, such as press time and temperature, at the facility. Resin application rates may also vary by product and operating conditions. EPA has applied similar factors in other industry sectors to conclude that it cannot mandate the HAP content of raw materials that are critical to end product performance.[27]

HAP emissions associated with RMH processes can be reduced by reducing the amount of resin used. PCWP facility owners and operators already have a strong incentive to use no more resin in a product than necessary to meet product specifications, and to minimize waste of resin, because resin is one of the biggest costs of production for resinated products. HAP emissions associated with RMH processes also can be reduced by using non-HAP resins, if available and suited for the application, or by using resins that contain HAPs with a low potential to volatilize and leave the process unit (as a HAP) rather than stay in the board. The proposed work practice standards focus on that approach to control HAP emissions associated with resin use and storage. In some of the RMH process units there also are potential emissions of HAPs from the wood itself, although most of the emissions will come from the resins used. EPA has addressed wood-related HAPs with a proposed work practice aimed at assuring manufacturers only use sufficiently dry wood in these RMH processes. We agree with EPA's conclusion that a set of enforceable RMH work practice standards for RMH process units adheres to the CAA while allowing the different types of PCWP products covered under the NESHAP to be produced. Sections 3.3.2 and 3.3.3 of these comments expand on the justification for using work practice standards and for the particular set of work practice standards EPA has proposed, while comments to simplify and clarify the RMH process unit standards are provided in Section 3.3.4.

3.3.2. The Statutory Criteria Are Met for Using Work Practice Standards To Address HAP Emissions from RMH Process Units

RMH process units meet the criteria in CAA §112(h) allowing EPA to regulate HAP emissions from those units using work practice standards rather than numerical emission limitations. It generally is not feasible to collect and route the emissions from those process units to a control device, nor is it practicable to measure the HAP emissions, for technological and economic reasons.

EPA has correctly identified a subset of the unit processes at PCWP manufacturing facilities that have dispersed, largely fugitive emissions of organic HAPs and for which there are not demonstrated or practicable emission control technologies for organic HAPs. For the same

[27] See, e.g., 84 Fed. Reg. 54394 at 54412 (Oct. 19, 2019) (binders used in core- and mold-making for foundries); 65 Fed. Reg. 62414, 62425 (Oct. 18, 2000) (Rubber Tire Manufacturing RTR rule); 83 Fed. Reg. 19499, 19511 (May 3, 2018) (Friction Materials Manufacturing RTR rule).

reasons, it is infeasible to measure the organic HAP emissions of these processes, either for purposes of developing numerical emission limitations or for purposes of determining compliance with a numerical emission limitation. EPA effectively acknowledged that it is not feasible to set numerical emissions limits for these sources when it did not require emissions testing of these sources in the 2022 ICR. It is therefore both legally authorized and appropriate for EPA to use work practice standards to address emissions from the RMH process units.

It is not practicable to test emissions from resin storage, because there are no stacks and the storage tanks are typically located in the building, very close to other process equipment that has fugitive emissions, such as the press and/or layup line. Although saws, sanders, blenders, formers, and panel trim chippers are ducted to a baghouse or cyclone, these collection systems serve to reduce dust. They are not "designed and constructed" to capture HAP emissions and do not satisfy capture efficiency criteria for HAP, as evaluated by EPA Method 204 or an equivalent assessment approach. As part of the process of "vacuuming" up dust, building air is collected along with the dust. The building air collected by the dust pickups may contain some of the gaseous emissions from the process units they are associated with, along with fugitive gaseous emissions from other process units in the same building. Any organic HAP emissions measured from the ductwork would not be representative of emissions from that specific process unit and would also include emissions from co-located process units. Each facility is configured differently and has varying types and numbers of sources ducted to baghouses and cyclones. The outlets of these systems are also frequently not configured in a way that allows for emissions testing according to EPA test methods. Most of the emission points associated with the miscellaneous sources were never intended to be tested, thus they lack access and suitable locations for test ports.[28]

EPA has appropriately covered existing board coolers in its proposed RMH Process Unit work practices. The PCWP NESHAP requires all new board coolers to meet emission standards. Companies building new plants factor this into the design of the facility. Board coolers at existing facilities that are not currently enclosed were not designed to be enclosed. Enclosing these units, especially at facilities in warm climates, defeats the purpose of the process unit. An enclosure essentially turns a board cooler into a hot box, resulting in the unit not serving its intended purpose of cooling the board and necessitating an extra period of cooling in the warehouse or other open area in the facility prior to sanding and sawing.

It would be difficult for facilities to install even a temporary enclosure around a board cooler for testing and still operate the process properly. In addition, if building air is pulled into the temporary enclosure, the emissions will represent other co-located, non-enclosed process units in the building. If EPA required board coolers to be permanently enclosed and controlled, a large amount of fresh air would be required for the board cooler to continue to serve its purpose, and a large volume of dilute exhaust would be ducted to a control device that would likely have to burn fossil fuel to reduce emissions. Board coolers that have been designed to capture and control emissions should not be considered the same subcategory as existing board coolers that are not configured that way, and enclosure of the latter and thermal destruction of the captured emissions would clearly be an unjustified, beyond-the-floor control. The fact that there are new source standards for board coolers does not mean that

[28] EPA has recognized that these types of impediments to sampling and analyzing emissions justify work practice standards, e.g., for small boilers. See *U.S. Sugar*, 830 F.3d at 661-62, 664-65.

it is either feasible or necessary to set numerical emission limits for board coolers not designed for emissions capture. Board cooler HAP emissions should be regulated using work practice standards.

Plywood and EWP presses are generally situated in large buildings, and any organic HAP emissions are vented through building openings or exhausted through fans above the press. These emissions represent emissions from the press and emissions from co-located sources. A requirement to enclose these sources would impede product flow and production and/or result in unsafe conditions for employees within the enclosure. This is especially true for plywood presses that typically require employees to operate within the press footprint. There are no emissions control systems on these types of presses, apart from one partial capture and control system at an area source. Due to the large size (80 to 100 feet long, 8 feet wide) of EWP presses, it would be difficult to enclose the entire press and costly to capture and control the expected low level of organic HAP emissions.

Even if EWP and plywood press emissions could be captured and reliably measured to establish and subsequently comply with a numerical emission standard, it would not be reasonable to establish a single emission limit that all presses must achieve, due to the variability of materials processed and how these presses are operated. The emissions generated at the press are due to the heating of wood and resin. Because the wood has been previously heated during drying, most, but not all, of the emissions from the wood have been driven off. However, as the wood is reheated during pressing and the resin cures, additional HAPs can be emitted. The quantity of these emissions is dependent on the species of wood and the type of resin. For example, plywood can be manufactured from the various southern yellow pines (loblolly, slash, and longleaf), ponderosa pine, Douglas-fir, larch, fir, and spruce. Each of these species will have different emissions profiles, and sufficient testing to characterize the wide range of small amounts of HAP emissions from plywood presses therefore would be impracticable. Even if an enclosure is built around a given press, the capture of HAP emissions requires large volumes of air to route the emissions to a HAP control device. Contributions from building air and fugitive emissions from co-located sources are inevitable.

Finally, while a facility may be able to construct, and operate around, a temporary enclosure installed for a few days during emissions testing, a permanent enclosure for the same equipment may be impossible to design and install without severely hindering operations and compromising worker safety. An example would be equipment that requires frequent access for purposes of product/material handling and other operational adjustments that can require large overhead cranes or mobile equipment units such as forklifts or manlifts. EPA has correctly determined that plywood and EWP presses are work practice standard candidates.

Even if enclosing RMH process units for purposes of testing for developing numerical emission limitations or for purposes of collecting and treating their emissions were feasible, because the HAP emissions from many of the RMH process units are expected to be very low, there would be issues with measurement data reliability. A large volume of air would have to be exhausted through such a large enclosure to ensure adequate capture, and based on laboratory studies and/or process knowledge, the concentration of HAP is expected to be very low. Because the sample times for each run have to be sufficiently long to ensure a measurable emission rate, testing costs would be substantially greater. In addition, any measurable HAP emissions would vary by wood type and resin type, so a large sample of sources and products would have to be tested in order to have a reliable estimate of the variability of emissions and the effects of various equipment designs and operating parameters on emissions to evaluate achievability and subcategorization.[29] Thus, a testing program to develop an achievable emission standard would be costly and very difficult to undertake (and EPA recognized this when it determined stack testing was not required for RMH process units as part of the latest ICR). Furthermore, a compliance testing program would be very expensive for mills with multiple units subject to numerical emission limits, because the facility would need to build enclosures for each unit and conduct multiple long-run tests to demonstrate compliance with emission limits, an impractical endeavor. EPA has recognized that these kinds of large costs for testing needed to develop an emission limitation or to monitor compliance with a limitation justify use of work practice standards.[30]

Highly variable emissions from the vents to the atmosphere associated with miscellaneous process units is yet another factor which would make the establishment of numeric standards infeasible. Currently available emissions data from the NCASI database indicate extremely high variability in measured emission rates between similar process units at different facilities. The high variabilities between similar process units at different facilities may be related to variable emissions from the process units that the emissions tests were intended to represent, but they may also be affected by source co-location and the resulting inclusion of fugitive emissions from other process units as part of the stack test samples. Also, data from an NCASI study indicated highly variable emissions from six process units that were each tested multiple times over a one-year period.

NCASI has developed several work products that highlight the difficulties associated with testing and subsequently setting numerical standards for miscellaneous sources. We summarized this work in our comments on the 2016 proposed ICR questionnaire and the 2021 draft testing ICR.[31]

3.3.3. The Work Practice Standards EPA Has Proposed Are An Appropriate Way To Address HAP Emissions From RMH Process Units

EPA has proposed the following work practice to address HAP emissions from RMH process units associated with the resins[32] used to manufacture plywood and composite wood products, at §63.2241(h):

- Use a non-HAP resin,
- Use a resin with a maximum true vapor pressure $\leq$5.2 kPa, or
- Use a combination of resins that meet either approach.

[29] EPA has recognized that it can be impracticable to measure emissions, justifying a work practice standard, for units that are used to manufacture a wide variety of products, such as in setting MACT standards for periodic [batch] brick kilns, 79 Fed. Reg. 75622, 75645 (Dec. 18, 2014). See also *Sierra Club v. EPA*, 353 F.3d 976, 986 (D.C. Cir. 2004) ("inherent variability and unpredictability of the metal HAP compositions and amounts in copper ore concentrates" made setting individual numerical emission limitations infeasible).

[30] See, e.g., *U.S. Sugar*, 830 F.3d at 661-64 (small coal-fired boilers); 79 Fed. Reg. 75622, 75645, 75662 (December 18, 2014) (periodic brick kilns and sanitaryware shuttle kilns); 67 Fed. Reg. 78046, 78054 (Dec. 20, 2002) (lime kilns).

[31] EPA-HQ-OAR-2016-0243-0251

[32] Resin is defined in 40 CFR §63.2292 quite broadly to mean "the synthetic adhesive (including glue) or natural binder, including additives, used to bond wood or other cellulosic materials together to produce plywood and composite wood products."

This will assure that PCWP manufacturing facilities are taking measures to minimize the HAP emissions from those processes, by either keeping HAPs out of the process, or assuring that the HAP material used will stay in the process or product rather than being released to the ambient air, to the extent practicable.

The second requirement proposed as part of the RMH process unit work practice is to process only dried wood in RMH process units other than wet formers or wastewater treatment operations. Although the main driver of RMH process unit HAP emissions is the resin, this component of the work practice will serve to limit HAP emissions from the wood itself in RMH process units. The work practice also follows logically from those already contained in Table 3 (items 1, 2, and 4) that pertain to moisture content and wood species and are meant to limit HAP emissions from the wood furnish.

HAP emissions from equipment processing resinated wood are reduced by adjusting the resin system while maintaining sufficient bonding characteristics. Because the type of resin system influences fugitive organic HAP emissions from so many process operations in a PCWP manufacturing facility, the appropriate method for limiting emissions from these activities is a work practice related to resins. As discussed below, there is precedent to applying standards to resin systems used in composite wood products, as well as in other industry sectors.

In 2007, CARB approved an airborne toxic control measure (ATCM) to reduce formaldehyde emissions from composite wood products including hardwood plywood, particleboard, medium density fiberboard (MDF), thin MDF (thickness ≤ 8mm), and also furniture and other finished products made with composite wood products. The ATCM is the world's most stringent product testing and certification standard for formaldehyde emissions from composite wood products. The rule contains concentration-based emission limits for formaldehyde from certain wood products and was developed to address a concern about consumer exposure to residual formaldehyde in certain wood products. It also acknowledges that some facilities are able to use inherently low-emitting resin systems (ultra-low-emitting formaldehyde, or ULEF) and provides relaxed testing requirements for these. A ULEF composite wood product is one made from resin systems that may contain formaldehyde, but emit it at particularly low levels, such as melamine-urea-formaldehyde resin, phenol formaldehyde resin, resorcinol formaldehyde, or other formaldehyde-based resins. CARB also expected manufacturers to add scavengers to the resin system formulations to limit the amount of unreacted formaldehyde that could be emitted from the final product. Softwood plywood, oriented strand board (OSB), and EWP were reviewed by CARB, but were not included in the ATCM because they are typically manufactured with ULEF resins and have about 90% lower formaldehyde emissions than the products covered by the ATCM.

The CARB Phase 2 emission standards reflect the use of BACT. CARB Phase 2 has shown that existing and developing technologies for both resins and panel manufacturing are capable of delivering composite panel products that emit at, or very near, the emissions levels for natural wood. By taking a performance-based approach, the CARB Phase 2 program encourages advancement in all technologies and provides the widest array of options for panel manufacturers.

EPA established regulations under the Formaldehyde Standards for Composite Wood Products Act, which added Title VI to TSCA. The TSCA rule also covers hardwood plywood, MDF, particleboard, and items made with these wood products. EPA worked with CARB to help ensure the final national rule was consistent with the CARB requirements for composite wood products. Composite wood products that can be made with no-added formaldehyde (NAF) or

ULEF resins are eligible for less-frequent testing, or a two-year exemption from third-party testing and certification per sections 770.17 and 770.18 of the final TSCA rule. Although the CARB and TSCA rules focus on formaldehyde, manufacturers have adjusted resin system formulations and reduced overall HAP emissions.

Of course, using less resin per unit of product can also reduce emissions of HAPs. However, PCWP facility operators use only the amount of resin necessary to meet product specifications and desired performance characteristics. The performance of those products is absolutely critical to their marketability, but using more resin than needed to achieve the necessary performance also would have a serious adverse effect on product price and profitability. So, in addition to reducing HAP emissions by adjusting resin system formulations, manufacturers of resinated wood products also minimize HAP emissions by limiting the amount of resin they use, consistent with finished product specifications.

Using non-HAP resin is a means of minimizing HAP emissions associated with RMH process units that has resulted in PCWP manufacturers making substantial reductions in HAP emissions over the recent decades. In the proposed rule, EPA has correctly expressed the practice of using non-HAP resins in terms of not exceeding a minimal concentration of a non-carcinogenic HAP, and even lower concentrations of a HAP considered to be carcinogenic. EPA already used the same approach to address HAP emissions from certain miscellaneous coating operations at PCWP facilities: In the July 2004 final PCWP NESHAP, the MACT floor for certain miscellaneous coating operations was based on the widespread use of non-HAP coatings (defined in 40 CFR. 63.2292 as "coating with HAP contents below 0.1 percent by mass for Occupational Safety and Health Administration-defined carcinogens as specified in 29 CFR 1910.1200(d)(4), and below 1.0 percent by mass for other HAP compounds").[33] As EPA explained when establishing the existing work practice standard requiring "non-HAP coatings" for group 1 miscellaneous coating processes, defining "non-HAP resin" in this manner is necessary (rather than expressing it as a ban on any detectable concentration of any HAP): "The definition of non-HAP coating included in the final rule was based on the description of non-HAP coatings in the final WBP NESHAP (subpart QQQQ to 40 CFR part 63). This definition allows for unavoidable trace amounts of HAP that may be contained in the raw materials used to produce certain coatings."[34]

EPA has used the same approach for numerous other analogous NESHAPs, applying the 0.1%/1.0% thresholds to whether coatings comply with limits on HAP content or HAP emissions. See, for example, Subpart QQQQ, Surface Coating of Wood Building Products, where facilities can meet the limit on organic HAP emissions per unit of coating by using the "compliant material option," counting each organic HAP determined by the facility or its

[33] See discussion at 69 Fed. Reg. 45944, 45968 (July 30, 2004). (The OSHA regulations at 29 CFR 1910.1200 were subsequently revised and re-organized, and in the 2020 RTR rule the definition of "non-HAP coating" in section 63.2292 was revised to reference section A.6.4 of appendix A to 29 CFR 1920.1200 instead of 29 CFR 1910.1200(d)(4).) See also Subpart DDDD Table 6, requiring a signed statement that the facility is using "non-HAP coatings," and Table 8, requiring continued use of non-HAP coatings and keeping records of coatings used.

[34] 69 Fed. Reg. 45968.

supplier to be present at 0.1 percent or more for a carcinogenic HAP or 1.0 percent or more for a non-carcinogenic HAP.[35]

Not all resins in use at wood products facilities can be non-HAP resins, however. MDI resin is such an example, and some facilities switched to MDI resin to reduce formaldehyde emissions. MDI resins can contain up to 100% HAP, but emissions from these resins are very low because they have a low vapor pressure and polymerize quickly when exposed to moisture and heat in the process. Limiting the vapor pressure of the HAPs contained in a resin (which minimizes the potential for the HAPs to volatilize and be released beyond the facility when the resin is stored or used in the process) is an appropriate work practice that PCWP facilities can and do use to minimize HAP emissions from resins that do not qualify as non-HAP resins. EPA has used a similar approach in NESHAP for numerous other source categories.

Limiting the vapor pressure of the HAPs contained in stored resins will serve to minimize HAP emissions because emissions increase as vapor pressure of the stored liquid increases. The potential for HAP emissions from a PCWP affected source process using HAP-containing resin is influenced by a variety of factors that can be approximated by calculating the vapor pressures of the HAPs contained in the resin. For numerous industry categories, EPA has based MACT standards for emissions from resins and other organic chemicals using a threshold for vapor pressure. In its most stringent form, for the maximum vapor pressure that will result in minimal HAP emissions from large storage tanks, EPA has used a HAP vapor pressure threshold of 5.2 kPa (0.75 psia). Under rules such as the Amino/Phenolic Resin NESHAP (40 CFR Part 63, Subpart OOO), large tanks storing liquids with a maximum true vapor pressure of total organic HAP of <5.2 kPa at the storage temperature are not subject to controls. EPA has taken a similar approach for storage tanks (establishing a vapor pressure threshold below which no HAP control is required) in the Organic Liquids Distribution (non-Gasoline), Hazardous Organic, Pharmaceuticals, and Group IV Polymers and Resins NESHAP, to name a few. In essence, EPA has made a judgment on numerous occasions that, even in large storage tanks, liquid organic HAPs with a vapor pressure of <5.2 kPa do not emit significant amounts of organic HAPs and no cost-effective technology could further reduce those emissions. Although we recognize that these rules contain multiple vapor pressure thresholds based on tank size, we acknowledge that EPA has proposed a simple approach here that represents the largest size of tanks and the most stringent vapor pressure threshold. This simple approach yields a standard that should be achievable for most resin systems

[35] 40 CFR 63.4690, 63.4691, 63.4741. See also, e.g., Subpart GG, Aerospace Manufacturing and Rework Facilities, §63.741(f) ("The requirements of this subpart do not apply to primers, topcoats, specialty coatings, chemical milling maskants, strippers, and cleaning solvents that meet the definition of non-HAP material, as determined from manufacturer's representations, such as in a material safety data sheet or product data sheet, or testing,..."); §63.742 (defining "non-HAP material" as material "that contains no more than 0.1 percent by mass of any individual organic HAP that is an Occupational Safety and Health Administration-defined carcinogen as specified in 29 CFR 1910.1200(d)(4) and no more than 1.0 percent by mass for any other individual HAP."); Subpart KK, Printing and Publishing Industry, §63.827 (determining compliance with the allowable fraction of organic HAP through either testing or "[f]ormulation data…provided to the owner or operator on a CPDS by the supplier of the material or an independent third party," in each case only counting each organic HAP present at or above the 0.1% or 1.0% threshold); Subpart VVVV, Boat Manufacturing, §63.5758 (similar); Subpart WWWW, Reinforced Plastic Composites Production, §63.5797 (similar).

currently used at PCWP facilities, but it is not necessarily translatable to future requirements for storage tanks in other rules.

The way EPA has written the proposed work practice, expressed as a maximum vapor pressure exerted by HAPs in the resin at the highest average storage temperature, really overstates the potential for HAP emissions from RMH process units. The standard EPA has proposed is conservative, because as soon as resins begin to be used in the manufacturing process units, there will be physical and chemical changes that leave less organic HAP available to volatilize and leave the product and process as emissions. We suggest below that it may be appropriate to take account of this fact in a site-specific alternative standard.

3.3.4. Suggested Clarifications to Proposed RMH Process Unit Work Practice Standards

While we support the approach EPA proposes to address HAP emissions from the RMH process units, through a set of proposed work practice standards in §63.2241(h), there are changes to the resin-related portion that would simplify the rule, provide more clarity, and lessen burden, while providing the same level of environmental protection as EPA's proposed approach.

We support the recognition that it may be possible for some products, processes, and facilities to use a non-HAP resin, and we also support the way EPA has proposed to define "non-HAP resin" in §63.2292, as it aligns with the definition of non-HAP coating that was included in the original rule and also similar definitions in numerous other NESHAPs, as discussed above. Including in the definition thresholds for determining whether something is a non-HAP resin is necessary (to recognize that trace amounts of HAPs could be present), and the levels EPA has proposed are both appropriate and essential to the feasibility of implementing the work practice standard. The thresholds in the proposed definition reflect information that PCWP manufacturers should be able to get readily from their resin suppliers, as they are consistent with the OSHA requirements at 29 CFR 1910.1200, Appendix A for reporting constituents of a resin on an SDS. The thresholds also are, understandably, consistent with thresholds EPA has used for determining whether resins and coatings contain organic HAPs in other NESHAPs, as described above.

A few tweaks are needed, however. First, in the preamble to the final rule and other supporting documents, EPA should describe the "non-HAP resin" option in a way that makes clear that a non-HAP resin is one in which no carcinogenic HAP is present in a concentration of 0.1% or more by mass, and no non-carcinogenic HAP is present in a concentration of 1.0% or more. We believe it is clear, in context, that this is the way the proposed regulatory definition is intended to work, as it is the same as how the comparable definition of "non-HAP coating" applicable to Group 1 miscellaneous coating operations at PCWP facilities was intended and has been understood.[36] If the language EPA proposed for the definition of

[36] The definition EPA has proposed for "non-HAP resin" is identical to the definition of "non-HAP coating" EPA adopted in the initial PCWP MACT rule in 2004. EPA explained at the time that that definition "was based on the description of non-HAP coatings in the final WBP NESHAP (subpart QQQQ to 40 CFR part 63)." The preamble to the final Subpart QQQQ MACT standards, enacted the year before, discussed wording EPA was adding to clarify that "zero-HAP coatings" incorporate a de minimis concept in the OSHA regulations. EPA used a description similar to what EPA has used for the description of "non-HAP resins" in the preamble to the current proposed rule and the redlined proposed regulatory language: "Accordingly, language has been included in the final

"non-HAP resin" (and the existing definition of "non-HAP coating") could be read to require that the sum of all carcinogenic HAPs not be equal to or greater than 0.1% by weight, and the sum of all non-carcinogenic HAPs not be equal to or greater than 1.0% by weight, that interpretation would nullify the purpose of the thresholds[37], since it would require PCWP manufacturers to identify and quantify even trace amounts of individual HAPs, and it would greatly complicate compliance, because facilities could not rely on SDSs for information needed to determine whether a material is a "non-HAP resin." EPA should include language in the preamble to the final rule that clearly explains how the 0.1% and 1.0% thresholds in the definitions work, as it has in the analogous Subpart QQQQ, Surface Coating of Wood Building Products NESHAP and others cited in footnote 35 above.[38] We encourage EPA to include an example, as EPA did in the Subpart QQQQ regulations: "For example, if toluene (not an OSHA carcinogen) is measured to be 0.5 percent of the material by mass, you do not have to count it."[39]

Secondly, EPA should note in the preamble to the final rule, that in some circumstances it may be appropriate to assess whether a material is a "non-HAP resin" taking into account the extent to which a HAP contained in the material will not actually be available to be emitted as the resin is used (because of polymerization, for example), and the procedures in 40 CFR §63.7(f) are available for that purpose.[40] EPA also should recognize in the preamble that, due

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preamble and rule to clarify that coatings with HAP contents below 1 percent for noncarcinogens and 0.1 percent for carcinogens are considered to be zero-HAP materials." 68 Fed. Reg. 31748 (May 28, 2003). The Subpart QQQQ rule included 40 CFR §63.4741(a)(1)(i), discussing how to comply with the "compliant material" option: "Count each organic HAP that is measured to be present at 0.1 percent by mass or more for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4), and at 1.0 percent by mass or more for other organic HAP compounds." See also id. at §63.4741(a)(4) (same). Also, the definition of "non-HAP coating" in the 2004 PCWP MACT standards referenced "carcinogens as specified in 29 CFR 1910.1200(d)(4)." At that time, the OSHA hazard communication standard provisions on safety data sheets provided that "a mixture shall be assumed to present a carcinogenic hazard if it contains *a component* in concentrations of 0.1 percent or greater which is considered to be a carcinogen under paragraph (d)(4) of this section." 29 CFR 1900.1200(d)(5)(ii) (emphasis added).

[37] See 69 Fed. Reg. 45968 ("This definition allows for unavoidable trace amounts of HAP that may be contained in the raw materials used to produce certain coatings.").

[38] See for example §63.4741(a)(1)(i) (procedure for the "compliant material option"); Subpart VVVV—NESHAP for Boat Manufacturing, §63.5758(a)(1) (explaining how to apply 0.1% and 1% thresholds in determining organic HAP content of materials).

[39] §63.4741(a)(1)(i). See also, e.g., Subpart VVVVV, the Boat Manufacturing NESHAP, 40 CFR §63.5758(a) ("For example, if toluene (not an OSHA carcinogen) is measured to be 0.5 percent of the material by mass, you do not need to include it in the organic HAP total.")

[40] EPA did something like this, for example, in the Subpart JJJJ NESHAP for Paper and Other Web Coating. That rule allows a facility to control organic HAP emissions by limiting the organic HAP content of coating materials. 40 CFR §63.3360(a)(1) states: "Determine the organic HAP or volatile matter and coating solids content of coating materials according to procedures in paragraphs (c) and (d) of this section. If applicable, determine the mass of volatile matter retained in the coated web or otherwise not emitted to the atmosphere according to paragraph (g) of this section.", and §63.3360(c) includes this sentence: "If the organic HAP content values are not determined using the procedures in paragraphs (c)(1) through (3) of this section, the owner or

to the wide range of resin systems used for a wide variety of purposes in manufacturing of PCWP products, as well as the variety of production processes used (and the expansive definition of "resin"), there likely will be some situations where it is not feasible to use a non-HAP resin or a resin that meets the vapor pressure standard. Such situations can be addressed, as §63.2241(b) acknowledges, by EPA granting permission to use an alternative work practice for RMH process units, pursuant to 40 CFR §63.6(g). Without that necessary flexibility, a work practice that gives no option but the use of resins meeting certain criteria would be unreasonable and would not represent an achievable standard.

EPA should amend the proposed definition of "maximum true vapor pressure" as follows to indicate that only HAPs present in the resin in concentrations above those that define a "non-HAP resin" need to be included in the determination of the combined partial vapor pressures of the HAPs in the resin.

> *Maximum true vapor pressure means the sum of the equilibrium partial pressures exerted by each HAP that is present in the stored ~~liquid~~ resin in a concentration above the thresholds defining non-HAP resins at the temperature equal to the highest calendar-month average of the liquid storage temperature for resins stored above or below the ambient temperature, or at the local maximum monthly average temperature as reported by the National Weather Service for resins stored at the ambient temperature. Maximum true vapor pressure may be determined:*
>
> 1. *from safety data sheets or other technical information provided by the PCWP resin supplier; or*
> 2. *from standard reference texts; or*
> 3. *by the American Society for Testing and Materials Method D2879–18 (incorporated by reference as specified in §63.14); or*
> 4. *using any other method approved by the Administrator.*

This clarification is implied by the option in the proposed definition to determine vapor pressure by reference to SDSs from the resin supplier, since the SDSs are only required to list a carcinogen that is present above 0.1% and a non-carcinogen that is present above 1.0%. But the definition should be amended to be consistent with other NESHAPs, which state consistently that only HAPs above 0.1% or 1.0% need to be counted in determining, e.g., percentage HAP content of coatings or mass of HAP emissions from coatings. Moreover, implementation of the vapor pressure work practice standard would be impracticable if the affected source had to somehow ascertain partial pressures even of HAPs present in such low concentrations in the resin that they did not need to be specified in the SDS.[41]

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operator must submit an alternative test method for determining their values for approval by the Administrator in accordance with § 63.7(f)." And in Subpart QQQQ, the discussion of determining the organic HAP content of coatings based on "information…such as manufacturer's formulation data" includes this provision: "For reactive adhesives in which some of the HAP react to form solids and are not emitted to the atmosphere, you may rely on manufacturer's data that expressly states the organic HAP or volatile matter mass fraction emitted." 40 CFR §63.4741(a)(4).

[41] Compare discussion of need for thresholds to make the Subpart DDDD work practice standard requiring "non-HAP coatings" workable, discussed above, 69 Fed. Reg. 45968.

We also recommend EPA edit the proposed definition of resin tanks as follows:

> *Resin tank* means a storage tank, container, or vessel connected to plywood and composite wood product production that holds resin ~~or resin additives~~. A resin ~~storage~~ tank is a process unit.

These edits are proposed because the definition of resin already includes additives, and the proposed definition is resin tank, not resin storage tank.

As noted above, applying the vapor-pressure standard to RMH process units based on the maximum true vapor pressure that the HAPs in the resin would exert at the maximum average resin storage temperature, as EPA does in proposed §63.2292, overstates the potential of those HAPs to be released from RMH process units. It certainly would not be appropriate to require facilities to evaluate vapor pressure of the resin at an even higher temperature, such as at the press, because most of the available HAPs in a resin react and polymerize when pressed and are not emitted. Some particleboard facilities actually cool their blenders to keep the resin from polymerizing in the process equipment prior to the press. We note also that using ASTM Method D2879-18 to determine whether the partial pressure of the HAPs exceeds the 5.2 kPa level, one of the options allowed under proposed §63.2292, will either provide a result that is biased high, because it will include partial pressures of non-HAP components such as water and acetone, or will not work, because the resin will polymerize during the test and ruin the test equipment.

3.4. Gas-Fired Dryer Standards

3.4.1. Combustion HAPs from Gas-Fired Dryers Should Be Regulated Using Work Practice Standards

There are essentially three designs of wood products dryers: indirectly heated dryers, dryers directly fired with gas, and dryers directly fired with biomass. Even among direct-fired dryers there are design differences. The dryer may be heated using burners in the dryer or may be heated by exhaust gases from a separate combustion unit (sometimes called an energy system). Just as boilers fired with different fuels constitute different subcategories in the Industrial Boiler NESHAP, EPA has appropriately subcategorized dryers of different design. (It would not be appropriate for EPA to group all wood products dryers together and determine that indirect-fired dryers are the best performers because they have the lowest emissions of some HAPs.)

EPA appropriately focused its ICR testing program for dryers on the subcategory of biomass direct-fired dryers. The HAPs emitted from indirect-fired (steam-heated) dryers are already regulated by the PCWP NESHAP's requirements for organic HAPs; there are no data to indicate HAP metals are emitted from indirect-fired dryers. We would only expect HAP metals to be emitted from combustion of biomass, not from the heating of wood fiber – the temperature in the dryer is not high enough for pyrolysis and liberation of metals from the wood.

EPA's Industrial Boiler rulemakings concluded that HAPs from natural gas combustion should be covered by work practice, not numeric, standards. In the preamble to the 2011 final rule, EPA states that measured emissions from gas-fired units are routinely below the detection limits of EPA test methods, the test methods produce results that are "questionable" for all of the pollutants, and as such, EPA considers it impracticable to reliably measure emissions from natural gas-fired units.[42] Therefore, we support EPA's proposal to address combustion HAP emissions from gas-fired dryers using a burner tune-up work practice similar to that in the Industrial Boiler NESHAP.

We also support EPA's proposed definition of direct natural gas-fired PCWP dryer. It is appropriate to distinguish between biomass-fired and gas-fired dryers, and we agree that a gas-fired dryer should be defined as one that receives at least 90 percent of its annual heat input from natural gas or propane.

3.4.2. We Support the Inclusion of Tune-Up Work Practices for Natural Gas Direct-Fired Dryers

EPA has proposed that natural gas direct-fired dryers have an annual tune-up as a work practice standard to limit combustion-related HAP emissions. We support the inclusion of this work practice and believe that it is the appropriate work practice to address all HAP emissions from gas-fired combustion units. Tune-ups have long been used in various regulations as an appropriate work practice to limit combustion emissions. The Industrial Boiler NESHAP at 40 CFR Part 63, Subpart DDDDD is an example of a recent NESHAP that uses a burner tune-up to regulate all combustion HAP emissions from natural gas-fired boilers and process heaters. The same work practice justification that applied to those units (as described by EPA at 88 Fed. Reg. 31866) applies to the combustion HAP emissions from PCWP dryers.

We agree with the tune-up procedures EPA has included in the proposed rule. However, we would request that EPA allow the tune-ups to be performed every 13 months instead of every 12 months. Requiring a 12-month tune-up is effectively requiring that facilities do the tune-up more frequently than annually, as good practice requires some allowance for problems and possible delays due to process operation or personnel scheduling issues, facilities are likely to schedule the tune-up a month earlier than required by rule, which will result in tune-ups performed once every 11 months and possibly twice in a calendar year, which is not included in EPA's cost analysis. We request that EPA revise the language at §63.2241(d)(1) and §63.2271(c)(8) to require tune-ups at least every 13 months. This language would also be consistent with the Boiler NESHAP tune-up frequency, which allows an extra month for annual, biennial, and 5-year requirements (see §63.7515(d)) such that the tune-up will actually be performed annually and not potentially twice per calendar year (e.g., in January and December).

3.5. Dioxin/Furan and PAH from Biomass-fired Dryers

3.5.1. We Agree with EPA that Numerical Limits for Dioxin/Furan Are Not Supported

EPA has proposed to require an annual tune-up for biomass direct-fired dryers as the work practice for limiting dioxin/furan emissions. We agree that this approach is supported by the PCWP emissions testing data for biomass combustion that was collected as part of the 2022 ICR because over 70% of the dioxin/furan congener test runs were below detection limits.[43] EPA made a similar determination in both the Industrial Boiler NESHAP (40 CFR Part 63, Subpart DDDDD) and the MATS rule (40 CFR Part 63, Subpart UUUUU) where the majority of

[42] 76 Fed. Reg. 15638.
[43] 88 Fed. Reg. 31866

the dioxin/furan data were below detection limits. Tune-ups are required in those rules to limit dioxin/furan emissions from combustion. [44]

The majority of dioxin/furan stack test data EPA collected for industrial boilers when developing the 2010 proposed rule were also at levels below the capability of the analytical and stack test methods to detect emissions of these compounds. Much of the test data were labeled as being below the method detection limit and the remainder of the data were often flagged as being below the level the laboratory can report with a reasonable level of confidence. EPA states at 76 Fed. Reg. 80606 that 100% of the stack testing results from biomass fluidized bed, fuel cell, and stoker/other boilers and 80% of the results from biomass Dutch oven/pile burner units were below the level that can be accurately measured. The 2011 Industrial Boiler MACT Floor Memo shows the available dioxin/furan data were below representative detection limits.

The Industrial Boiler NESHAP data demonstrated that standalone biomass combustion units do not emit dioxin/furan in reliably measurable amounts. Based on an understanding of the mechanisms leading to dioxin/furan formation, combined with the Industrial Boiler NESHAP data from units burning dry wood in suspension, the robust combustion conditions prevalent when firing dry wood fuels in suspension in wood products dryers are not expected to be favorable for dioxin/furan formation.[45] We believe that the above facts justify EPA concluding that dioxin/furan is not a HAP that is known to be emitted from PCWP dryers and therefore there is not a "HAP gap" that EPA must consider filling under the *LEAN* decision. And even if EPA concludes that dioxin/furan emissions are known to exist and should be addressed during a CAA §112(d)(6) review, the appropriate thing under the circumstances – concentrations already near or below detection limits, no known add-on technology to reduce dioxin/furan below those levels, residual risk already acceptable with an ample margin of safety – would be for EPA to conclude that it is not "necessary" to revise the existing PCWP NESHAP by adding requirements for dioxin/furan.

If EPA does promulgate new dioxin/furan emission standards, however, EPA has authority to address those emissions using work practice standards, and indeed it would be arbitrary and capricious for EPA to impose numerical emission limitations. The detection limits for Method 23 are highly variable, even between samples from the same source that were also analyzed by the same laboratory. Unless dioxin/furan is emitted from the source category at level of magnitude significantly above the detection limit and measurement error (which, as explained above, EPA has data supporting that it is not), the achievable detection limits for dioxin and furan isomers are so variable that an attempt to set a numerical standard could result in the unintended outcome of units that were tested not being able to demonstrate compliance with the resulting emission limits. EPA concluded it was not appropriate to set a numerical standard for dioxins/furans in the Industrial Boiler NESHAP for this very reason[46]. Given this, along with it being extremely unlikely that any relationships could be observed between emissions and process unit configuration/operation, any attempt to set a

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[44] See also Response to Comments document supporting Mineral Wool Production and Wool Fiberglass Manufacturing RTR final rule, 80 Fed. Reg. 45280 (July 29, 2015), Responses 108 and 114 (work practices for HCl and HF because one or both were below detection limits in most samples).

[45] EPA-HQ-OAR-2016-0243-0251_attachment_3

[46] 76 Fed. Reg. 80606

dioxin/furan emissions limitation on wood products dryers would likely be arbitrary and capricious. It would be impossible to demonstrate compliance.

In this situation, EPA has ample authority to prescribe a work practice standard instead of a numerical emissions limit. CAA §112(h)(2)(B) authorizes EPA to establish work practice standards when "the application of measurement methodology to a particular class of sources is not practicable due to technological and economic limitations."[47] Such is the case for any dioxin/furan emission standard EPA would set – the inevitable proximity of the standard to the detection limit, along with the lack of an observable relationship between emissions and process operation, would make testing for compliance not practicable. A work practice standard requiring good combustion practices (e.g., tune up practices similar to those required in the Industrial Boiler NESHAP) is justified in this situation and would ensure that dioxin/furan emissions are minimized.

To the best of our knowledge, no currently regulated industrial biomass combustion sources have federal dioxin/furan numerical emission standards. Rather, work practice standards have been promulgated for all such sources. When we reviewed the dioxin/furan data collected as part of the Industrial Boiler NESHAP ICR, we were concerned that the lack of data, the quality of the data collected, and the lack of understanding of dioxin/furan formation and control would result in dioxin/furan numerical emission limits at levels that could lead to violations at facilities with test results below detection limits but above a numerical standard. Additionally, there have been no studies on the efficacy of emissions controls on dioxin/furan emissions from industrial boilers, much less wood products dryers. If EPA were to set a numerical emission standard, there will be no information available with respect to what strategy a facility would use to meet it. EPA stated at 76 Fed. Reg. 80606 "We are not aware of any emissions controls that are demonstrated to reduce dioxin emissions from the low levels indicated by the available data for boilers and process heaters." Therefore, we agree that EPA is justified in proposing a work practice standard, rather than numerical emissions limits, to limit emissions of dioxin/furan from direct-fired dryers.

3.5.2. It is Not Necessary for EPA To Establish Numerical Limits for PAH Emissions from Biomass-Fired Dryers

EPA has proposed to establish numerical emissions limits for PAH emissions from biomass-fired dryers in Tables 1D and 1E based on limited testing conducted as part of the 2022 ICR using Other Test Method (OTM) 46. PAH compounds are formed from combustion of carbonaceous material under reducing conditions or suboptimal combustion conditions – they are products of incomplete combustion. As with dioxin/furan, formation of PAH can be lower when combustion conditions are optimized and those efficient combustion conditions are maintained by performing regular combustion system tune ups. EPA confirms this in the preamble with the following statement: "The burner tune-up requirements required for all direct fired PCWP dryers are expected to help with meeting the PAH MACT floor."[48]

[47] As EPA has recognized in other MACT rulemakings, this could relate either to measuring emissions for purposes of establishing a standard, or measuring emissions for purposes of compliance monitoring. See, e.g., 79 Fed. Reg. 75622, 75645 (Dec. 18, 2014) (applying work practice standards in part because conventional compliance test would be inaccurate due to long firing cycle of periodic brick kilns).

[48] 88 Fed. Reg. 31865

EPA would be justified in concluding, from its CAA §112(d)(6) review of biomass-fired dryers, that it is not necessary to revise the current PCWP NESHAP to add any standards for PAH. The emissions data EPA has available raise many quality concerns and do not present a consistent picture of PAH emissions…other than to conclude that PAH concentrations, if present, are very low. Emission standards EPA already promulgated, or will be promulgating, for other HAPs result in as effective control of PAHs as EPA seeks to impose through the proposed numerical emission limitations for PAHs.[49] Plus, EPA already determined that existing estimated emissions of PAHs are adequately protective of public health, with an ample margin of safety. EPA has "addressed" PAHs in its §112(d)(6) review, and it would be inappropriate in light of these facts to say it is "necessary" to revise Subpart DDDD to add emission standards for PAHs. If EPA nevertheless persists in its proposed determination to adopt standards under §112, work practice standards, rather than numerical limitations, would be the appropriate way to approach PAH emissions.

The data available to EPA from testing of dryer exhaust for PAHs demonstrate that it is not practicable to measure PAH emissions, justifying the use of work practice standards under CAA §112(h)(2)(B). This is reflected both in the data uncertainty issues, related to trying to detect and quantify very low concentrations of sometimes commonly-occurring chemicals, and in the inability to reliably measure emission reductions that EPA postulates that mills with biomass-fired dryers are achieving and can achieve.

It is NCASI's technical assessment (see their detailed technical comments being submitted separately) that the already low PAH emissions measured during the 2022 PCWP MACT ICR testing are uncertain and biased high as a result of analytical and reporting issues, including high field train proof blanks and laboratory method blanks, and that actual emissions of PAH from PCWP wood-fired dryers are much lower than the already low levels reported. Given the low levels of PAH measured during the 2022 PCWP MACT test program and the inherent uncertainties in the data, PAH data are not robust or suitable for setting numerical emission limits given the following data quality issues identified in the eight available detailed analytical reports.

- Pre-extraction standard recoveries for 13 of the 24 sample runs reviewed did not meet OTM-46 requirements. The test method states these runs are not valid. This results in seven of the eight dryers reviewed having less than three valid sample runs. Furthermore, six of the eight sampling events had an invalid field train proof blank.
- Exceptionally high results were observed in all field train proof blanks and laboratory method blanks (LMB) reviewed. The majority (89%) of the blank results were above three times the estimated detection limit (3xEDL).[50] At least one compound from every

[49] As explained below, EPA is assuming that RTOs, which mills operate to meet the existing Subpart DDDD emission standards for organic HAPs, will achieve reductions in PAHs, and EPA also has acknowledged that good combustion controls, in the form of regular boiler tune-ups, that it is proposing to require for dioxin/furan, will help control PAHs as well, and it is the only approach to PAH controls that has been identified in BACT reviews.

[50] The EDL is a detection limit specific to each sample analysis based on the noise signal measured near the retention time of a target compound or target isomer group. Being sample specific, the EDL is affected by sample size, dilution, recoveries of preextraction standard, chemical noise from sample extract, electronic noise from instrument, extract aliquot, relative response of instrument,

field train proof blank did not meet OTM-46 criteria. Method constraints are in place to ensure the blank results are of sufficient quality before reporting sample run results. Due to the failures to meet these method constraints, all results for the 24 test runs reviewed that are associated with these blanks are potentially invalid. Naphthalene results in the field train proof blanks were on average 5,874 times higher than the corresponding EDLs, ranging from 123 to 11,440 times higher. Naphthalene in the field train proof blank results accounted for 41% of the reported naphthalene in sample test run results, ranging from 3% up to 98% of reported naphthalene being attributable to contamination. As naphthalene makes up an average of 72% of the PAH data on a concentration basis, uncertain naphthalene results correspond to uncertain overall PAH results.

- There is no indication that a laboratory initial demonstration of capability (IDC) was conducted for PAH, as OTM-46 was released only a very short time prior to the required ICR testing.
- The relative standard deviations (RSD) for the mean relative response factor (RRF) determined during the initial calibration for naphthalene, 2-methylnaphthalene, and perylene were above the method criteria. All results from the 24 test runs for these three compounds are highly uncertain due to this failure.
- OTM-46 relies on the assumption that the isotope dilution quantification is equivalent to a more traditional quantitative analysis approach, which directly references a calibration curve. A detailed analysis of the dryer PAH dataset shows that in this instance isotope dilution does not yield the same results to a more traditional analysis approach. A similar comparison shows isotope dilution does work well for the dioxins/furans dataset but not for PAH.

There are a few entries for PAH in the RBLC but there are no specific controls identified, only use of good combustion practices. Although EPA postulates an RTO would be necessary to comply with the proposed PAH standard[51], a review of the data for dryer PAH emissions[52] indicates little difference between dryers controlled with biofilters and dryers controlled with oxidizers. In addition, one of the rotary strand dryer systems tested (1191-RSD1-3) is already equipped with a WESP and an RTO, and its emissions data are higher than both the proposed concentration standard and the proposed production-based standard. It does not make sense that EPA is prescribing an RTO as the appropriate control device for PAH emissions from wood-fired dryers when a facility with an RTO cannot comply with the proposed emissions limit based on its 2022 ICR test data. EPA also acknowledges that a new rotary strand dryer coming online with a WESP and RTO system would be "challenged to meet the stringent new source PAH MACT floor."[53] The available data, along with knowledge about formation of PAH in combustion sources, results in a lack of certainty as to how facilities would comply with a numerical PAH standard established on the basis of the limited and unreliable PAH emissions data available. EPA's estimated $32,097,456/ton[54] to comply with the proposed PAH limits may in fact be low if facilities cannot indeed comply using their existing RTOs. The best control

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etc. https://www.epa.gov/system/files/documents/2022-02/rm3-rs2otm-46-pcdd_pcdf_pah-pcb_ns-01_28_2022.pdf
[51] 88 Fed. Reg. 31865
[52] EPA-HQ-OAR-2016-0243-0272
[53] 88 Fed. Reg. 31865
[54] EPA-HQ-OAR-2016-0243-0419

for PAH emissions is combustion optimization; therefore, EPA should determine that the tune-up standard proposed for dioxin/furan emissions is also applicable to PAH emissions.

At a minimum, EPA should not finalize PAH emissions limits for veneer dryers. EPA collected no data on PAH emissions from veneer dryers, yet it has proposed to set a PAH standard for veneer dryers based on its three times the representative detection limit (3XRDL) approach, effectively banning PAH emissions from biomass-fired veneer dryers with no data to support such an approach. That would be the definition of arbitrary and capricious rulemaking. It is contrary to the requirement in CAA §307(d)(2)(A), which requires the notice of proposed rulemaking to set forth "the factual data on which the proposed rule is based," and it is contrary to CAA §112(d)(2)'s requirement that the Administrator make a factual determination that the emission limitation is achievable.

EPA postulates that detectable PAH emissions from veneer dryers are not expected.[55] Thus, not only are there no data to support setting a limit, but there are no data showing that PAHs are "known to be emitted" from veneer dryers, and therefore this is not a gap that needs to be filled under the *LEAN* decision. And EPA certainly has not demonstrated that revising the current MACT standards to impose PAH limits on plywood veneer dryers is "necessary," as required by CAA §112(d)(6). If EPA believes that emissions of PAH from veneer dryers would be below detection limits, then no limit is necessary. EPA determined no HCl emissions limit was necessary for veneer dryers because all test data were below detection limits[56]; the same logic should apply to PAH emissions. We still strongly recommend that the tune-up procedures replace all the PAH numeric limits for the reasons described above.

3.5.3. We Support the Inclusion of Tune-Up Work Practices for Biomass Direct-Fired Dryers

EPA has proposed at §63.2241(d) that biomass direct-fired dryers have an annual tune-up per the requirements of §63.2271(c) as a work practice standard to limit certain combustion-related HAP emissions. Although, as stated above, we believe EPA would be justified in deciding not to add any new requirements related to dioxin/furan and PAH emissions, if EPA does choose to impose new standards for those pollutants, we believe the boiler tune-up work practice standard EPA has proposed is the appropriate approach to address not only dioxin/furan emissions from combustion of biomass, but also PAH emissions. Tune-ups have long been used in various regulations as an appropriate work practice to limit combustion emissions. The Industrial Boiler NESHAP at 40 CFR Part 63, Subpart DDDDD is an example of a recent NESHAP that uses a burner tune-up as a beyond-the-floor standard to regulate combustion HAP emissions from biomass-fired boilers and process heaters. The same work practice justification that applied to those units (as described by EPA at 88 Fed. Reg. 31866) applies to the combustion HAP emissions from PCWP dryers.

We agree with the tune-up procedures EPA has included in the proposed rule. However, we would request that EPA allow the tune-ups to be performed every 13 months instead of every 12 months. Requiring a 12-month tune-up is effectively requiring that facilities do the tune-up more frequently than annually, as good practice requires some allowance for problems and possible delays due to process operation or personnel scheduling issues, facilities are likely to schedule the tune-up a month earlier than required by rule, which will result in tune-ups performed once every 11 months and possibly twice in a calendar year, which is not

[55] 88 Fed. Reg. 31866
[56] 88 Fed. Reg. 31864

included in EPA's cost analysis. We request that EPA revise the language at §63.2241(d)(1) and §63.2271(c)(8) to require tune-ups at least every 13 months. This language would also be consistent with the Boiler NESHAP tune-up frequency, which allows an extra month for annual, biennial, and 5-year requirements (see §63.7515(d)) such that the tune-up will actually be performed annually and not potentially twice per calendar year (e.g., in January and December).

3.6. Overlap Provisions Are Needed for Some Energy Systems

As indicated above, EPA has proposed annual tune ups for combustion systems that provide direct heat to dryers. However, some of these combustion systems are covered by the Industrial Boiler NESHAP at 40 CFR Part 63, Subpart DDDDD because a portion of the energy from the combustion system is used to generate steam or indirectly heat thermal oil for other process units at the facility. Where a dryer receives direct heat from a combustion system that is regulated under the Industrial Boiler NESHAP, EPA should add an overlap provision at §63.2271(c) to make it clear that the facility should conduct tune-ups as required by 40 CFR Part 63, Subpart DDDDD, not as required by the PCWP NESHAP.

3.7. Proposed Biomass-fired Dryer Emissions Limits for PM, Hg, and HCl

3.7.1. We Support the Subcategorization of PCWP Dryers when Establishing Numerical Emission Limits

EPA has proposed to subcategorize direct-fired dryers by fuel type when establishing MACT emission limits under CAA §112(d).[57] According to CAA §112(d)(1):

> *The Administrator may distinguish among classes, types, and sizes of sources within a category or subcategory in establishing standards…*

EPA proposes to subcategorize PCWP dryers based on the following types of dryers: "direct wood-fired PCWP dryers" or "direct natural gas-fired PCWP dryers." As EPA notes, these subcategories represent two distinct design types with different emissions profiles as a result of the type of fuel fired. We agree with EPA that based on information submitted in response to the 2017 ICR, emissions of the HAP for which the Agency is proposing standards are predominantly associated with wood combustion. Further, we also agree with the Agency that the Boiler MACT rule provides a strong precedent for subcategorizing by fuel type. In the Boiler MACT rule, EPA determined that it was not feasible to set numerical limits for gas-fired units because emissions from such units are routinely below method detection limits.[58] While PCWP dryers are not directly comparable to boilers, they are both combustion sources that fire similar fuels; therefore, it is reasonable to assume that had EPA required direct natural gas-fired PCWP dryers to perform stack testing as part of the 2022 ICR, the results of HAP originating from fuel combustion (as opposed to wood drying) would be at or below the method detection limits.

Thus, if EPA does not subcategorize by fuel type in the final rule, the numerical emissions standards would largely be based on 3XRDL, driven by natural gas-fired units. Not only would this result be contrary to EPA's obligations when setting emission standards under CAA §112[59], it would discourage the use of biomass-based fuels, which are an important tool in managing

[57] 88 Fed. Reg. 31861. See also EPA-HQ-OAR-2016-0243-0272, pg. 3.
[58] 76 Fed. Reg. 15638
[59] See, e.g., Sierra Club v. EPA, 479 F.3d 875, 884-85 (D.C. Cir. 2007) (Williams, J., concurring).

and reducing the Nation's carbon footprint. Biomass-based fuel is a renewable byproduct stream generated by many wood products facilities. Use of biomass fuels not only makes the production of several wood products economical, but also improves the Nation's energy security by lowering reliance on foreign sources of fossil fuel. EPA's appropriate subcategorization by fuel type avoids prescribing overly stringent HAP emissions limitations and allows facilities to continue use of beneficial biomass-based fuels.

We also support EPA's proposal to establish separate limits for the PCWP dryer types currently defined by Subpart DDDD. These dryer types vary by type of product dried (e.g., wood strands versus fibers/particles), the initial moisture content of the material, the conveyance mechanism (e.g., rotary action, conveyor, or pneumatic transport), and operating temperature. All of these variances can contribute to differences in emission profiles warranting separate standards for each dryer type.

3.7.2. We Support EPA's Use of Particulate Matter as a Surrogate for HAP Metals

We support EPA's proposal to set surrogate-based standards for non-mercury (Hg) HAP metals using PM.[60] The Agency has routinely used PM as a surrogate for non-Hg HAP metals,[61] and this approach has been confirmed through case law. In National Lime Ass'n v. EPA, 233 F.3d 625 (D.C. Cir.2000), the court established a three-pronged test to determine whether the use of PM as a surrogate for HAPs is reasonable. The three facets of the test are:

- HAP metals are invariably present in PM;
- PM control technology indiscriminately captures HAP metal along with other particulates; and
- PM control is the only means by which facilities "achieve" reduction in HAP metal emissions.[62]

Regarding the first of the three parts, it is well established that non-Hg metallic HAP are invariably present in PM from combustion sources.[63] This is demonstrated by the ICR data collected by the Agency. For example, 100% of the manganese and nickel measurements resulted in concentrations above the detection limit. To the second point, control of PM indiscriminately captures non-Hg metallic HAP. The non-Hg metallic HAP are present in the ash emitted by the combustion of biomass, thus control of the ash, which is considered PM, indiscriminately controls the metallic HAP. For the third facet, PM controls are the only means by which PCWP facilities control non-Hg metallic HAP from direct biomass-fired dryers. Other than PM controls, fuel switching is the only other means by which facilities *could* reduce metallic HAP emissions; however, fuel switching is not technically feasible for all PCWP facilities due to the inability to access natural gas in certain locations. Furthermore, to install natural gas on 100% biomass-fired units would require a fundamental design change for the unit, which has been rejected by the Agency as a reasonable control scenario in various circumstances (for example, EPA BACT guidance states that it is not reasonable to change the design of a source, such as by requiring conversion of a coal boiler to a gas turbine[64]). In

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[60] 88 Fed. Reg. 31862
[61] See, for example, 87 Fed. Reg. 34614, 34619 (June 7, 2022); 86 Fed. Reg. 3079, 3095 (Jan. 14, 2021).
[62] National Lime Ass'n v. EPA, 233 F.3d at 639 (D.C. Cir.2000)
[63] See, for example, 69 Fed. Reg. 55223 where EPA states: "Most, if not all, non-mercury metallic HAP emitted from combustion sources will appear on the flue gas fly-ash."
[64] https://www.epa.gov/sites/production/files/2015-07/documents/igccbact.pdf

addition, replacing biomass with natural gas in wood-fired units results in additional costs for PCWP facilities and decreases the economic viability of a facility because biomass is a low-cost fuel; thus, our members minimize supplemental natural gas firing in biomass-fired units to the extent possible.

In summary we support the application of a PM surrogate to direct biomass-fired PCWP dryers because it is appropriate, consistent with previous Agency rulemakings, and meets the required criteria previously established by the D.C. Circuit Court of Appeals.

However, as already noted in these comments, we question the necessity for additional PM standards in the PCWP NESHAP. For example, EPA's analysis[65] indicates that although most rotary strand dryers operate with PM and HAP control technology, several rotary strand dryers are not projected to meet the proposed PM standards and the cost effectiveness of the proposed PM standards for these dryers is more than $52 million/ton. Given that there is no quantified benefit from reducing these emissions, EPA has already determined that risk from the source category is acceptable, and the HAP reduction is only 0.32 tpy, setting a numerical standard that requires millions in capital and annual cost is not necessary under CAA §112(d)(6).

3.7.3. Format of Emissions Limits

We support EPA's proposal to establish both concentration and production-based numerical emissions limits for direct wood-fired PCWP dryers. We also support EPA's approach to establish the concentration-based limits using test data from those dryer systems considered "best-performers" on a production basis. As noted by EPA,[66] having two formats of a standard provides an important flexibility to PCWP facilities. Specifically, a concentration-based format allows facilities that are not readily equipped to accurately measure production rates to demonstrate compliance without installing and maintaining additional equipment.

EPA has established alternate standards in previous rules, such as the output-based standards in the Boiler MACT rule (see, for example, the fourth column of Table 2 to Subpart DDDDD of Part 63) and the concentration, mass emission rate (pound per hour), and production-based (pound per ton) standards in the Brick and Structural Clay NESHAP.[67] In the case of the Brick and Structural Clay NESHAP, EPA established the numerical limits by identifying the best performers for each format of the standard. In other words, by identifying three different sets of best performers. The D.C. Circuit Court disagreed with this approach, ruling that:

> *EPA has the discretion to determine what metric to use in defining the "best" source, so long as it is reasonable…However, the EPA's discretion does not extend to defining several different "best" metrics within the same category and allowing emitters to comply with the most favorable standard.*[68]

In the Boiler MACT rule, EPA used boiler efficiency data from the best performers determined on an input basis to develop the conversion factors used to calculate the output-based limits.[69] EPA's approach for PCWP parallels the Agency's approach for the Boiler MACT rule, i.e., the Agency first identified the best performers based on the primary format of the standard, and

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[65] EPA-HQ-OAR-2016-0243-0419
[66] EPA-HQ-2016-0243-0272, pg. 5.
[67] 80 Fed. Reg. 65485.
[68] Sierra Club v. EPA, 895 F.3d 1, 15-16 (D.C. Cir. 2018)
[69] EPA-HQ-OAR-2002-0058-4173, pg. 2.

then calculated alternative limits using the data from the previously identified best performers. The approach ensures that all formats of the standard represent the performance of the best-controlled sources and is therefore consistent with Section 112(d) of the Clean Air Act, and the precedent established by the courts.

3.7.4. Acid Gas Standards: Health-Based Emissions Limitation and Surrogacy

We recommend EPA establish a health-based emissions limitation ("HBEL") for acid gases using its authority under CAA §112(d)(4), instead of finalizing the standards proposed under CAA §112(d)(2) and (d)(3). However, if the Agency revises its analysis and finds that it cannot promulgate a HBEL, we support EPA's use of HCl as a surrogate for acid gas emissions from biomass direct-fired dryers.

Section 112(d)(4) is a powerful tool that enables EPA to match the stringency of a HAP emissions limitation to the level determined necessary to fully protect human health. As a result, the standard is no more stringent and no less stringent than needed to get the job done.

Section 112(d) generally requires MACT emissions limitations to be set at a level that reflects the performance of the better performing sources in the given source category or subcategory. Section 112(d)(4) provides an alternative to this basic approach for pollutants for which a health threshold has been established. For such pollutants, §112(d)(4) authorizes EPA to "consider such threshold levels, with an ample margin of safety, when establishing emission standards" under §112(d).

The default technology-based method of setting MACT standards is a cookie cutter approach that can and does result in HAP emissions limitations that go well beyond what is needed to protect the public from HAP emissions. The clear purpose of CAA §112(d)(4) is to prevent this from happening. The legislative history of §112(d)(4) is abundantly clear on this point. In formulating §112(d)(4), Congress recognized that, "For some pollutants a MACT emissions limitation may be far more stringent that is necessary to protect public health and the environment."[70] As a result, §112(d)(4) was provided as an alternative standard setting mechanism for HAPs "where health thresholds are well-established … and the pollutant presents no risk of other adverse health effects, including cancer…"[71]

On August 13, 2020, EPA finalized its determination that risks from the PCWP source category are acceptable and that revisions to the standards are not necessary to reduce risk to an acceptable level, to provide an ample margin of safety to protect public health, or to precent an adverse environmental effect.[72] In EPA's 2019 risk assessment, the maximum chronic individual hazard index for whole facility risk was determined to be 1, driven by emissions of acrolein, chlorine, and HCl. The maximum acute 1-hour reference exposure level (REL) hazard quotient screening value for HCl, chlorine, or hydrofluoric acid was 0.05 for HCl.[73] According to EPA, exposures at or below the reference level (HQ ≤ 1) are not likely to cause adverse health effects.[74] Furthermore, a screening-level evaluation of potential adverse environmental risk showed that no ecological benchmarks were exceeded for acid gases.[75] Thus, because

[70] S. Rep. No. 101-228 (1990) at 171.
[71] Id.
[72] 85 Fed. Reg. 49437
[73] EPA-HQ-OAR-2016-0243-0179.
[74] Id.
[75] Id.

acid gases have well-established health thresholds and PCWP facilities do not emit these compounds in quantities that would present adverse health effects or ecological risks, EPA should consider a HBEL instead of setting standards under §§112(d)(2) and (d)(3) of the CAA.

A health protective HBEL under CAA §112(d)(4) could take a number of forms. For example, a tiered approach could be developed where a conservative look-up table provides HCl equivalent emission rate thresholds for various source-receptor combinations. If the look-up table is not viable, then site-specific modeling following established U.S. EPA risk assessment guidance could be performed to establish an appropriate HBEL. For example, detailed dispersion modeling using source-specific stack parameters and receptor locations could be used to establish appropriate HBELs. Variability in emissions could be addressed by consideration of variability in fuel consumption and fuel content. A robust statistical method could be applied to assure conservatism with a reasonable level of certainty, such as the 95th percentile commonly applied by EPA. Alternatively, limits for HCl and other pollutants established in air permits could be proposed for use in lieu of establishing separate HBELs.

Although HBELs for acid gases are clearly allowed under Section 112(d)(4) of the Clean Air Act, if EPA determines that it cannot promulgate a HBEL in the final rule, we support the Agency's proposal to use HCl as a surrogate for acid gas emissions in setting numerical standards under §§112(d)(2) and (d)(3). Emissions of HF were below the method detection limit in 99% of the available test data demonstrating that HF is generally not emitted by the source category and therefore numerical emissions standards are not required. Although Cl_2 was measured above the detection limit in 35% of test runs, as explained below, there is considerable uncertainty associated with these results; therefore, setting a separate standard for Cl_2 based on the available data would be inappropriate.

Both Cl_2 and HCl emissions from wood products dryers are the result of chlorides (Cl) in the wood fuel burned to generate hot flue gases ahead of the dryers, and are not expected from the wood product being dried. Cl_2 was detected in 11 of the 19 units for which we analyzed data. The Cl_2 dataset is considered highly censured with 65% of results reported below the method detection limit. Results ranged from non-detect to approximately 26% of the total Cl content of the wood residue fuel fired in the combustors preceding the dryers, averaging about 7.1%. Previous studies have reported low percentages of Cl_2 formation during combustion at approximately 6% of fuel Cl content.[76] It is possible that some of the higher-than-expected Cl_2 emissions, expressed as a percentage of Cl content in the fuel, could be the result of sampling error and/or method bias.

A potential source of bias in Cl_2 measurements using EPA Method 26A is the post-run leak check required by the method. After each test run, the sampling train must be leak checked according to the procedures given in EPA Method 5, Section 8.4.4. Having the front impingers, used for collection and determination of HCl, directly in-line with the impingers used for Cl2 capture presents an opportunity for the liquid from the front impingers to surge over into the back impingers as the system vacuum is released. In this instance, the impinger solution containing Cl- ions from the capture of HCl could transfer to the back impinger where the Cl_2 gases are captured, converted, and measured as Cl- ions. The transfer of Cl- into the back impingers would cause a positive bias in Cl- measured in the back half and thus overestimate Cl_2 emissions.

[76] Lightowlers, P. J., and Cape, J. N. 1988. Sources and fate of atmospheric HCl in the U. K. and western Europe. Atmospheric Environment 22 (1): 7-15.

Another potential consideration related to Cl_2 emissions is identified in a report titled "A Comprehensive Assessment of Toxic Emissions from Coal-Fired Power Plants: Phase I Results from the U.S. Department of Energy."[77] Cl_2 and HCl emissions were measured using EPA Method 26A at three coal-fired utility sites. Speciation work indicated that Cl_2 emissions were approximately 6.3% of total chlorine at one source and 5.5% of total chlorine at a second source. However, speciation at a third source showed the highest level of Cl_2 emissions, at 45% of total chlorine. The report stated the following "Since the existence of Cl_2 as well as F_2 is debatable in combustion flue gas, it is important to remember that in the EPA Method 26A sampling technique, the chlorine captured in the dilute H_2SO_4 impingers existed as HCl, while the chlorine captured in the dilute NaOH impingers existed as Cl_2 and/or other volatile chlorine containing compounds." This would suggest volatile chlorine containing compounds have the potential to cause a positive bias in Cl_2 emissions measured using EPA Method 26A. VOC emissions measured from 18 panel plant dryers (1 hardboard, 6 MDF, 5 OSB, 6 particle board) have been reported by NCASI[78, 79] to range from 0.20 to 6.8 lb/ODT, averaging approximately 2.14 pounds per oven dried ton (lb/ODT). Cl_2 emissions from panel plant dryers tested as part of the 2022 ICR ranged from 0.000067 to 0.00518 lb/ODT, averaging approximately 0.0012 lb/ODT. The observations in Miller et al.[77] may also be applicable here and a portion of the Cl_2 measured in this study could be attributed to volatile chlorine containing compounds being measured as Cl_2 in the dilute NaOH impingers.

Given the vast majority (approximately 94%) of fuel Cl converts to HCl during combustion and only a low percentage converts to Cl_2, as evidenced by the average Cl_2 measured during these tests and the high percent of results below detection limits, it is appropriate to address emissions attributable to Cl in wood fuels with a numerical emission limit for HCl. Furthermore, the potential for bias in Cl_2 measurements when using EPA Method 26A adds uncertainty to the very low levels of Cl_2 emissions measured during these tests.

3.7.5. Corrections Are Needed for the Green Rotary Dryer Production-Based Dataset for Particulate Matter

A comparison of our dataset and EPA's dataset for production-based values from green rotary dryers shows significant differences for the following system IDs: 1436-GRD1-1, 1147-GRD1-1, 2001-GRD1-2, and 1023-GRD1-2:

- 1436-GRD1-1: EPA appears to have inadvertently used the same set of production values to calculate production-based emissions rates for all pollutants, instead of

[77] Miller, S. J., Ness, S. R., Weber, G. F., Erikson, T. A., Hasett, D. J., Hawthorne, S. B., Katrinak, K. A., and Louie, P. K. K. 1996. A comprehensive Assessment of Toxic Emissions From Coal-Fired Power Plants: Phase I Results from the U. S. Department of Energy Study, Final Report, Contract No. DE-FC21-93MC30097 (Subtask 2.3.3), September 1996.

[78] National Council for Air and Stream Improvement, Inc. (NCASI). 1995. Particleboard and medium density fiberboard air emission databases. Technical Bulletin No. 693. Oriented strandboard and plywood air emission databases. Technical Bulletin No. 694. An air emission database for wood product plant combustion units. Technical Bulletin No. 695. Research Triangle Park, NC: National Council for Air and Stream Improvement, Inc.

[79] National Council for Air and Stream Improvement, Inc. (NCASI). 1999. Volatile organic compound emissions from wood products manufacturing facilities, parts I-VI. Technical Bulletins Nos. 768-773. Research Triangle Park, NC: National Council for Air and Stream Improvement, Inc.

correlating the production values to the appropriate periods on a pollutant-by-pollutant basis. This results in incorrect production-based emissions rates for system 1436-GRD1-1. We also note minor differences in the mass emissions rates reported in the test report versus those presented in EPA's supporting documentation.[80] The table below presents corrected production-based emissions rates for this system.

Corrected PM Emissions and Production Rates for System 1436-GRD1-1

Run	Emission Rate (lb/hr)	Production Rate (ODT/hr)	Production-Based Emissions Rate (lb/ODT)
1	1.60E-01	11	1.45E-02
2	1.80E-01	11.2	1.61E-02
3	1.80E-01	11.3	1.59E-02
4	1.90E-01	11.4	1.67E-02
5	1.80E-01	11.5	1.57E-02
6	2.60E-01	11.3	2.30E-02
7	3.20E-01	11.1	2.87E-02

- 1147-GRD1-1: EPA appears to be missing a value of 0.133 lb/ODT (run 4 from the 2011 test). We are unable to identify justification for excluding this value from the UPL calculation dataset. We recommend incorporating the datapoint in the limit calculation.
- 2001-GRD1-2: We are unable to replicate EPA's value of 0.154 lb/ODT for run 2 and 0.0557 lb/ODT for run 7 of the ICR test. For run 2, the reported lb/hr value was 5.02 whereas EPA's listed value is 5.22. For run 7, it appears EPA used a production value of 66.4 ODT/hr, instead of the reported value of 56.2 ODT/hr. These changes are summarized in the table below.

Summary of PM Emissions Data for 2001-GRD1-2, Runs 2 and 7

Run	Concentration (gr/dscf)	Flow Rate (DSCFM)	Mass Emission Rate (lb/hr)	Production Rate (ODT/hr)	Emission Rate (lb/ODT)
1	0.0038	154,381	5.02	34	0.148
6	0.0028	153,023	3.71	56.2	0.066

- 1023-GRD1-2: We are unable to replicate EPA's lb/ODT values from the 2008 and 2010 tests. EPA appears to have calculated the emissions factor by multiplying the concentration (gr/dscf) by the volumetric flow rate (dscfm) and 60 minutes, then dividing by the total production value for the test, which was conducted over 90 minutes. EPA should correct the lb/ODT values for the 2008 and 2011 tests by multiplying by a factor of 90 instead of 60, or otherwise using an hour's worth of

[80] EPA-HQ-OAR-2016-0243-0271, Attachment 25.

production data, instead of a full 90 minutes. Furthermore, EPA should replace the measured mass of 2.7 mg for Run 2 of the 2010 test with a value of 3.0 mg, the MDL from the 2015 update to ODEQ7. Implementing these corrections results in the following values:

Summary of Corrected PM Emissions Data for 1023-GRD1-2, 2008 and 2010 Tests

Date	Report Name	Run No.	lb/ODT	gr/dscf
2010	TP 2010.1624_20180110073022.pdf	1	1.78E-01	3.19E-03
		2	4.77E-02	7.55E-04
		3	7.87E-02	1.25E-03
2008	TP 2008.1352.A_20180110072216.pdf	1	3.06E-01	3.55E-03
		2	1.09E-01	1.19E-03
		3	1.70E-01	1.80E-03

- Implementing the corrections above changes the best performer from 1436-GRD1-1 to 1625-GRD1-1. The resulting limits are presented in the table below.

Revised PM Emissions Limits for Green Rotary Dryers

Source	Production Based Limit (lb/ODT)	Concentration Based Limit (gr/dscf)
Existing Source	0.26	1.3E-02
New Source	0.032	4.9E-04

3.7.6. The 3XRDL Value for HCl from Tube Dryers Should Be Revised

We are unable to replicate EPA's 3XRDL value for HCl from primary and secondary tube dryers on a production basis. In Table 25 of EPA's UPL memorandum,[81] the 3XRDL value is presented as 2.3E-03 lb/ODT; however, in Attachment 22 "Rollup of Dryer Acid Gas Emissions," to EPA's "Compilation of Information Collected in a 2022 Survey of Selected Plywood and Composite Wood Products Facilities,"[82] the three values presented in column BC of worksheet are 1.63E-03, 5.62E-03, and 5.59E-03 lb/ODT, for an average of 4.3E-03 lb/ODT. We request EPA review the 3XRDL analysis for HCl from tube dryers on a production basis and revise the floor value as necessary.

[81] EPA-HQ-OAR-2016-0243-0272
[82] EPA-HQ-OAR-2016-0243-0271

3.7.7. The Concentration-Based HCl Limit for Existing Rotary Strand Dryers Is Stated Incorrectly in the Preamble

The preamble to the proposed rule states that the proposed limits for HCl from existing rotary strand dryers are 5.8E-03 lb/ODT and 1.5E-**02** mg/dscm;[83] however, page 26 of EPA's supporting technical memorandum[84] stated the existing source concentration-based limit is 1.5E-**01** mg/dscm. This value is confirmed via a review of "Appendix C16. UPL Spreadsheet for Existing Rotary Strand Dryers, HC mg/dscm" available in the docket. We note that the correct value is presented proposed Table 1D to Subpart DDDD of Part 63 in the RLSO version of the rule text.

We also note that the 3XRDL value for HCl concentration-based standards is stated incorrectly in the preamble (i.e., 1.0E-01 mg/dscm). The correct 3XRDL value is 9.0E-02 mg/dscm, as presented in EPA's supporting memorandum and Tables 1D and 1E to Subpart DDDD of Part 63 in the RLSO version of the rule text.

3.7.8. The Hg, HCl, and PAH Production-Based Emissions Values for System 1436-GRD1-1 Should Be Revised

EPA appears to have inadvertently used the same set of production values to calculate production-based emissions rates for all pollutants for 1436-GRD1-1, instead of correlating the production values to the appropriate periods on a pollutant-by-pollutant basis. This results in incorrect production-based emissions rates for system 1436-GRD1-1. The tables below present corrected production-based emissions rates for this system.

Production Based HCl Emissions Rates for System 1436-GRD1-1 (lb/ODT)

Run	EPA's Presented Value[1]	Corrected Value
1	9.21E-03	9.48E-03
2	7.87E-03	8.12E-03
3	6.31E-03	7.07E-03
4	6.10E-03	6.67E-03
5	5.06E-03	5.34E-03
6	2.55E-03	3.19E-03
7	1.36E-03	1.46E-03

1 – EPA-HQ-OAR-2016-0243-0271, Attachment 22

Production Based Hg Emissions Rates for System 1436-GRD1-1 (lb/ODT)

Run	EPA's Presented Value[1]	Corrected Value
1	2.23E-05	2.33E-05
2	1.20E-05	1.29E-05
3	5.74E-06	6.70E-06
4	3.82E-06	7.22E-06
5	2.97E-06	5.75E-06
6	3.32E-06	5.30E-06
7	5.79E-06	7.82E-06

1 – EPA-HQ-OAR-2016-0243-0271, Attachment 24

[83] 88 Fed. Reg. 31864
[84] EPA-HQ-OAR-2016-0243-0272

Incorporating the revised values into the UPL calculation increases the calculated HCl limit for existing source green rotary dryers from 6.5E-03 lb/ODT to 6.9E-03 lb/ODT. The Hg limit for existing source green rotary dryers does not change from 1.3E-05 lb/ODT (we note however that the distribution of the dataset changes from skewed to lognormal).

In addition to the aforementioned discrepancy between production values, there also appears to be an inadvertent error in the PAH values (production and concentration) for system 1436-GRD1-1. The error originates from an incorrect value used for the concentration of naphthalene from run 2. EPA's total PAH concentration value is 7.55E-04 mg/dscm based on a naphthalene concentration of 8.2E-07 mg/dscm; however, the naphthalene concentration presented in the test report is 8.20E+02 ng/dscm, or 8.2E-04 mg/dscm. Revised production-based emissions rates are presented in the table below.

Production Based PAH Emissions Rates for System 1436-GRD1-1 (lb/ODT)

Run	EPA's Presented Value[1]	Corrected Value
1	9.12E-06	1.03E-05
2	6.60E-06	1.40E-05
3	1.60E-05	2.06E-05

1 – EPA-HQ-OAR-2016-0243-0271, Attachment 23

Correcting this transcription error and the production rates changes the results of the UPL calculations as presented in the table below.

Comparison of UPL Results for PAH from Green Rotary Dryers Following Correction of Naphthalene Results for 1436-GRD1-1

Source	Production (lb/ODT)		Concentration (mg/dscm)	
	Proposed Value	Revised Value	Proposed Value	Revised Value
Existing Source	9.0E-03	6.4E-03	4.1E-01	3.3E-01
New Source	2.6E-05	3.1E-05	4.4E-03	4.1E-03

3.7.9. We Agree that No Beyond the Floor Standards Are Feasible or Cost-Effective

EPA evaluated beyond the floor options for several of the PM and organic HAP standards it is proposing. We agree that any beyond the floor option evaluated is not cost effective, as indicated in various places in the preamble and summarized in the cost, environmental, and energy impacts memorandum[85]. Any additional WESP controls would increase energy use and wastewater generation and any additional oxidizer controls would increase secondary emissions, fossil fuel use, solid waste, and energy use. We also agree with EPA's decision not to evaluate any beyond the floor options for HCl or mercury for the additional reason that

[85] EPA-HQ-OAR-2016-0243-0419

sorbent injection is not demonstrated as a control technology for wood products dryers. We reiterate that the same beyond-the-floor options EPA has determined are not cost effective also result in exceedingly high cost effectiveness values for several of the proposed numerical standards where EPA projects not all existing sources will comply.

3.7.10. Ongoing Compliance Provisions for Biomass Direct-Fired Dryers

The following comments identify corrections and revisions related to the ongoing compliance provisions for biomass direct-fired dryers.

a) The Proposed Changes in Table 5 Should be Revised

Item No. 11 of Table 5 appears to have a reference error. We recommend the following revision:

(11) Direct wood-fired PCWP dryer listed in Tables ~~1C or~~ 1D or 1E to this subpart.

b) The Proposed Changes to Table 7 are Missing a Reference to Oxidizers and Biofilters

Proposed item No. 10 of Table 7 does not include a reference to thermal or catalytic oxidizers or biofilters. Our members use these control devices to reduce emissions of PAH which is listed in Table 1D and 1E. Furthermore, the proposed changes to §63.2262(k)(1) and (l)(1) require owners and operators to establish operating parameters for these control devices to demonstrate continuous compliance with the PAH limits. Thus, we request EPA add thermal oxidizers, catalytic oxidizers, and biofilters to item No. 10 of Table 7 for clarity.

c) EPA Must Provide an Exemption for Demonstrating Compliance with the Pressure Drop Operating Parameter Limit During Startup and Shutdown

According to proposed §63.2262(r) and (s), owners and operators must establish and continuously monitor pressure drop for wet scrubbers and electrified filter beds to demonstrate ongoing compliance with the proposed PM limits (wet scrubber) and PM and Hg limits (electrified filter beds). The proposed revisions in Table 2 require owners and operators to maintain the 3-hour average pressure drop above/within the established limits.

Maintaining pressure drop is not possible during startup and shutdown conditions due to periods of low and changing flow. EPA acknowledged the same impracticability in the 2017 Risk and Technology Review for Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills (40 CFR Part 63, Subpart MM). For the Subpart MM revisions, the Agency only required compliance with the scrubber liquid flow rate during startup and shutdown.[86] We recommend EPA adopt a similar approach for PCWP and exempt owners and operators from the pressure drop requirements during startup and shutdown, otherwise, facilities will be unable to demonstrate compliance during these periods.

3.8. Proposed Emissions Limits for Fiberboard Mat Dryers and Press Predryers

EPA has proposed first-time numerical emission standards for existing fiberboard mat dryers and press predryers for inclusion in Table 1C. We note that the Table 1A standards for new

[86] 82 Fed. Reg. 47332

units are on a 1/2-inch basis and the proposed Table 1C standards for existing units are on a 1/8-inch basis. EPA should provide the equivalent 1/2-inch basis standards in Table 1C.

EPA must clarify the applicable dates of the fiberboard mat dryer and press predryer standards. Currently, Tables 1A and 1B of the rule contain standards for new fiberboard mat dryers and new press predryers (those at an affected source with initial startup before September 28, 2004). However, proposed Table 1C states that the limits in that table apply three years after the final rule for all process units at an affected source that commenced construction or reconstruction on or before May 18, 2023. The proposed language in Table 1C essentially creates a scenario where two sets of limits apply for new affected sources with a fiberboard mat dryer or press predryer constructed or reconstructed on or before May 18, 2023 (Table 1A or 1B and Table 1C). EPA should either clarify the timing of the standards in Table 1C or put the standards for fiberboard mat dryers and press predryers in a new separate table.

3.9. Mixed Process Streams

Some PCWP facilities route emission streams from multiple process units of the same or different types into one shared HAP emissions control system. In a few mixed process arrangements, all or part of the emissions from a remanded unit addressed by these proposed amendments is co-controlled with other process units listed in Table 1B, such that the combined emission stream effectively became subject to the Table 1B limits when the control system was initially installed to meet the 2004 NESHAP or as part of the PCWP plant design. Emissions from each individual type of process unit contributing to a mixed PCWP process stream cannot be distinguished at the inlet or outlet of the control device. Therefore, EPA is proposing at §63.2240(d)(5) that mixed PCWP process streams that include emissions from remanded units covered by the proposed amendments and meet the compliance options in Table 1B be considered a separate type of emission stream that remains subject to the Table 1B limits. We agree that this requirement makes sense as a streamlined approach that avoids the facility having to "untangle" emissions from remanded units that now may be subject to different standards after the effective date of the final amended rule. There is precedent in other regulatory situations where EPA has determined that only one standard applies to a combined stream and not both. For example, the Miscellaneous Organic NESHAP includes requirements for combined emission streams at §63.2450(c)(2). A hierarchy of what standard applies is provided for various combinations of streams.

3.10. MDI Standards for Presses, Dryers, and Coatings are Not Necessary

EPA is proposing to add numerical MDI emission standards for presses using MDI resin, tube dryers blow-line blending MDI resin, and miscellaneous coating operations applying MDI sealant in a new Table 1C. In the memorandum describing how the standards were developed, EPA seems to justify proposing these standards due to the fact that the 2004 PCWP NESHAP does not contain specific emission limits for MDI[87]. The same memo acknowledges that EPA is proposing to regulate some emissions of MDI using work practice standards. EPA should regulate all MDI emissions at PCWP facilities using work practice standards.

[87] EPA-HQ-OAR-2016-0243-0274

As recognized by EPA, PCWP facilities have increasingly used MDI resins in the manufacturer of particleboard, MDF, and OSB, and as a result have reduced formaldehyde emissions.[88] Although MDI is a HAP, it has a very low vapor pressure and EPA's own data show that only a fraction of 1% of the MDI applied at presses, dryers, and coating operations is actually emitted. The emissions data from presses are all detection level limited, and three of the four numerical limits proposed are based on 3XRDL, meaning the level of emissions of MDI from presses using MDI resin is barely measurable. All but two of the presses currently using MDI resin have HAP emissions controls to comply with the current PCWP NESHAP. EPA indicates that two presses currently using the production based compliance option may have to use add-on controls in order to meet the proposed press MDI emission limit. It seems counterintuitive to punish facilities that have instituted pollution prevention type practices to lower their HAP emissions to the point where emissions controls are not required under the current NESHAP. For those two facilities to have to use controls and increase energy usage and possibly criteria pollutant emissions to comply with an MDI standard based on emissions data that is barely measurable does not make sense. EPA should acknowledge the fact that presses using MDI have already reduced organic HAP emissions, use the data it collected to determine that it is not necessary to set a numerical standard for MDI, and cover presses using MDI resin under the RMH Process Unit standards. It is not necessary to set MDI standards for reconstituted wood products presses when organic HAPs from these units are already regulated by the PCWP NESHAP and EPA estimates the proposed MDI standards for presses will cost $17,032,775/ton HAP.[89]

If EPA does finalize numerical standards for MDI emissions from presses, we agree that they should be subcategorized based on product type. As EPA notes, the particles being pressed at particleboard and MDF facilities are much smaller and have more surface area than the flakes being pressed at OSB facilities. We also appreciate that EPA is proposing two formats of the standard to allow for compliance based on either production or concentration. The two options are based on the same data set (so they are equivalent), and having a concentration-based option makes demonstrating compliance simpler (the facility does not need to have an accurate measure of production at the particular process unit).

However, we would request that EPA reword the concentration-based limits in Table 1C from "mg/dscm MDI" to "mg MDI/dscm" as the former may be read to suggest the emission limit is mass of emissions per volume of MDI resin used and not mass of MDI emissions per volume of exhaust. We also request that EPA correct the run 1 production-based RTO outlet value for facility 1148 in Table A1 of the supporting technical memorandum[90] from 7.59E-06 lb/MSF ¾" to 7.59E-05 lb/MSF ¾". The value presented in both the table and the associated UPL calculation is an order of magnitude lower than the actual value. Although correcting this value in the UPL calculation changes the distribution of the dataset from normal to lognormal, it does not impact the calculated emissions limits due to the selected basis of 3XRDL.

Because EPA is uncertain whether the presses currently complying using the PBCO for other HAPs will be able to meet the MDI emissions limit without controls, we request that EPA clarify in the rule that facilities can use PBCO to comply with one set of standards and controls to comply with another, as long as emissions are tested prior to controls for the PBCO. This clarification would also allow facilities flexibility in the scenario where they need a control

[88] Id.
[89] EPA-HQ-OAR-2016-0243-0419
[90] EPA-HQ-OAR-2016-0243-0274

device to comply with standards when using one type of resin but not when using another type of resin. This approach could be implemented using alternate operating scenarios in a facility's Title V permit.

The tube dryers using blow-line blending of MDI resin all have organic HAP emissions control devices. Therefore, although they are not currently subject to a specific emissions limit for MDI, they are using add-on controls to reduce emissions of all organic HAPs under the PCWP NESHAP. EPA's own data shows that the very small amount of dryer MDI emissions that were measured are being reduced by the installed controls (one run showed 95% reduction and all runs were detection level limited)[91]. EPA has not estimated any HAP emissions reductions due to the proposed standards (assuming that one dryer's emissions data represent all five dryers blow-line blending MDI resin) and no beyond the floor options were evaluated. Because dryers blow-line blending MDI resin are all equipped with HAP emissions controls and the standard will only serve to incur an additional cost of emissions testing every 5 years with no environmental benefit, EPA should determine that MDI standards for dryers are not necessary. Blow-line blending should be included in the RMH Process Unit standards.

However, if EPA does finalize numerical standards from blow-line blending of MDI resin at tube dryers, EPA should clarify whether the total ODT of fiber through both the primary and secondary tube dryers is used to determine compliance where the stack testing is performed at a point that represents emissions from both dryers and compliance is being measured against the production-based limit. The data used to develop the proposed standard does not include secondary tube dryer emissions but the proposed standard covers both types of dryers so it would seem appropriate to add both dryer throughputs. We support that EPA is proposing two formats of the standard to allow for compliance based on either production or concentration. The two options are based on the same data set (so they are equivalent) and having a concentration-based option makes demonstrating compliance simpler (the facility does not need to have an accurate measure of production at the particular process unit). However, we would request that EPA reword the concentration-based limits in Table 1C from "mg/dscm MDI" to "mg MDI/dscm" as the former may be read to suggest the emission limit is mass of emissions per volume of MDI resin used and not mass of MDI emissions per volume of exhaust.

EPA has data from one coating operation using MDI that indicates MDI emissions from the spray booth are less than 0.20 tpy and less than one-tenth of a percent of the MDI in the coating applied is emitted[92]. No emissions reductions are estimated and no beyond-the-floor options are available. Setting a numerical standard for this operation is not necessary. Rather than finalizing the proposed emission standard and imposing the cost of stack testing, EPA could instead cover MDI spray coatings under a vapor pressure standard similar to the proposed vapor pressure standard for RMH Process Units. Alternately, if EPA finalizes the numerical standard, to reduce the burden of complying with the standard, EPA could require a 5-year repeat performance test only if the MDI content of the coating has increased, just as the wood building products enclosure capture efficiency determination is not required to be repeated unless something has changed that would affect capture efficiency.

[91] EPA-HQ-OAR-2016-0243-0274

[92] Id.

3.11. Numerical Standards for Atmospheric Refiners Are Not Necessary

The PCWP NESHAP includes “refiners” as part of the affected source, but only regulates and defines pressurized refiners. EPA has proposed to set first-time numerical standards for atmospheric refiners under two subcategories, dried wood and green wood. As stated above, we do not believe it is necessary to set these standards as these sources do not pose a residual risk and are not currently required to be controlled under the rule. In addition, EPA’s proposed standards are not projected to result in any HAP emissions reductions from existing atmospheric refiners.[93] If EPA’s projection is accurate, finalizing numerical standards will impose the burden of stack testing and reporting on sources for no benefit. As such, EPA is proposing a requirement that is arbitrary and capricious, is not “necessary” as required by CAA §112(d)(6), and is contrary to EPA’s obligation to avoid regulatory burdens that will produce *de minimis* regulatory benefit.

EPA’s beyond the floor analysis showed that requiring dried wood atmospheric refiners to meet the emissions limits in Table 1B of the rule would only result in 0.9 tpy of HAP reduction at an estimated capital cost of $19 million and an estimated annual cost of $7.8 million, including increased electricity use, increased generation of waste, and a large increase in natural gas usage (with accompanying greenhouse gas emissions). EPA estimated a cost effectiveness of $388,000 lb/ton HAP in its beyond the floor analysis for green wood atmospheric refiners. EPA correctly rejected beyond the floor controls for atmospheric refiners due to high costs, energy usage, and other non-air-quality environmental impacts.[94] If EPA’s projection that existing atmospheric refiners will all meet the proposed standards is not correct, establishing a standard with a cost effectiveness of $388,000/ton HAP is not reasonable.

Because EPA has already shown the risk to be acceptable, there are no projected HAP reductions, and there is added cost for no quantified benefit, EPA should not establish standards for atmospheric refiners. A work practice standard should instead be established, requiring facilities to inspect and maintain the equipment to promote even wear and operational efficiency (less time in the machine results in less heating of the wood and less emissions). Some facilities have permit requirements to track the hours of operation such that the equipment is maintained at a certain minimum frequency.

The current rule does not include a definition of atmospheric refiner. EPA has proposed to add the following definition to the amended rule:

> Atmospheric refiner means a piece of equipment operated under atmospheric pressure for refining (rubbing, grinding, or milling) wood material into fibers or particles for use in particleboard, hardboard, fiberboard, or MDF production. 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.

If EPA finalizes standards for atmospheric refiners, we suggest that EPA instead define atmospheric refiners as:

[93] 88 Fed. Reg. 31873-31874
[94] Id.

"a piece of equipment operated under atmospheric pressure for grinding wood material using discs or plates to produce small fibers or particles for use in particleboard, hardboard, fiberboard, or MDF production."

This clarification will serve to eliminate equipment that uses knife-like action to cut wood into long fibers or strands. This type of cutting equipment does not apply the same amount of energy to the wood and is not expected to emit measurable HAPs. It is reasonable to define atmospheric refiner as an equipment design that is most similar to the pressurized refiners that are already subject to standards. In addition, the proposed definition is more expansive than the one included in the 2017 ICR instructions[95], which indicates EPA may not have collected data on all the types of equipment it proposes to cover with these amendments. The 2017 ICR instruction definition only specified that rubbing or grinding, not milling, was refining.

In addition, if the numerical standards are finalized, we support the determination that only organic HAPs are emitted[96] and that two subcategories are warranted (green and dry). The emissions profiles from processing green versus dry wood are different (as can be seen by comparing the proposed standards for existing atmospheric refiners) and green and dry wood refiners should be subject to different numerical standards if work practices are not finalized. We also support the option to comply with Table 1B (90% control) rather than Table 1C (specific numerical limits) because it provides a somewhat streamlined compliance approach by reducing the amount of stack testing a facility may have to conduct.

EPA should, however, also finalize a concentration-based standard for total HAP emissions from atmospheric refiners just as it has proposed to do for many of the other numerical limits being added at Tables 1C, 1D, and 1E. The two standards would be equivalent, as they would be based on the same set of top performers, but would accommodate facilities that do not currently have a way to accurately measure throughput at the atmospheric refiner. There is typically no point in the process where the material going through an atmospheric refiner is weighed, and facilities can only estimate throughput based on other points in the process where material or product outputs are measured.

- Green Atmospheric Refiners (calculated following EPA's proposed methodology of applying 90% control to the inlet concentrations for those units equipped with oxidizers)
  - Existing Source: 5.4 ppmvd total HAP
  - New Source: 0.44 ppmvd total HAP
- Dry Atmospheric Refiners
  - Existing Source: 0.85 ppmvd total HAP
  - New Source: 0.65 ppmvd total HAP

Finally, we question EPA's proposed requirement in Table 2 of the rule that sources that comply with the limits in Tables 1C, 1D, and 1E without add-on controls must "maintain on a daily basis the process unit controlling operating parameter(s) within the ranges established during the performance test…." Member mills are unsure of what monitoring they would conduct on an atmospheric refiner that does not use add-on controls to comply with EPA's proposed total HAP limit. This uncertainty is one of the reasons we advocate for a work

[95] EPA-HQ-OAR-2016-0243-0029

[96] EPA has proposed numerical emissions limits only for organic HAPs because inorganic HAPs are not known to be emitted.

practice standard above. If EPA sets numerical limits for atmospheric refiners, they should allow a more flexible approach to monitoring compliance and revise §63.2262(n) to allow an approach other than continuous monitoring of a process parameter. As noted above, facilities do not typically measure throughput at an atmospheric refiner, so we believe a work practice such as that suggested above would be more appropriate to require as the ongoing compliance measure.

3.12. We Agree that Log Vats Are Eligible for Work Practice Standards, but the Proposed Log Vat Standards Should Be Adjusted

EPA has proposed to add the following work practice standard for log vats at §63.2241(f):

- Operate each vat using a site-specific target log temperature that does not exceed 212°F, measured in the water used to soak the logs or in the wood cut at the lathe or stranders; and
- Operate each vat to reduce the potential for fugitive emissions by either: (1) covering at least 80 percent of the vat hot water surface area for soaking vats in which logs are submerged; or (2) keeping doors closed while steam or hot water showers are being applied inside log steaming vats.

While we agree that limiting the temperature of the water in which the logs are soaked will limit HAP emissions, we do not agree that partially covering or enclosing tub-style/soaking log vats will limit emissions from the vats. In addition, it is not feasible to cover most tub-style/soaking log vats because operators must be able to observe and routinely correct log jams in the vats as the logs soak. Logs are cut to size and pushed into the log vat, where a chain conveyor slowly moves the logs (sometimes called blocks) through the vat. An articulating crane is often used to adjust logs as they move through the vat to prevent jams. The soaked logs exit the tub vat on the chain conveyor and proceed to the lathe. Covers will prevent operators from being able to see a log jam and from being able to maneuver logs in the vat to keep the process moving. Unless tub-style log vats were designed to be kept covered, it is not feasible to require them to be covered at existing sources. However, keeping doors of chest vats closed while water or steam is being sprayed is necessary to their operation and will reduce energy use.

Evaporation of the log vat water is a necessary part of the process because plywood and veneer mills are zero discharge facilities – operators cannot dispose of the log vat water. The proposed wastewater work practice at §63.2241(g) gives facilities the option to "reduce the volume of wastewater to be processed by reusing or recirculating wastewater in the PCWP process or air pollution control system." Facilities may recycle process or control device water to the log conditioning system. Covering existing log vats will significantly hinder a facility's ability to reuse and recirculate the air pollution control device wastewater. Without the ability to reuse and recirculate wastewater in existing systems, facilities could be required to modify the entire industrial wastewater system, and EPA has not accounted for these costs in its analysis. Nor, obviously, has EPA established that facilities representing the MACT floor have done this.

EPA correctly points out in its memorandum that describes the proposed emission standards for remanded units that log vats are not controlled, are not enclosed, and are not fully covered, and any attempt to design a conveyance system to collect emissions would increase energy usage at the log vats.[97] As log vats have no emissions capture or collection systems and no stacks from which to measure emissions, they are prime candidates for a work practice standard. However, that work practice standard cannot hinder proper operation of the log vats, and that is what the proposed requirement to keep log vats 80% covered would do. In addition, a partial cover will not serve to limit fugitive organic HAP emissions, it merely results in them being emitted through a smaller area.

EPA's cost and impacts memorandum[98] indicates it is expected that facilities would cover hot water log vats with 60 individual pressure treated timbers. This is not feasible, as any cover would have to be able to be removed to allow operators access to the log vat to clear any log jams. Any cover would likely need to be made of a material like stainless steel to avoid corrosion and be one piece that could easily be opened to allow access. Moreover, EPA's cost estimate ignores the costs of labor and production delays that constantly covering and recovering log vats would impose. The cost of this type of coverage is far greater than EPA assumes and the disruptions and delays to operating the mill would be substantial. We note that the preamble indicates an estimated HAP reduction of 0.7 tpy[99] but the cost memo contains an estimate of 7 tpy HAP reduced and an already excessively high cost effectiveness of $118,000/ton. In fact, the cost-effectiveness would be even more unjustified.

One member facility tried covering their existing log vats to improve energy efficiency; overall, any energy savings gained were offset by the costs of implementation and management. Further, the facility reported mold/slime growth on the covers and other equipment during the trial period. The facility determined that it was not feasible to add covers to its log vats.

EPA believes that log vats are a very small source of HAP emissions at PCWP sources, and the only measures EPA has come up with to control log vat emissions are either infeasible and ineffective (covering) or something that mill operators already have a strong incentive to do (not waste energy on an unnecessarily hot log vat). This is a prime example of a situation where, rather than just "checking a box," EPA could conclude that promulgating new requirements for the already low emissions from log vats, which do not present a significant risk to health, would be irrational, imposing a regulatory burden with de minimis regulatory benefit, and perversely and unnecessarily hampering compliance with Clean Water Act requirements.

But if EPA chooses to impose new requirements for log vats, EPA should remove the requirement at §63.2241(f) to keep hot water soaking vats partially covered and remove the requirement proposed in Table 6 of the rule to "describe the procedures to minimize the potential for fugitive emissions in the Notification of Compliance Status." The proposed requirement does not represent the MACT floor and is neither technically nor economically feasible for existing vats of this type that were not designed to be covered. EPA should also revise the proposed definition of log vat at §63.2292 from "usually hot water **and** steam" to "usually hot water **or** steam."

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[97] EPA-HQ-OAR-2016-0243-0420
[98] EPA-HQ-OAR-2016-0243-0419
[99] 88 Fed. Reg. 31876

3.13. We Agree that Stand-alone Digesters and Fiber Washers Are Eligible for Work Practice Standards and Support the Proposed Standards

EPA is proposing to add the following work practice standards for stand-alone digesters to Table 3 of the rule:

- Use clean steam from a boiler for the digestion process, and
- Do not add HAP-containing or wood pulping chemicals to the digestion process.

EPA is proposing to add the following work practice standards for fiber washers to Table 3 of the rule:

- Use fresh water for washing, and
- Do not add HAP-containing or wood pulping chemicals for washing.

Measurement of emissions from the small number of these units still in operation is not feasible, as discussed by EPA in its memo describing the development of the proposed standards[100], and the work practices will serve to limit HAP emissions from these sources by prescribing use of clean water or steam and prohibiting use of HAP-containing additives.

3.14. Proposed Wastewater Standards

The affected source as defined at §63.2232 includes "onsite wastewater treatment operations specifically associated with PCWP manufacturing." EPA has proposed to create a new defined term, "wastewater operation," and to include wastewater operations in the RMH Process Unit standards, but also add specific work practice standards for wastewater operations at §63.2241(g). EPA proposes to require facilities with wastewater operations to implement one of the following measures:

- Follow the plan required in 40 CFR 63.2268 for wet control devices used as the sole means of reducing HAP emissions from PCWP process units[101]; or

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[100] EPA-HQ-OAR-2016-0243-0420

[101] It is unclear from the draft regulatory language in EPA-HQ-OAR-2016-0243-0416 whether, when §63.2241(g) allows a PCWP facility to comply with the work practice requirements for wastewater operations by meeting "at least one" of the four requirements in §63.2241(g)(1)-(4), EPA intends that even if the facility chooses to comply with the wastewater work practice standards in §63.2241(g) using an option other than §63.2241(g)(1), the facility nevertheless still would have to comply with the requirement in §63.2268 of the existing rules to follow a plan for treatment of wastewater from air pollution control devices. If not, the regulation should clearly say so. But if the facility will still be required to comply with §63.2268 regardless of which option it chooses under §63.2241(g), then, since it is clear that the draft regulatory language in §63.2241(g) allows a facility to comply solely by controlling its wastewater associated with wet pollution control devices, that option simply mirrors a requirement already in the Subpart DDDD regulations (in §63.2268). Thus, (a) the HAPs addressed by the proposed wastewater operations work practice standard are already covered by the existing regulations (i.e., no "HAP gap" that EPA needs to address); and (b) in any event, there is no basis for EPA to conclude that it is necessary to revise the existing NESHAP by adding the wastewater-operations-specific work practice standard in §63.2241(g), since that proposed revision may result in no change at all to the control of HAP emissions from wastewater. (This is in contrast to the work practice standard for RMH process units, which EPA has defined to include wastewater operations; that provision

- Reduce the volume of wastewater to be processed by reusing or recirculating wastewater in the PCWP process or air pollution control system; or
- Store wastewater in a closed system; or
- Treat the wastewater by using an onsite biological treatment system, or by routing the wastewater to an offsite POTW or industrial wastewater treatment facility.

3.14.1. Standards for Wastewater Operations Are Not Necessary

EPA has proposed expansive standards that, based on the proposed wording, appear to cover all water used and wastewater generated at a PCWP manufacturing facility. EPA's cost analysis indicates the wastewater work practices apply only to 29 PCWP facilities[102], but the way the proposal reads, they would apply to all affected facilities. EPA has quantified no emissions reductions from its proposed standards and has quantified only administrative type costs associated with them. EPA's original analysis of PCWP facility wastewater treatment operations for the 2004 rule in the December 15, 2003 MACT floor memo indicated "no data are available to suggest that HAP emissions from wastewater operations are subject to control measures that could correspond to an identifiable numerical emission level or reduction rate." The 2017 ICR database shows that EPA only received HAP emissions data from four facilities with onsite wastewater treatment plant operations. EPA lacks authority under CAA §112 to impose new requirements on activities that are not known to emit HAPs, or to require work practices that are neither demonstrated nor known to reduce HAP emissions for the particular activity. EPA must limit the application of its proposed work practices to the types of operations for which it has HAP emissions data and not apply them to all processes that generate or handle water at all mills.

3.14.2. If EPA Finalizes Standards for Wastewater Operations, the Scope Must be Limited to Onsite Treatment of Wastewater

With its proposed definition of "wastewater operation" at §63.2292, EPA is applying the proposed requirements at §63.2241(g) to a very broad set of operations, most of which are not part of the affected source as defined in the current rule or even in the proposed revised rule, as below:

> *Wastewater operation* means equipment that processes water in plywood or composite wood product facilities for reuse or disposal. Wastewater 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, pollution control device water (including wash water), vacuum distillation systems, sludge disposal systems, and connections to POTW facilities. Wastewater operations are process units.

In contrast, the affected source, as defined in §63.2232(b), is "onsite wastewater treatment operations specifically associated with plywood and composite wood products manufacturing." Many of the activities described in the proposed new defined term "wastewater operation" do not involve "treatment" of wastewater (e.g., holding tanks, pumps, connections to a POTW), and a number do not necessarily involve "wastewater" at all (e.g., cooling operations, heating operations, pH adjustment systems). Further, because those things are given merely as examples of "wastewater operations," which "is not limited to" the

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would impose limitations on the HAP content of resins and therefore would indirectly restrict the HAP content of many process wastewater streams.)

[102] EPA-HQ-OAR-2016-0243-0419_attachment_1

listed types of activities, the proposed definition of "wastewater operation" is even broader, literally applying to any "equipment that processes water…for reuse or disposal." Not only is "process" not synonymous with "treatment," but water that will be reused in the process is process water and not wastewater.

When EPA adopted Subpart DDDD, EPA clearly was focused only on wastewater treatment plants associated with a few mills. The Agency stated at the time that "our best data show that the [HAP] emissions from wastewater operations are less than 1 ton/yr,"[103] EPA was not considering, and did not have emissions data for, the much broader universe EPA describes in the proposed work practice standards for wastewater operations.

The proposed work practice standards themselves accentuate the inappropriate, overbroad nature of "wastewater operations." Even though the affected source is "onsite wastewater treatment operations," one of the work practice options EPA proposes is "routing the wastewater to an offsite POTW or industrial wastewater treatment facility," which is the opposite of onsite treatment. Another work practice is to "store wastewater in a closed system," which again says nothing about treating the wastewater onsite.[104]

EPA has no authority to impose requirements that extend beyond the defined affected source (and no authority to expand the affected source in a CAA §112(d)(6) periodic review). EPA must not promulgate a work practice standard that (1) is described as applying to activities beyond the affected source and (2) specifies practices that are outside the scope of the affected source. For example, EPA's inclusion of "pH adjustment systems" in the definition of wastewater operations could be read to mean that the work practices apply to pH adjustment systems for stormwater, which is clearly outside of the affected source. It is also unclear if systems that spray logs in the woodyard are covered.

There is no reason to interpret the wastewater aspect of the affected source as broader than its plain meaning. Wastewater handling operations were not something EPA associated with PCWP facilities at the time the original Subpart DDDD MACT standards were being developed, except for very narrow circumstances. At the time, EPA's AP-42 emission factors and the supporting documentation for the AP-42 emission factors did not identify wastewater operations as an emission source. Wastewater is not mentioned at all in the July 2003 EPA document, Emission Factor Documentation for AP-42, Chapter 10, Plywood and Composite Wood Products, Final Background Report. And the only mention of wastewater in AP-42 itself is this discussion of WESPs in the March 2002 Section 10.6.1 of AP-42, Waferboard/Oriented Strandboard Manufacturing: "One disadvantage of the WESP is that it generates a wastewater effluent. Because OSB mills are generally designated as zero discharge facilities, they must treat their own spray water and/or consume it internally. Mills that operate boilers or other wet cell burners can apply some of the spent spray water to the fuel. Some or all of the remaining spray water may be used as makeup water in hot ponds or in debarkers for dust

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[103] 69 Fed. Reg. 45968.

[104] The definitional defects result in the proposed rule circularly giving the facility the option of "reducing the wastewater to be processed by reusing or recirculating wastewater," when under the proposed definition of "wastewater operations," processing water for reuse is itself a wastewater operation, not a way of reducing the processing of wastewater. At a minimum, EPA would need to revise the proposed work practice standard to talk about reducing the volume of wastewater to be *treated* by reusing or recirculating the water, rather than the circular reducing the volume to be *processed*.

control."[105] Wastewater is not mentioned in AP-42 Sections 10.5, Plywood Manufacturing; 10.6.2, Particleboard Manufacturing; 10.6.3, Medium Density Fiberboard Manufacturing; 10.6.4, Hardboard and Fiberboard Manufacturing; and 10.9, Engineered Wood Products Manufacturing.

The overly broad proposed definition of "wastewater operation" does not fit with EPA's factual basis for the proposed requirements for wastewater operations. EPA's memorandum describing the development of these standards states they relied on 2017 ICR data to inform them[106]. However, the 2017 ICR was not as expansive as the proposed standards. EPA admits that the majority of facilities that responded to the ICR indicated they do not generate HAP-containing wastewaters; however, that response was to a more limited set of operations. The ICR survey instructions, Table 1, indicated that the wastewater tab was to be completed by "any PCWP facility that treats wastewater generated at the plant."[107] The instructions also indicated that facilities should indicate whether they generate HAP-containing process waters that require onsite or offsite wastewater treatment, defined as those with the concentration of any HAP in excess of 1 ppm. Facilities therefore completed the tab if they had treatment operations for HAP-containing wastewaters or sent the HAP-containing wastewater offsite for treatment.

The October 2017 ICR sought information on "wastewater treatment plant (WWTP)" emissions estimates and a "WWTP flow diagram showing each wastewater handling/treatment unit," as well as a "plan to demonstrate how HAP captured by a wet control device are destroyed, if your facility uses a wet control device as the only means of HAP control." Obviously, the proposed rule's coverage is much broader than wastewater treatment plants that the 2017 ICR addressed. (The February 2022 ICR Enclosure 1A did not seek any information on wastewater treatment operations at all, and the only mention of wastewater was in a footnote quoting the regulation's definition of "PCWP affected source.")

EPA's proposed work practices are apparently based on respondents' work practices for wastewater treatment operations. However, the proposed rule as written would cover any operation that processes wastewater or process water in any way whether it contains HAP or not. Some of the proposed work practices are not feasible for facilities that have zero discharge requirements and do not have wet control devices, but those facilities do have to reuse their process water wherever practicable to comply with the effluent guidelines.

EPA has worded the proposed standards to cover all water handling operations at mills and assigned neither costs nor emissions reductions to them, so we do not believe the proposed language logically stems from the data collection on which it was based. EPA cannot base §112 standards on approaches to handling wastewater (or even more so, process water) that are inconsistent with the technology bases for effluent guidelines that the facilities are required to meet. EPA recognized this when it revised the effluent guidelines for the Timber Products Processing category in conjunction with promulgation of the original PCWP MACT

[105] Of course, EPA ultimately addressed this issue in promulgating the existing PCWP MACT standards, by exempting wastewater from air pollution control equipment used to comply with the MACT standards from the effluent guideline's prohibition on the discharge of process wastewater, and imposing a work practice standard to address emissions from the wastewater generated by that emissions control equipment, in §63.2268.

[106] EPA-HQ-OAR-2016-0243-0420

[107] EPA-HQ-OAR-2016-0243-0029

standards. Most of the water streams EPA includes in its expansive definition of “wastewater operations” are subject to effluent guidelines in 40 CFR Part 429 that mandate no discharge of process wastewater. Many facilities do not have a POTW nearby, and for those that do, many times the POTW is unable to accept their wastewater, due to either its characteristics or due to the POTW’s capacity. One member facility’s actual project cost to collect wastewater, treat it, and discharge it to a POTW was $1.25 million for a 30,000 gallon per day system. A sister facility’s estimated project cost is similar. EPA has not included these types of costs in its analyses of its proposed wastewater operations standards. The zero-discharge effluent guidelines impose severe constraints on the management of water at facilities that manufacture plywood or composite wood products, and EPA must not impose further limitations on those facilities water management options that would be inconsistent with the requirements and technology basis of the effluent guidelines.

The ICR database shows that EPA only received HAP emissions data from four facilities with onsite wastewater treatment plant operations. EPA lacks authority under CAA §112 to impose new requirements on activities that are not known to emit HAPs, nor to require work practices that are neither demonstrated nor known to reduce HAP emissions for the particular activity. EPA must limit the application of its proposed work practices to the types of operations for which it has HAP emissions data and not apply them to all processes that generate water at all mills.

EPA should interpret the inclusion of “onsite wastewater treatment operations specifically associated with plywood and composite wood products manufacturing” in the definition of the affected source in 40 CFR §63.2232(b) to cover wastewater generated by operation or maintenance of air pollution control equipment used to control emissions from manufacturing of plywood or composite wood products. And EPA should conclude that there is no “gap” for EPA to “address” under the *LEAN* decision, because Subpart DDDD already contains a work practice standard addressing emissions from such wastewater, in §63.2268. That approach best reflects the information EPA was working with at the time it defined the affected source and it best reflects the information EPA has available now.

If EPA rejects that suggestion, EPA in any case must define “wastewater operations” much more narrowly, to reflect the scope of the affected source:

> “equipment used to treat, at the site of a facility that manufactures plywood or composite wood products, wastewater generated by plywood and composite wood products manufacturing processes or associated air pollution control equipment, so that it can subsequently be reused or disposed of.”

EPA should also make clear that “wastewater operations” does not encompass, among other things, wastewater associated with lumber kilns or stormwater.[108] In addition, EPA should

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[108] It is clear from the description of wastewater treatment operations in the definition of the affected source that the wastewater must be associated specifically with plywood or composite wood products manufacturing operations. Stormwater obviously does not come from the manufacturing process. Lumber kilns are included in the affected source whether they are located at a PCWP manufacturing facility or not, which is an indication that EPA intended the listing of wastewater treatment operations to relate to PCWP manufacturing, not to lumber kilns. EPA made an analogous clarification in the preamble to the 2004 PCWP MACT rule, with respect to the scope

exclude the types of water excluded from the definition of “process wastewater” in the Timber Products Processing Effluent Guidelines at 40 CFR Part 429.11(c). EPA can then address any HAPs emitted by wastewater operations through a combination of the existing work practice standard for wastewater associated with air pollution control equipment, in §63.2268, and the proposed work practice standards for RMH process units in §63.2241(h)(1) (which will reduce the potential for HAPs to enter wastewater streams).

If EPA retains the proposed wastewater operations standards in the final rule, we suggest adjusting Item 3 of the work practice from “store wastewater in a closed system” to “store or manage wastewater in a closed system.” We also note that water reused or recirculated within a facility is not wastewater, so if EPA retains these standards, Item 2 should be revised to replace “wastewater in the PCWP process” with “process water in the PCWP facility.”

4. Compliance Timing

4.1. The Three-Year Compliance Time for Existing Sources Is Justified

If EPA finalizes additional standards for PCWP facilities, there will be facilities that will need to make modifications in order to comply with the new requirements, both the numerical emissions limits and the work practice standards. These modifications could include process changes, combustion system changes, fuel feed system changes, burner replacements, resin system adjustments, monitoring system installation, recordkeeping system updates, development of site-specific plans, and add-on control device installation. All facilities will need to perform stack testing to determine whether certain changes are needed for compliance. If EPA finalizes its proposal in 2023, it may be difficult to implement controls prior to a 2026 compliance deadline. Few, if any, owners are willing to commit funds and resources to begin detailed engineering and design based on a proposed rule, so the compliance timeline will begin after promulgation of the final amended rule.

If facilities are required to install significant monitoring and control upgrades, three years will be necessary. The process to undertake a retrofitting project is complex, involving design, engineering, permitting, procurement, and installation to name only some of the necessary work streams. Also, since the start of the COVID-19 pandemic, the time necessary to implement construction projects has increased considerably. Lead times for obtaining critical parts and equipment are much longer and the ability to bring outside skilled labor on site has become more difficult than in pre-COVID-19 times. In addition, because this is not the only

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of the inclusion of Miscellaneous coating operations in the description of the affected source. 69 Fed. Reg. 45968 (“Through the definition of group 1 miscellaneous coatings in the final rule, kiln-dried lumber is excluded from the requirement to use non-HAP coatings because application of coatings used at kiln-dried lumber manufacturing facilities is not part of the PCWP source category. Although trademarks/grade stamps are applied to kiln-dried lumber, lumber kilns are the only processes at kiln-dried lumber manufacturing facilities covered under the PCWP source category.”). That distinction also explains and justifies why EPA did not collect, and does not have, information that would allow it to form conclusions about characteristics and management of any wastewater associated with lumber kilns, that would be a prerequisite for including kilns in the wastewater operations work practice standards.

rule EPA is working on that will require modifications, many facilities in different industry sectors will be competing for the same expertise and resources.

To implement any capital project, such as an emissions control project, a facility needs time to obtain corporate approvals for funding. Once funding is secured, the design, permitting, procurement, installation, and shakedown of a retrofit emissions control project can consume the remainder of a three-year period. The facility would engage engineering consultants, equipment vendors, construction contractors, financial institutions, and other critical suppliers. Lead time would be needed to procure pollution control equipment even after it is designed and a contract is finalized, and installation of controls must be aligned with facility outage schedules. Each facility would need to continue to operate as much as possible while retrofitting to meet any new requirements.

New COMS installations also take time and have been affected by supply chain issues. With new monitoring system requirements, facilities will need to obtain capital approval, issue an RFP, engage a consultant, and make any necessary structural modifications to the stack if it cannot accommodate a COMS.

The additional work practice standards will also take time to implement. A facility may have to make process or resin system adjustments to comply with the RMH Process Unit work practices. Any adjustments to resin systems will have to be accepted by customers and products will have to be recertified for compliance with industry and CARB standards. New procedures and logs will have to be developed and staff will need to be trained on the additional standards and the associated monitoring and recordkeeping requirements. Site-specific plans will also have to be developed, and may need to be submitted to the permitting agency for review. Facilities will need significant time to plan for and implement all of the new requirements that will be included in the final revised NESHAP.

4.2. We Support the Application of the Additional Requirements to New Sources as Being Defined Based on the 2023 Proposal Date

EPA has appropriately determined that application of the additional requirements to new sources should be based on construction or reconstruction of the source having occurred on or after the May 18, 2023 proposal date, not based on the September 28, 2004 new source date for the current rule requirements. Where emission limits are being revised, the new-source definition should apply based on the current proposal date of May 18, 2023. There is no basis for interpreting the language of CAA §§112(a)(4) and 112(d)(3) to mean that Congress intended the extraordinary result of treating as new sources, with comparable opportunities to design the source to meet the most stringent emission standards, facilities that were constructed or reconstructed long ago.

CAA §112(a)(4) defines "new source" as:

> The term "new source" means a stationary source the construction or reconstruction of which is commenced after the Administrator ***first proposes regulations*** under this section ***establishing an emission standard applicable to such source***.[109]

EPA implemented this definition in 40 CFR §63.2 as:

[109] 42 U.S.C. § 7412(a)(4) (emphasis added).

> *New source* means any affected source the construction or reconstruction of which is commenced after the Administrator ***first proposes a relevant emission standard*** under this part ***establishing an emission standard applicable to such source***.[110]

And, EPA reflected its impact in §63.5(b)(1) as follows:

> A new affected source for which construction commences ***after proposal of a relevant standard is subject to relevant standards for new affected sources, including compliance dates***. An affected source for which reconstruction commences after proposal of a relevant standard is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source.[111]

"Relevant standard" means (1) an emission standard; (2) an alternative emission standard; (3) an alternative emission limitation; or (4) an equivalent emission limitation, such as that established under §112(g) or 112(j).[112] Finally, *emission standard* means a "national standard," "limitation," "prohibition," or "other regulation" promulgated by EPA under §112(d), (h), or (f).[113]

With respect to the PCWP NESHAP and the proposed additional standards, EPA can reasonably determine that a "new source" is one on which construction or reconstruction is commenced after the proposal date of May 18, 2023. Given the policy underlying these provisions of providing notice to sources of the level and degree of control to which they might be subject at the time that investment decisions are made, applying the May 18, 2023, proposal date serves that goal whereas applying the September 28, 2004 original proposal date does not. Companies have reasonably relied upon and invested funds to comply with the requirements included in the 2004 NESHAP. There are several new PCWP facilities that have been built since September 28, 2004. These facilities were designed and are operated with consideration of the current new source requirements, and EPA is now proposing to add significant standards for new sources, including for pollutants and process units not previously subject to standards. Applying the policy reasons underlying the statutory definition of "new source," it would be unreasonable to subject these units to the new-source MACT limits, particularly given the passage of almost 20 years since construction of many of the facilities. To suddenly treat them as having been on notice many years ago of the revised standards would be unreasonable and divorced from reality. With respect to the "relevant standards" being issued now, these units can and should be classified as "existing" units.

5. Startup and Shutdown Work Practices Added in 2020 RTR

EPA has been asked to reconsider the startup and shutdown work practices added in the 2020 RTR rule as a result of the removal of the SSM provisions[114]. As indicated in our comments on the 2020 RTR rule, it is necessary to cover some startup and shutdown activities with work practices in order to acknowledge how certain types of equipment must startup and shutdown and to ensure worker and equipment safety. We appreciate EPA's clarification that more

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[110] 40 CFR § 63.2 (definition of "new source") (emphasis added).
[111] 40 CFR § 63.5(b)(1) (emphasis added).
[112] 40 CFR § 63.2 (definition of "relevant standard").
[113] 40 CFR § 63.2 (definition of "emission standard").
[114] 88 Fed. Reg. 31880, referring to Earthjustice petition for reconsideration.

detailed reporting is required when one work practice is used more than 100 hours. Although having the work practices and associated recordkeeping requirements incorporated into the PCWP NESHAP has made our members more aware of the amount of time they spend in startup and shutdown, and some members have reduced the time it takes to startup and shutdown equipment such as refiners or narrowed what they would consider a safety-related shutdown, we continue to support 100 hours as an appropriate threshold above which more detailed reporting is required. We reiterate our justification for the work practices below and provide additional information to support them.

As described in more detail below, during startups and shutdowns, it may not be feasible to collect and convey HAP emissions at all, due to safety or process configuration reasons (for example, when off-specification material must quickly be purged from a pressurized refiner). Or it may not be feasible to collect and convey those emissions to a control device, such as when the vented gas associated with a shutdown would cause a risk of fire or explosion if introduced into an RTO. And in both instances, the conditions usually make it impracticable to accurately measure HAP emissions during the startup or shutdown event. We agree with EPA that, contrary to assertions in Sierra Club et al.'s petition for reconsideration, infeasibility of collecting emissions and routing them to a control device does qualify for using work practice standards under CAA §112(h). Although §112(h)(2) reads "any situation in which the Administrator determines that—(A) a hazardous air pollutant or pollutants cannot be emitted through a conveyance designed and constructed to emit or capture such pollutant," under accepted principles of statutory construction, EPA must read §112(h)(2)(A) in conjunction with "the company it keeps." Since §112(h)(2)(A) is describing one situation in which the Administrator may determine under §112(h)(1) that "it is not feasible in the judgment of the Administrator to prescribe or enforce [a numerical] emission standard," it makes perfect sense to interpret §112(h)(2) as including a situation where it may be feasible to collect the HAP emissions and convey them somewhere, but it is not feasible[115] to convey them to control equipment that could form the basis for EPA prescribing a numerical emission limitation. Not surprisingly, petitioners offer no support for their illogical reading of §112(h).

5.1. A Safety-Related Shutdown Work Practice Is Appropriate and Necessary and Should Be Retained

For most process units covered by the PCWP NESHAP where add-on pollution control equipment is used, it is possible to have the control equipment fully operational before introducing materials into the process equipment and generating the emissions that the PCWP NESHAP regulates. It is also possible to continue running the control equipment while the process unit is being shut down. But in some circumstances, described below, even best-performing facilities cannot route the process emissions to effective emission control equipment at all times that the process unit is operating. In those circumstances, the standards must reflect the capability of HAP emission control technology and provide alternative work practice standards.

Clean Air Act §112(h) allows EPA to promulgate a design, equipment, work practice, or operational standard, or combination thereof" in two circumstances: (1) when HAPs "cannot be emitted through a conveyance designed and constructed to emit or capture such a pollutant, or that any requirement for, or use of, such a conveyance would be inconsistent with any Federal, State, or local law," and (2) when "the application of measurement

[115] Or not legal, due to the risks involved, which is also a grounds under §112(h)(2)(A).

methodology… is not practicable due to technological and economic limitations." Safety-related shutdowns of process units with add-on control equipment present both of those circumstances.

During safety-related shutdowns as described below, it is not possible to safely convey HAP emissions from the process to control equipment, due to conditions in the process equipment or in the control equipment. Doing so would create a risk of injury to workers or damage to equipment. By the same token, measuring emissions during safety-related shutdowns is not only unsafe, it is not practicable, due to their short duration, widely varying stack conditions, and their unplanned nature. [116] EPA has correctly determined that stack testing during startup and shutdown is not feasible. EPA cannot feasibly prescribe or enforce a numerical standard for startup and shutdown events in the absence of any data that can be used for either standard setting or compliance demonstrations. Environmental petitioners suggest that other techniques such as a continuous emissions monitoring system (CEMS) could be installed to measure emissions from these events, but it would be economically infeasible to require a CEMS to be installed to measure emissions from infrequent events that result in excess emissions and it would be technically challenging to maintain a CEMS on an exhaust stream that is rarely used (e.g., the quality assurance/calibration requirements to maintain the CEMS and assure valid measurements would likely be impossible to carry out on an exhaust vent that does not see continuous use). The testing required for conducting a relative accuracy test audit (RATA) of any CEMS would not be possible without requiring the use of the bypass during the RATA, which would unnecessarily increase emissions. EPA's proposed bypass stack monitoring provisions are the only type of monitoring that makes sense for the startup and shutdown work practice provisions. For example, if a line suddenly shuts down due to a safety issue it can create a high-pressure surge through the system and the bypass damper will open to prevent an explosion in the ESP due to back pressure. In other situations, a spark may be detected, triggering a water spray system. If a spark is still detected after the water spray event, then the process shuts down and gases are briefly vented to the bypass stack to protect equipment and workers from fire. Our comments on how EPA has added the proposed bypass stack monitoring requirements to the rule and the reporting template are provided in Section 7.

PCWP facilities handle combustible materials – wood, wood dust, and volatile and semi-volatile compounds released from wood – and hot gases, and sometimes open flames are involved in the process and in some control equipment. Those situations present serious risks of fire or explosion, with the potential for damaging process or pollution control equipment and, more importantly, the potential for injuring workers. Accordingly, PCWP facilities have extensive technology and operating procedures in place to minimize those risks. Those safety-related measures may be incompatible, however, with continuing at all times to route exhaust gases from PCWP process units to emissions control equipment.

Many shutdowns of PCWP process units do not require bypassing control equipment or involve non-functioning control equipment, and therefore emission limitations and operational requirements in the PCWP NESHAP can still be met. This would generally be the case for planned shutdowns, as well as for unplanned shutdowns of certain equipment (e.g., a product

[116] EPA has decided to use work practice standards for startup and shutdown periods because of just such impediments to measuring emissions in numerous instances. See, e.g., *U.S. Sugar Corp. v. EPA*, 830 F.3d 579, 661-62 (D.C. Cir. 2016); *Sierra Club v. Environmental Protection Agency*, 884 F.3d 1185, at 1199 (D.C. Cir. 2018).

conveyor) that still allow routing the process unit exhaust gas to emission control equipment. But in other situations, the process should be shut down and emissions control bypassed because as the shutdown proceeds it is not safe to continue collecting and conveying process exhaust gases to the control equipment or the control device can no longer be operated. Such situations could involve an indication that there might be a fire in a dryer or in or around a press, a burner flameout, insufficient air flow in process or pollution control equipment, plugging of pneumatic systems or cyclones, detection of high temperature in a control device, etc. In those situations, shutdown and bypass of the control equipment are necessary for the safety of workers and equipment, and the NESHAP compliance methods applicable to non-safety-related shutdowns are not viable. The best practice for controlling HAP emissions during such safety-related shutdowns is to minimize the duration of the event by promptly ceasing the addition of raw materials and heat to the process and removing materials from process equipment as quickly as possible (although in some instances it is safer to have the material remain in the process equipment to contain a problem such as a fire).

For example, during operation of a green rotary dryer with exhaust gases controlled by an RTO, the process monitoring system can detect a fire or explosion potential. Spark detects and over-temperature conditions indicate potential fire conditions; loss of airflow presents potential explosion conditions. These situations usually activate safety interlock programming. Within moments, a damper is activated so that the process exhaust bypasses the RTO, and at the same time material feed to process equipment and the fuel feed to any dedicated direct-fired dryer burners are stopped automatically. For direct-fired burners that serve multiple dryers, heat input to the dryer being shut down would be terminated as quickly as allowed by system design. In some cases, RTO burners would also be shut down. The operators would empty the dryer as quickly as practicable. Before the dryer started back up again, the RTO would be operating so that the dryer exhaust could again be routed to the RTO when conditions are safe to do so.

We concur that it is appropriate to retain the safety-related shutdown definition at §63.2292 and the work practice in Table 3 of Subpart DDDD. The National Fire Protection Association (NFPA) has produced industry consensus standards for over 100 years related to fire protection and fire prevention best practices. Over 30 NFPA standards have been incorporated by reference into the requirements of the U.S. Occupational Safety and Health Administration. NFPA has specific consensus standards for industries that handle combustible materials or potentially explosive exhaust streams like the wood products sector. NFPA standard 652 for combustible dust and NFPA 654 for prevention of dust explosions have specific language that specify process design elements for protecting workers and process equipment.

The safety-related shutdown provision in the PCWP MACT NESHAP was created because the wood products industry manages combustible dusts and environments that have the potential to contain explosive or fire-producing atmospheres. Control of emissions during these events is either impossible or extremely dangerous. We also want to note that safety-related shutdown events are events that PCWP facilities inherently try to prevent because of the extreme safety risk, cost, and downtime associated with safety-related shutdowns. The safety-related shutdown provision gives PCWP manufacturers reassurance that worker protections and equipment safety are prioritized over theoretical practices that are not supported by NFPA consensus standards.

NFPA defines an abort gate as a "device for the quick diversion of material or air to the exterior of building or other safe location in the event of a fire." NFPA states that abort gates will be "actuated by spark detection in the duct or pipe upstream of the device." Spark detection in a PCWP exhaust duct does not necessarily indicate a fire. Spark detection systems, abort gates, and automated water sprays are preventative measures meant to prevent fires as these systems do not allow ignition sources to reach combustible dusts, explosive atmospheres, or other fuels conveyed in PCWP facilities. Safety-related shutdowns include spark detections because these are times during which "emissions from the process unit cannot be safely routed to the control system in place" per EPA's definition.

In PCWP manufacturing facilities, the safety-related shutdown provision permits facilities to install and protect downstream control devices in the unexpected event of a fire from a reconstituted wood products press, board cooler, rotary strand dryer, or green rotary dryer. As the list of equipment subject to emission standards at PCWP facilities grows with this new rulemaking, the safety-related shutdown provision will become even more critical for employee and plant safety.

5.2. Work Practices for Startup and Shutdown of Pressurized Refiners Are Appropriate and Necessary and Should Be Retained

Periods of startup and shutdown of pressurized refiners also meet the criteria for establishing a work practice standard. Pressurized refiners generally operate as a closed system. Separated wood fiber is generated in a steam-pressurized refiner, and then enters equipment where it is mixed with resin and dried. But when the refiner is starting up, there is a brief period during which the refiner is operating but producing wood fiber that does not meet specifications for use downstream in the panel making process and this fiber must be diverted to storage for reuse. During that period between when the refiner starts operating and when it is achieving the required fiber properties, emissions from the refiner are not being routed to the dryer and then to emission control equipment. They are typically routed through a cyclone to a small bunker. When the process stabilizes, the material is sent to the dryer. These periods are necessarily quite brief, because during the startup period the refiner is not producing useful product, and the fiber that is being produced must be stored temporarily. The same situation exists when a pressurized refiner is being shut down. There is a brief period when the refiner is either no longer producing usable fiber or the downstream process equipment is unable to accept refined fiber, and so its exhaust is no longer being routed to the dryer and subsequent emission control equipment.

The best practice for controlling pressurized refiner emissions during these brief periods as the refiner is being started up or shut down is to minimize the duration of the event, which also happens to coincide with the economic and operational imperatives of the facility. Information collected by AWC indicates that in most cases the periods where pressurized refiner output is not being routed to the dryer and control equipment are being limited to less than 15 minutes (one member notes that these periods are usually 2 to 3 minutes). It should also be noted that during these periods, resin is not being added to the fiber, further minimizing HAP emissions. Since the removal of the SSM provisions with the PCWP NESHAP RTR rules, our members utilize the refiner startup and shutdown work practice to accommodate this brief but necessary mode of operation.

5.3. A Startup Work Practice for Veneer Dryer Gas Burner Lighting and Re-Lighting is Appropriate and Necessary and Should Be Retained

In the current rule, §63.2250(d) states that "Shutoff of direct-fired burners resulting from partial and full production stoppages of direct-fired softwood veneer dryers or over-temperature events shall be deemed shutdowns and not malfunctions. Lighting or re-lighting any one or all gas burners in direct-fired softwood veneer dryers shall be deemed startups and not malfunctions." EPA acknowledged comments on the 2003 proposed rule that this was a floor technology practice for these process units and agreed with comments that the frequency was not relatable to the infrequent-by-definition occurrence of malfunctions (and therefore should not be considered malfunctions). [117]

Following the flame out of the burner, the dryer could contain non-combusted natural gas that must be purged prior to safely re-lighting the gas burners. Non-combusted natural gas cannot be exhausted to the control devices due to safety concerns and must be vented along with whatever process emissions are in the dryers. The length of the purge varies based on system design, but only lasts a matter of minutes. Emissions are routed to the control system as expeditiously as possible following the burner re-light. Therefore, for the same reasons that we need a safety shutdown work practice, we also need a dryer gas burner re-lighting startup work practice.

6. EPA Has Correctly Determined that Low-HAP Resins Are Not a Technology Development

EPA has correctly determined that the option for facilities to reformulate resins was already contemplated during the development of the PCWP NESHAP. As an alternative to installing controls to reduce emissions, facilities can utilize the PBCO and meet HAP emission limits for each process unit. Several facilities use this approach instead of installing controls. However, it is not appropriate or feasible to mandate use of low HAP-emitting resin systems across the source category. There are many types of resin systems used in the manufacture of PCWP. Each resin system is used to impart specific qualities to the end product, with its final use in mind. Use of a resin system that doesn't meet quality or performance standards for a particular product is not acceptable. Even within each class of resin, the specific formulations vary based on the product being made and the operating conditions, such as press time and temperature, at the facility. In other words, facilities must continue to have flexibility to use the resin system that is appropriate for their process and product and the product's end use, and to comply with the standards as best fits their situation.[118] The amended standards provide a feasible work practice-based approach to limiting emissions from RMH Process Units and the PCWP NESHAP as a whole has resulted in significant emissions reductions from PCWP Manufacturing Facilities to a level at which the remaining risk is acceptable with an ample

[117] EPA-HQ-OAR-2003-0048-0107, pp. 2-218 to 2-222, National Emission Standards for Hazardous Air Pollutants for Plywood and Composite Wood Products Manufacturing Background Information for Final Standards, Summary of Public Comments and Responses.
[118] EPA has recognized in other NESHAP rulemakings that it cannot base standards on a product formulation that has not been demonstrated for all products. See, e.g., 83 Fed. Reg. 19,499, 19,511 (May 3, 2018) (Friction Materials Manufacturing RTR rule).

margin of safety. It is neither necessary nor appropriate for EPA to mandate use of certain types of resins or prohibit use of others.

7. Monitoring and Testing

7.1. Bypass Stack Monitoring

EPA has proposed to add bypass stack monitoring requirements for both combustion units that direct fire dryers or kilns and for process units that use the startup and shutdown work practices. The proposed monitoring requirements at §63.2269(k) and (l) state that a sensor must be installed to continuously monitor an indicator or bypass stack usage, such as flow damper position or temperature. Proposed §63.2270(g) requires facilities to keep a record of dates and types of bypass stack usage to calculate and report the total duration of bypass stack usage during the semiannual reporting period. Proposed §63.2281(c)(10) requires reporting of the time each bypass stack was used.

EPA has added bypass monitoring to the CEDRI template, but the manner in which it has been added does not match EPA's characterization of the requirement as a work practice. Bypass stack time should be added to the reporting template on the startup and shutdown work practice tab, not to the CMS deviation tab that requires an estimate of excess emissions. Use of bypass stacks is not considered a deviation from any requirement based on how EPA has proposed to add bypass stack monitoring to the rule.

7.2. Proposed Control Device Operating Parameters for Ongoing Compliance with New Standards

EPA has proposed additional ongoing monitoring requirements for facilities that use control devices to comply with the proposed additional standards. For example, EPA proposes at §63.2262(t) that opacity monitoring is required when a mechanical collector or other dry control device not listed in Table 2 is used to meet a limit in Table 1D or 1E. EPA's cost impacts analysis estimates a total capital investment of more than $150,000 is needed to add a COMS to a stack. We believe this cost is not reasonable to require when other monitoring options are available, such as pressure drop and periodic visible emissions checks. COMS are not required at many facilities that are currently subject to either BACT or state-specific limits on these stacks. EPA should revise the rule to allow either continuous pressure drop monitoring OR a COMS for mechanical collectors and other dry control devices where Table 2 does not otherwise specify a monitoring requirement. We do agree that if a facility chooses to use a COMS to demonstrate compliance with a standard that it can utilize the performance test data to set the appropriate monitoring limit, with 10% opacity as a minimum. This requirement is similar to that included in the Industrial Boiler NESHAP.

If use of COMS is retained in the final rule as a requirement, Table 2 item (11) should be revised to reflect the language in §63.2262(t): "Mechanical collector or other dry control device not previously listed in this table…." Also, §63.2269(e) should be clarified to indicate this section only applies where COMS are used for compliance with standards in Table 1D or 1E. Finally, to provide mills with additional flexibility, where a WESP is followed by another technology such as an oxidizer and the emissions ultimately vent through a dry stack, EPA should provide facilities the option to use a COMS for compliance with applicable PM limits.

EPA should also acknowledge that in some cases where a WESP or dry ESP is located prior to an organic HAP control device the WESP or dry ESP may not be necessary to comply with PM or Hg limits at the point where the exhaust is vented to the atmosphere. EPA should make it clear that WESP and ESP monitoring is only required where that control device is used during a stack test to demonstrate compliance. If the WESP or ESP is de-energized during stack testing, the monitoring for PM and Hg should be the oxidizer or biofilter temperature.

For a WESP used to comply with standards in Table 1D or 1E, EPA should replace the requirement in Table 2 and §63.2262(p) to monitor secondary power with a requirement to monitor only secondary amperage. When the WESP is water washed, voltage goes to zero and would affect compliance with any 3-hour average power operating parameter limit. Many permits require monitoring of secondary current and water flow at WESPs, not secondary power.

7.3. Performance Evaluations, Calibrations, and Validations

The current rule, at §63.2269, includes a requirement to conduct performance evaluations for CEMS but only validations/calibrations for temperature and moisture monitoring equipment. EPA has proposed to include requirements for performance evaluations for COMS, with which we agree, but also for pressure, pH, flow, voltage, power, and bypass monitors, with which we do not agree. EPA should revise the requirements for parameter monitors to include calibration or validation of these monitors, but not to require performance evaluations, because this term would seem to link back to the Part 63 General Provisions requirements related to performance evaluation notifications and reports. Facilities using continuous parameter monitoring systems (CPMS) do have procedures for routine calibrations and quality control. However, it is our belief that EPA does not need or want to be notified every time our members are going to calibrate their parameter monitors between stack tests per 40 CFR 63.8(e)(2). Performance evaluation notifications should be submitted as required in the Part 63 General Provisions for CEMS and COMS, but they should not be required for CPMS, and neither a notification nor a report should be required to be submitted every time a CPMS is calibrated. EPA has acknowledged this in Tables 9 and 10, but could add further clarity by eliminating the term “performance evaluation” from any rule sections that pertain to CPMS. Facilities should be required to maintain records of calibrations or validations of CPMS and document that a calibration or validation was conducted concurrent with a stack test but should not be required to meet all the other monitoring requirements in the General Provisions that are meant for CEMS and COMS with promulgated performance specifications.

EPA should revise the requirement for temperature monitoring devices at §63.2269(b) to indicate these requirements only apply where a facility has a temperature operating limit for compliance with a numerical emissions limit. It is not reasonable to impose the burden of these requirements on facilities that have a temperature component of a work practice standard. EPA has appropriately not applied moisture monitoring QA/QC requirements to the lumber kiln work practice standard requirements and should not apply temperature monitoring QA/QC requirements to the work practice standards included in these amendments. EPA should not reference the requirements of §63.2269(b) at §63.2269(m).

EPA should revise the requirement to perform a calibration check of a flow meter used to comply with an operating limit at §63.2269(h) from semiannually to annually. An annual calibration check aligns with the requirements of the Industrial Boiler NESHAP at §63.7525(e). Some facilities are not able to calibrate a flow sensor without removing it from service, which may not be feasible on a semiannual basis.

Finally, we believe there are typographical errors at §63.2269(j)(1) and (2) with respect to the performance evaluation (which should be called a calibration) for an electrified filter bed (EFB) voltage CMS. Item 1 should not reference current and Item 2 should say "voltage monitoring" not "electric power monitoring." However, we also note that there are inconsistencies within the rule at several places regarding whether the monitoring requirement is bed voltage and ionizer voltage or ionizer current or ionizer power (e.g., Table 2, item 10 says "ionizer voltage or current," §63.2262(s) requires bed voltage and ionizer voltage, §63.2269(j) references a requirement for "voltage or current" and "electric power"). EPA should clarify the EFB monitoring requirements and make them consistent throughout the rule (e.g., voltage only).

7.4. EPA Should Adjust Certain Performance Testing Frequencies

EPA has proposed multiple new numerical limits for certain process units to be added to Tables 1C, 1D, and 1E of the rule. The preamble indicates that EPA expects no HAP emissions reductions from all but three sets of limits (non-mercury HAP metals and PAH from rotary strand dryers and MDI from presses). The estimated HAP reduction from the numerical limits EPA proposes to add to the rule for existing sources is 0.44 tpy HAP.[119] EPA proposes to require ongoing continuous parameter monitoring and performance testing for these numerical limits that will achieve less than 1 ton of HAP reduction and will not reduce the already acceptable risk from HAP emissions from these sources. If EPA finalizes the additional numerical limits, we request that only one-time performance testing be required for all PAH limits and the other limits that EPA predicts will not result in any HAP reductions. PAH emissions will be addressed with the tune-up work practice, and other HAP emissions will be addressed by the controls already in place.

7.5. Fenceline Monitoring Is Neither Appropriate Nor Necessary

We support that EPA found it was not necessary to propose inclusion of fenceline monitoring in the PCWP NESHAP amendments. The proposed additional standards cover all HAP emissions units, the 2020 RTR showed that risk from the source category is acceptable, and many facilities are covered by state ambient air toxics standards where air dispersion modeling has shown that they are in compliance. Where fenceline monitoring has been included in other rules (e.g., the Refinery NESHAP), its purpose was to prompt corrective action by facilities to fix leaks and reduce fugitive emissions. Work practices such as those supported in these comments are the only feasible methodologies to manage fugitive emissions at PCWP facilities; there is no analog to corrective actions that might be appropriate at other facilities such as refineries. We do not concede that EPA's authority to establish emission standards under CAA §112(d) or (h) authorizes EPA to require fenceline monitoring, but in any case there is no technical reason for doing so at PCWP facilities.

7.6. Reporting

EPA developed an updated CEDRI reporting template to facilitate reporting for the proposed additional requirements. We offer the following comments on that template and ask for another chance to review before it is finalized after the rule is promulgated given its importance to complaince:

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[119] 88 Fed. Reg. 31862, 31865, 31871.

- Tab RCDME_Events title is misleading as it indicates “covered” maintenance procedures will be documented on this tab. The title reads “Operating While the Control Device is Offline During Covered Maintenance.” We suggest EPA delete the word “covered” from the title because §63.2281(c)(5) requires reporting of **all** control device maintenance performed while the control device was offline and one or more of the process units controlled by the control device was operating. The rule requires, in §63.2281(c)(5)(iii), a statement as to whether the control device maintenance was included in the approved routine control device maintenance request. This tab appropriately requires a yes/no response in Column L to this question.

- Tab SS_WorkPractDetails requires entry of a “corrective action taken” with a citation of 40 CFR §63.8(c)(8) for startup/shutdown work practice use instances. A corrective action is only appropriate for “safety-related shutdowns”. A corrective action would not be necessary for pressurized refiner startup/shutdown or direct-fired softwood veneer dryer startup/shutdown of gas-fired burners. The latter startup/shutdowns are necessitated by known process limitations and not the result of unforeseen safety-related shutdowns requiring corrective action. Furthermore, we suggest that EPA clarify that only instances of a work practice used after the initial 100 hours be identified on the SS_WorkPractDetails tab. Instances which occur in the first 100 hours of work practice use would not be included on this tab.
- The Tab Deviation_noCMS has a typographical error in column E where the user selects the work practice requirement from which they deviated. The log vat work practice should be “operate with a target log temperature $\leq$212F, not $\geq$212F.
- Tab CMS_Deviation shows an example of a control device maintenance covered in the approved RCDME. According to 63.2251(d), the compliance options and operating requirements do not apply during times when control device maintenance, covered under the approved routine control device maintenance exemption, is performed. We request EPA clarify that this would not be reported as a deviation.
- Tab CU Tune-Up: The reporting requirements in §63.2281(c)(9) refer to the most recent “Inspection” and “Tune-Up" date. EPA should clarify that this reporting requirement refers to an annual date when the tune-up occurred or provide a second data entry for most recent inspection if a facility inspects the combustion unit more frequently. For additional clarity, the description in row 8 should be revised to “annual tune-up work practice standards for combustion units that directly fire each PCWP dryer and lumber kiln”.

- Facilities are required to report total time (hours) during the semiannual reporting period that each combustion unit bypass stack or each process unit bypass stack was used per §63.2281(c)(10). This citation and reporting requirement was not added to the template correctly. Bypass stack time should be added to the reporting template on the startup and shutdown work practice tab, not to the CMS deviation tab that requires an estimate of excess emissions. Use of bypass stacks is not considered a deviation from any requirement based on how EPA has proposed to add bypass stack monitoring to the rule.

- On Tab Lumber Kilns, the final requirement of §63.2281(c)(11)(v) is missing. This requirement is to report the semiannual average kiln-dried lumber moisture content value.

7.7. We Support the Removal of the Emissions Averaging Option

EPA is proposing to remove the option to comply with the PCWP NESHAP using emissions averaging.[120] This option was included in the 2004 rule as a compliance option for existing affected sources only, and essentially allowed facilities to under control sources that required controls per Tables 1A and 1B and overcontrol sources with no requirements. Because EPA is proposing to fill gaps with this rule and essentially eliminate sources of HAP emissions that are not subject to standards, it follows that the emissions averaging provisions should be eliminated, as there will be little to no opportunity to use these provisions in the future.

8. Conclusions

In summary, we believe that the proposed amendments to the PCWP NESHAP are too burdensome and that most of them are not necessary. EPA's 2004 rule achieved significant emissions reductions from PCWP facilities and reduced risk of HAP emissions from the source category to acceptable levels, with an ample margin of safety. As detailed above, CAA §112(d)(6) directs that the "Administrator shall review, and revise as necessary (taking into account developments in practices, processes, and control technologies), emission standards promulgated under this section no less often than every 8 years." EPA's consideration of whether it is "necessary" to revise emission standards should involve several considerations. Certainly, low risk to human health and the environment could be a factor weighing against a determination that a new limit is necessary, and high cost for a low (or no) reduction in risk would also be a relevant factor. Over and over again, the preamble for the proposed rule states that EPA does not expect any reduction in emissions to result from new requirements proposed for additional HAPs. If there are little to no emissions reductions and no risk reduction to be gained but great cost to industry, a proposed new requirement is not necessary.

EPA should streamline any final additional standards to reduce burden and focus on practicable work practice standards that reflect efficient operations. We have suggested many ways EPA could reduce the burden of the revised rule in our comments above.

We appreciate the additional time granted to develop meaningful comments and EPA's development and sharing of its extensive record for this rulemaking. If you have any questions or need clarification or additional information on any of them, please contact Tim Hunt of AWC at thunt@awc.org or 202-463-2588.

[120] 88 Fed. Reg. 31879