



**COMMENTS OF HEARTH, PATIO & BARBECUE ASSOCIATION ON  
EPA'S PROPOSED RULE; "STANDARDS OF PERFORMANCE FOR NEW  
RESIDENTIAL WOOD HEATERS, NEW RESIDENTIAL HYDRONIC HEATERS  
AND FORCED-AIR FURNACES"**

**Docket ID No. EPA-HQ-OAR-2018-0195**

**RIN 2060-AU00**

**83 Fed. Reg. 61,574 (November 30, 2018)**

**January 14, 2019**

**INTRODUCTION AND EXECUTIVE SUMMARY**

The Hearth, Patio & Barbecue Association (“HPBA”) appreciates the opportunity to comment on the U.S. Environmental Protection Agency’s (“EPA” or “the Agency”) proposal<sup>1</sup> to revise its 2015 rule, “Standards of Performance for New Residential Wood Heaters, New Residential Hydronic Heaters and Forced-Air Furnaces, and New Residential Masonry Heaters.”<sup>2</sup> EPA is proposing to revise 40 C.F.R. Part 60, Subpart QQQQ to allow residential hydronic heaters and forced-air furnaces<sup>3</sup> that meet the 2015 (“Step 1”) particulate matter (“PM”) standards to be sold until May 15, 2022, so long as those appliances were manufactured before May 15, 2020. Although EPA has not proposed to revise 40 C.F.R. Part 60, Subpart AAA to allow residential wood stoves and pellet stoves<sup>4</sup> to be sold until May 15, 2022, it has requested comment on whether to include identical “sold at retail” or “sell-through” language in Subpart AAA.

As explained in more detail below, HPBA believes that a two-year sell-through period is critical to the health of the hearth products industry for *all types of regulated appliances*—wood stoves, pellet stoves, hydronic heaters, and forced-air furnaces. Thus, HPBA urges EPA to finalize revisions to both Subparts QQQQ and AAA that add a two-year sell-through period for Step 1 appliances. Furthermore, HPBA urges EPA to do so expeditiously, as the rapidly approaching compliance deadline for the 2020 (“Step 2”) PM standards is already negatively impacting the industry.

As a threshold matter, nothing in the Clean Air Act (“CAA”) limits EPA’s authority to stagger compliance deadlines for the manufacture and sale of covered appliances. Thus, it is not surprising that EPA has done so in prior new source performance standards (“NSPS”) rules for not only residential wood heating appliances, but also other source categories. For example, when EPA initially promulgated standards of performance for wood stoves in 1988, it included a two-year sell-through period for conventional, previously unregulated stoves, which the Agency estimated emitted about 60 to 70 grams per hour (“g/hr”) of PM.<sup>5</sup> By comparison, revising the current standards to provide a two-year sell-through period (from May 2020 to May 2022) for Step 1 stoves, roughly three-quarters of which are well under the 4.5 g/hr emission limit, would have a relatively miniscule environmental impact. The same is true with respect to Step 1 hydronic heaters, which by EPA’s own estimates, are 90% cleaner than the uncontrolled heaters that EPA allowed to be sold for a limited period of time after it promulgated the 2015 rule.

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<sup>1</sup> 83 Fed. Reg. 61,574 (Nov. 30, 2018).

<sup>2</sup> The 2015 rule was published at 80 Fed. Reg. 13,672 (Mar. 16, 2015).

<sup>3</sup> EPA sometimes refers to these appliances collectively as “central heaters.” The standards for these two categories are codified at 40 C.F.R. Part 60, Subpart QQQQ.

<sup>4</sup> EPA sometimes refers to these appliances collectively as “room heaters.” The standards for these two categories of appliances are codified at 40 C.F.R. Part 60, Subpart AAA.

<sup>5</sup> 52 Fed. Reg. 4,994, 4,996 (Feb. 18, 1987).

Not only would staggering the Step 2 manufacturing and sell-by deadlines by two years be consistent with prior regulations, it actually would serve to cure a defect in the 2015 Rule. When EPA promulgated the current standards in 2015, it provided limited sell-through for (i) room heaters that were certified to the 1988 standards, but could not meet the Step 1 (2015) emission limit; and (ii) previously unregulated hydronic heaters. EPA did so to try to ensure that the industry, which consists primarily of small businesses, would not be stuck with previously manufactured, but unsellable inventory when the Step 1 standards took effect.<sup>6</sup> Despite EPA’s recognition that a sell-through period was necessary to avoid imposing undue harm on the industry, it did not provide for any sell-through period after the Step 2 standards become applicable on May 15, 2020. EPA offered no explanation for this disparate treatment nor did it otherwise try to articulate why sell-through would not be every bit as important in 2020 as it was in 1988 or 2015 to help avoid stranding inventory in commerce.

In addition to avoiding the economic harm to small businesses from stranding unsellable appliances in commerce, a two-year sell-through period is necessary for a different reason. As recognized in the preamble to EPA’s current proposal, the lack of a sell-through provision in the 2020 standards is currently impacting manufacturers’ ability to develop, test, and certify Step 2-compliant products because (i) a substantial number of retailers in the hearth appliance industry are reducing or even eliminating orders of Step 1 appliances, even though the Step 2 compliance deadline is still well over a year away; and (ii) the downturn in Step 1 sales revenues jeopardizes many manufacturers’ efforts to bring Step 2-compliant products to market.

In the 2015 Rule, EPA’s best system of emission reduction (“BSER”) determinations for the Step 2 standards—for both room heaters and central heaters—were based on the conclusion that five years was an appropriate amount of lead time for manufacturers of all types of covered appliances to develop a full range of Step 2-compliant models, access the capital needed to develop those models, and complete the certification process.<sup>7</sup> EPA further found that, given the nature of this industry, manufacturers simply could not afford to suspend production and sales of Step 1 products during the time they were trying to design, test, evaluate, and certify Step 2 models, which is a concern that was also relevant back in 1988.<sup>8</sup> Thus, EPA concluded that manufacturers needed a full five years to bring product lines into compliance with the Step 2 standards.

EPA, however, has recently come to realize that manufacturers of both central and room heaters are now having difficulty accessing the necessary capital during the final two years of the five-year lead time period because many retailers have either scaled back on or eliminated orders of Step 1 products. This has effectively reduced or cut off revenue that manufacturers need to develop, test, and certify Step 2-compliant products. A two-year sell-through period would send

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<sup>6</sup> *See, e.g.*, 80 Fed. Reg. at 13,685.

<sup>7</sup> 79 Fed. Reg. 6,330, 6,365 (Feb. 3, 2014) (proposed rule).

<sup>8</sup> *See* U.S. EPA, “Response to Comment on Proposed Rule, ‘Standards of Performance for New Residential Wood Heaters, New Residential Hydronic Heaters, and Forced-Air Furnaces, and New Residential Masonry Heaters,’” at 99 (Feb. 3, 2015) (Attachment A to these comments; *previously docketed as* EPA-HQ-OAR-2009-0734-1775).

a signal to retailers that they can continue purchasing Step 1 products for the entirety of the five-year compliance lead time (*i.e.*, until May 2020) without having to fear that they will be stranded with unsellable Step 1 inventory on May 15, 2020. Rather, they would be able to continue selling previously manufactured Step 1 appliances for another two years. The two-year sell-through would thus restore the necessary cash flow to manufacturers and therefore give them the full benefit of the crucial five-year lead time. A sell-through period of that duration is likely the right amount of time to quell retailers' fears of being stranded with unsellable Step 1 inventory as of May 2020. Indeed, record evidence from the 2015 rulemaking suggests that retailers typically are able to sell most of their inventory over the course of two full selling seasons.

### **STATEMENT OF INTEREST**

Based in Arlington, Virginia, HPBA is the principal national industry association representing manufacturers, retailers, distributors, representatives, service firms, and allied associates for all types of hearth, barbecue, and patio appliances, fuels, and accessories, including solid fuel-fired home heating appliances such as woodstoves, pellet stoves, hydronic heaters, and warm air furnaces. The 2,500-member association provides professional member services and industry support in education, statistics, government relations, marketing, advertising, and consumer education.

HPBA has a long track record of working cooperatively with the EPA and the States on wood smoke issues of common concern. This partnering started with the regulatory negotiations in the late 1980s that produced the current NSPS. Other partnership accomplishments include numerous woodstove change-out programs including, most prominently, the program in Libby, Montana that changed out over 1,000 uncontrolled (*i.e.*, not EPA-Certified) stoves, resulting in remarkable improvements in air quality both in the ambient air and indoors. In addition, HPBA partnered with EPA in developing and implementing two innovative voluntary programs for hearth appliances: the voluntary program for Hydronic Heaters, and the later voluntary program for fireplaces. The Hydronic Heater voluntary program is particularly noteworthy, as it fostered the development of a new generation of emission-controlled models that EPA has acknowledged have reduced emissions approximately 90% from baseline, uncontrolled levels.

### **COMMENTS**

#### **I. EPA Has Authority Under the CAA To Revise the Existing NSPS by Adding Sell-Through Provisions In This Rulemaking Proceeding.**

Contrary to what some stakeholders claimed during the public hearing on the current proposal, EPA has authority under CAA Section 111 to establish different compliance deadlines for the manufacture and sale of residential wood burning appliances. Section 111(b) of the Act establishes various deadlines—*e.g.*, for publishing a list of regulated source categories, promulgating initial standards, reviewing (and revising, if appropriate) standards.<sup>9</sup> Although that

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<sup>9</sup> See 42 U.S.C. §§ 7411(b)(1)(A), 7411(b)(1)(B).

section states that standards “shall become effective upon promulgation,” that language does not dictate when regulated sources must achieve compliance with such standards.<sup>10</sup>

Not surprisingly, EPA has long interpreted Section 111 as providing the Agency with the flexibility to establish compliance (or applicability) dates in NSPS rules that are different from the rules’ effective dates. When EPA originally promulgated NSPS for residential wood heaters in 1988, it established two sets of compliance deadlines for the dates of manufacture and the dates by which regulated stoves must be sold: the first set of standards applied to stoves “manufactured on or after July 1, 1988, *or sold at retail on or after July 1, 1990.*”<sup>11</sup> The second set of standards applied to stoves “manufactured on or after July 1, 1990, *or sold at retail on or after July 1, 1992.*”<sup>12</sup> None of these dates lined up with that rule’s February 26, 1988 effective date.<sup>13</sup> Similarly in 2015, when EPA revised and expanded the NSPS for residential wood heaters, it once again established staggered compliance deadlines after the rule’s May 15, 2015 effective date.<sup>14</sup> Of particular relevance, although the Step 1 emissions limits became applicable to appliances *manufactured* on or after the effective date, room heaters and hydronic heaters that did not meet those Step 1 limits could continue to be *sold at retail* through December 31, 2015, so long as they were manufactured before the rule’s effective date.<sup>15</sup> In addition to the foregoing staggered deadlines, EPA delayed application of the deadlines for the Step 2 standards until May 15, 2020, a full five years after the effective date of the rule.

The practice of staggering effective dates and compliance deadlines in NSPS rules is not unique to the residential wood heating industry. In the 2006 NSPS for stationary compression ignition internal combustion engines (“CI ICE”), EPA staggered the deadlines for the manufacture and installation of affected engines in a way that is virtually indistinguishable from the sell-through language that EPA has proposed in this rule.<sup>16</sup> The CI ICE rule phased in

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<sup>10</sup> *See id.* § 7411(b)(1)(B). Some stakeholders have suggested that this language is an inflexible mandate that EPA’s proposed sell-through provision would run contrary to. That suggestion is wrong as these comments explain. But even if it were true, then EPA’s Step 2 standards would exceed the Agency’s statutory authority for the same reasons. If the “effective upon promulgation” language does not stand in the way of EPA delaying the compliance deadline for the Step 2 standards until May 15, 2020, it cannot possibly stand in the way of EPA staggering the manufacturing and sell-by deadlines in the Step 2 standards by two years (*i.e.*, promulgating a manufacturing deadline of May 15, 2020 and a sell-by deadline of May 15, 2022).

<sup>11</sup> 53 Fed. Reg. 5,860, 5,874 (Feb. 26, 1988) (codified at 40 C.F.R. § 60.532(a)) (emphasis added).

<sup>12</sup> *Id.* (codified at 40 C.F.R. § 60.532(b)) (emphasis added).

<sup>13</sup> *Id.* at 5,872.

<sup>14</sup> *See* 80 Fed. Reg. at 13,676 (“For this final action, the effective date is May 15, 2015, to allow for Congressional Review under the Congressional Review Act.”).

<sup>15</sup> *Compare* 80 Fed. Reg. 13,672, 13,677 (Mar. 16, 2015) (explaining that “Step 1 emission limits for these sources will apply to each source manufactured on or after the effective date of the final or sold at retail on or after December 31, 2015”) *with id.* at 13,676.

<sup>16</sup> *See* 71 Fed. Reg. 39,154 (July 11, 2006).

increasingly stringent emission standards over several years such that the “engine model year in which the Tiers [took] effect varie[d] for different size ranges of engines.”<sup>17</sup> Owners and operators of engines were given a full two years after a new, more stringent standard took effect to continue installing previously manufactured engines that did not yet meet the new standard.<sup>18</sup> Thus, for example, owners and operators had until December 31, 2008 to install engines that did not meet the applicable requirements for 2007 model year engines.<sup>19</sup> To use another example, owners and operators had until December 31, 2014 to continue installing non-emergency stationary CI ICE with a maximum engine power of  $\geq 19$  KW (25 HP) and  $< 56$  KW (75 HP) that did not meet the applicable requirements for 2013 model year non-emergency engines.<sup>20</sup>

Notably, when EPA originally proposed the CI ICE standards, it gave owners and operators only six months to install engines of a previous tier. When EPA finalized that rule, it extended the installation period to two years after receiving critical comments from stakeholders. To support that change, EPA explained that:

EPA agrees with the commenters that the 6-month deadline for installing engines of a previous tier is not long enough to allow for the time that typically elapses between order and installation of an engine and *may prevent engine manufacturers from using up existing inventories of engines*. Therefore, EPA increased the time limit to 24 months after the beginning of the model year.<sup>21</sup>

EPA recognized the need to account for market realities and to give engine manufacturers a sufficient amount of time to recoup their investments at each tier, rather than forcing companies to absorb losses from unsellable inventory. To hedge against the possibility that manufacturers would try to take advantage of this two-year lag time, EPA included “anti-stockpiling provisions similar to those used for nonroad engines to prohibit stockpiling of previous tier engines in the final rule.”<sup>22</sup> Under the anti-stockpiling provisions, manufacturers were permitted to “introduce into commerce uncertified engines or engines certified to earlier standards that were manufactured before the new or changed standards took effect until inventories are depleted, *as long as such engines are part of normal inventory*.”<sup>23</sup> The “normal inventory” standard was not an inflexible, one-size-fits-all number. The regulatory text explained, by way of illustration, that “if the engine manufacturers’ normal industry practice is to keep on hand a one-month supply of engines based on its projected sales, and a new tier of standards starts to apply for the 2009 model year, the engine manufacturer may manufacture

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<sup>17</sup> *Id.* at 39,156.

<sup>18</sup> *See* 40 C.F.R. § 60.4208.

<sup>19</sup> *Id.* § 60.4208(a).

<sup>20</sup> *Id.* § 60.4208(c).

<sup>21</sup> 71 Fed. Reg. at 39,162 (emphasis added).

<sup>22</sup> *Id.*

<sup>23</sup> 40 C.F.R. § 60.4210(h).

engines based on the normal inventory requirements late in the 2008 model year, and sell those engines for installation.”<sup>24</sup>

While the 2006 CI ICE rule is perhaps the closest analog to EPA’s current proposal, EPA has promulgated numerous NSPS rules for other source categories that contain delayed compliance deadlines. For instance, in the 2012 NSPS for the oil and natural gas sector, EPA gave “owners or operators . . . a 1-year phase-in beginning October 15, 2012 before the 95.0-percent control requirement” became applicable to storage vessel affected sources.<sup>25</sup> To justify that later deadline, EPA explained that it “believe[d] this [was] necessary because of initial problems securing control devices that are manufacturer-tested and have appropriate documentation for determining control efficiency.”<sup>26</sup> In the 2005 NSPS for coal-fired electric utility steam generating units, EPA established a two-step compliance framework for regulated entities to achieve the emissions cap limits for mercury: “In the final rule, EPA has determined that the technologies necessary to achieve the emission cap limits for 2010 have been adequately demonstrated, and that the technologies necessary to achieve the 2018 caps have been adequately demonstrated to be available to achieve compliance with those limits by 2018.”<sup>27</sup> Finally, in the 2008 NSPS for stationary spark ignition internal combustion engines, EPA delayed several of the compliance deadlines well beyond the rule’s effective date.<sup>28</sup>

One final point on EPA’s statutory authority warrants a brief discussion. Nothing in the recent D.C. Circuit *Air Alliance Houston* decision restricts EPA’s ability to revise the 2015 wood heater NSPS rule to provide for a two-year sell through period once the Step 2 standards become applicable. Unlike the delay rule at issue in that case, this proposal is *not* governed by CAA Section 307(d)(7)(B).<sup>29</sup> Equally important, in *Air Alliance Houston*, the Court found that EPA had failed to explain why it was reaching different conclusions than it had in the underlying risk management plan rule and that EPA had instead delayed the effective date based on speculation about future amendments.<sup>30</sup> That is not the case with EPA’s current proposal. EPA has articulated an explanation (discussed below) as to why some of the assumptions in the 2015 wood heaters NSPS have proven to be incorrect.

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<sup>24</sup> *Id.*

<sup>25</sup> See 77 Fed. Reg. 49,490, 49,525-26 (Aug. 16, 2012).

<sup>26</sup> *Id.* at 49,500.

<sup>27</sup> 70 Fed. Reg. 28,606, 28,620 (May 18, 2005). That rule was vacated on other grounds by *New Jersey v. EPA*, 517 F.3d 547 (D.C. Cir. 2008).

<sup>28</sup> See 73 Fed. Reg. 3,568 (Jan. 18, 2008).

<sup>29</sup> EPA similarly distinguished *Air Alliance Houston* in a recent proposal to extend a compliance date in a CAA Title VI rule. See 83 Fed. Reg. 49,332, 49,341 (Oct. 1, 2018) (“Protection of Stratospheric Ozone: Revisions to the Refrigerant Management Program’s Extension to Substitutes”).

<sup>30</sup> *Air Alliance Houston v. EPA*, 906 F.3d 1049, 1065 (D.C. Cir. 2018).

In fact, the proposed sell-through provisions would actually remedy a defect in the 2015 rule, *i.e.*, the unexplained and arbitrary inconsistency between the lack of sell-through provisions in the Step 2 standards and the inclusion of such provisions in both the 1988 standards and the Step 1 standards.<sup>31</sup> That EPA *added* language between the proposed and final 2015 rules to allow “sell-through” of hydronic heaters at Step 1 underscores that EPA continued to believe, on the date of the 2015 rule’s promulgation, that allowing sell-through was important to avoid harm to regulated entities.<sup>32</sup> It was especially arbitrary for EPA to simultaneously prohibit, without explanation, the sell-through of Step 1-compliant inventory for a period of time after May 15, 2020 in the very same final rule. As the D.C. Circuit has explained, “dissimilar treatment of evidently identical cases, on the same day, seems the quintessence of arbitrariness and caprice.”<sup>33</sup>

For all of these reasons, not only does EPA have the authority to revise the 2015 Rule to include sell-through provisions in 2020, such a revision is necessary to cure a legal deficiency in that rule.

## **II. HPBA Supports EPA’s Proposal to Revise Subpart QQQQ to Include a Two-Year Sell-Through Period in the Step 2 Standards, and HPBA Urges EPA to Revise Subpart AAA to Include an Identical Sell-Through Provision.**

EPA should revise Subpart QQQQ to provide for a two-year sell-through period (until May 15, 2022) as it has proposed to do. *First*, without sell-through, most manufacturers will not have the benefit of the five-year lead time to develop multiple lines of Step 2-compliant products. That five-year period was an integral component of EPA’s BSER determinations in the 2015 Rule. Thus, EPA has rightly proposed to revise that Rule to add a two-year sell-through period, which in effect, would help ensure that manufacturers will indeed have the full five years. *Second*, a two-year sell-through period helps ensure that manufacturers and retailers can recoup their investments in their Step 1 inventory on hand. The ability to continue selling Step 1 products until May 15, 2022 is a reasonable and necessary means of avoiding the significant economic harm that regulated entities stand to suffer if Step 1 products are stranded in commerce after May 2020.

Both of these justifications for including sell-through provisions in the Step 2 standards apply to Subpart AAA as well. Nonetheless, EPA merely invited comment on whether to revise Subpart AAA to add a sell-through provision in 2020, rather than proposing to do so. As detailed below, EPA should also revise Subpart AAA to allow Step 1 woodstoves and pellet stoves to be sold until May 15, 2022. Sell-through is every bit as important to ensuring that wood and pellet stove manufacturers have the benefit of the five-year lead time to develop full lines of Step 2-

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<sup>31</sup> See *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 514-15 (2009) (explaining that a “depart[ure] from a prior policy *sub silentio*” is unlawful).

<sup>32</sup> Compare 79 Fed. Reg. at 6,365 (refusing to allow the sale of previously manufactured, unregulated hydronic heaters and forced-air furnaces after the Step 1 (2015) standards for those appliances became applicable) with 80 Fed. Reg. at 13,685 (finalizing an 8-month sell-through provision for hydronic heaters).

<sup>33</sup> See *Colo. Interstate Gas Co. v. FERC*, 850 F.2d 769, 774 (D.C. Cir. 1988).

compliant products. And given that less than one-fifth of currently certified wood and pellet stoves are Step 2-certified—and that some manufacturers have few or even zero Step 2-compliant products at this time—sell-through is important to ensuring that enough manufacturers survive the increasingly stringent standards and can offer consumers a broad range of affordable appliances to choose from.

A. Full Five-Year Compliance Lead Times are Critical Components of the BSER Determinations Underlying the Step 2 Standards in the 2015 Rule.

EPA has long recognized that the determination of what constitutes BSER under CAA Section 111 requires the Agency to balance a number of factors, including environmental impacts, costs, and the required lead time for the regulated industry to come into compliance with new emission limits. When EPA originally proposed to promulgate Subpart AAA in 1987, EPA emphasized that BSER only applies to new sources that can meet the standards with a reasonable lead time:

To be [BSER], a technology must be available at a reasonable cost. For wood heaters, an important element of the cost of a technology is the cost of delaying production while models with that technology are designed and certified. Thus, [BSER] applies, and the *standards apply, only to those classes of new sources that can meet the standards with a reasonable lead time*[.]<sup>34</sup>

When EPA proposed the current standards for residential wood heaters in 2014, it echoed these statements by reiterating that “an element of the BSER determination includes *reasonable lead time for R&D to develop and certify cleaner units*.”<sup>35</sup> The 2014 proposal went on to state that “important elements in determining [] BSER include the significant costs and environmental impacts of delaying production while models with those systems are being designed, field evaluated, and certified.”<sup>36</sup> Taking the relevant factors into consideration, EPA determined that it had to provide a full five years between the Step 1 and Step 2 compliance deadlines to “allow manufacturers a reasonable time to develop complying models, access the necessary capital to develop them, and complete the certification process.”<sup>37</sup>

In responding to comments on the 2014 proposal, EPA again emphasized the need for sufficient amounts of lead time for manufacturers of all residential wood heating appliances, whether they are subject to regulation under Subpart AAA or Subpart QQQQ. Because Subparts

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<sup>34</sup> 52 Fed. Reg. at 5,000 (emphasis added).

<sup>35</sup> 79 Fed. Reg. at 6,364 (emphasis added).

<sup>36</sup> *Id.* The importance of field evaluation cannot be understated. Manufacturers want to be confident that the products they sell to consumers will work properly in homes. The existing regulations exempt a certain number of heaters used for R&D purposes, which allows manufacturers to field evaluate new products before bringing them to market. *See, e.g.*, 40 C.F.R. §§ 60.530(b)(2), 60.5472(b)(2).

<sup>37</sup> 79 Fed. Reg. at 6,365.

AAA and QQQQ regulate consumer products made for residential sales, as compared to large industrial process source categories, EPA explained that “if production and sales were to be suspended while designing, testing, field evaluating and certifying cleaner models, the cost of potential lost revenues could be significant, which necessitates reasonable lead times for compliance with emission limitations. This was a concern in 1988 and is still true today.”<sup>38</sup> Among other things, EPA highlighted the need “to avoid unreasonable economic impacts on those manufacturers (mostly small businesses) who need additional time to develop *a full range of cleaner models*.”<sup>39</sup> It is not enough to give just enough lead time for companies to certify a single product to more stringent standards. In this industry, few companies (if any) can survive with just a single product. Rather, they must give consumers several options to choose from that span the range of heating capacities, appearances, and prices, and that use different technologies (catalytic versus non-catalytic) and fuel types (stick wood versus pellet).

Elsewhere, in the Response to Comments document that accompanied the 2015 Rule, EPA again stressed that it determined in the final rule that the 2020 standards, “although achievable, are technology-forcing for much of the industry” and that they “represent[] stronger emission levels *achievable for all appliance types* at reasonable cost, *allowing appropriate lead times* for manufacturers to redesign their model lines to accommodate the improved technology *across multiple model lines* and test, field evaluate, and certify new model lines.”<sup>40</sup>

These and other statements, which EPA has reinforced in the current sell-through proposal (at 61,578), reflect the Agency’s appreciation of the uniqueness of this industry and the standards codified at Subparts AAA and QQQQ, as well as the importance of lead time. To summarize:

- Virtually all of the manufacturers subject to these regulations are small businesses that simply cannot afford to put production and sales of older models on hold while they strive to develop new products that must comply with a future, more stringent standard. A steady stream of revenue from sales of Step 1 products is necessary for most manufacturers to have the necessary capital to design, test, field evaluate, and certify Step 2 products.
- Most manufacturers cannot operate in this industry by offering just one compliant model for sale. Instead, they offer a range of products to try to address varying consumer demands and price points, *e.g.*, appearance and material, heat output, overall dimensions, fuel type, etc. The five-year lead times in the 2015 Rule are important to give manufacturers enough time to certify a full range of Step 2-compliant products, not simply to get a single product across the finish line that they may not have had any time to field evaluate.

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<sup>38</sup> 2015 Response to Comments, at 99 (Attachment A to these comments; *previously docketed as EPA-HQ-OAR-2009-0734-1775*).

<sup>39</sup> *Id.*

<sup>40</sup> *Id.* at 231.

- That some manufacturers back in 2015 appeared to have products capable of meeting the Step 2 emission limits did not give EPA a sufficient basis to conclude that the Step 2 limits were BSER back in 2015. EPA recognized that a significant percentage of woodstove and hydronic heater manufacturers still lacked products capable of meeting Step 2 and that no forced-air furnace manufacturers had any products that could meet Step 2. For most manufacturers, Step 2 limits were (and continue to be) technology-forcing, and it will take at least a full five years for them to achieve compliance with those limits across multiple model lines.<sup>41</sup>

In short, the five-year lead times between the Step 1 and Step 2 compliance deadlines in both Subparts AAA and QQQQ are integral components of EPA’s BSER determinations in the 2015 rule.

**B. The Absence of a Sell-Through Provision in the 2020 Standards Threatens to Deprive Manufacturers of the Requisite Lead Time to Develop Step 2 Products.**

EPA’s current proposal details how “a substantial number of retailers are already reducing or even ending their purchases of Step 1-certified wood heating devices from the manufacturers because they are concerned that they will not be able to sell these devices before the May 2020 Step 2 compliance date and will be left with unsaleable inventory.”<sup>42</sup> The fact that this is already happening so far before May 2020 should not have come as a surprise. When HPBA commented on EPA’s 2014 proposal, one of HPBA’s consultants with decades of experience in product development, sales, and marketing for many hearth industry manufacturers (Charlie Page) warned that the fear of being stuck with unsellable inventory could have profound implications throughout the supply chain:

Many retailers will stop buying appliances they are not absolutely sure that they can sell, and the manufacturers will lose the revenue from the sales of these stoves; revenue that is needed to fund the design, testing and the launch costs for new NSPS compliant models. It has been reported that this is already happening in the warm air furnace market and will be exacerbated unless EPA grants adequate sell-through relief.<sup>43</sup>

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<sup>41</sup> Many central heater manufacturers may never achieve compliance with the Step 2 emission limits. HPBA will comment in more detail on the achievability, feasibility, and other aspects of the Step 2 standards in response to EPA’s Advanced Notice of Proposed Rulemaking, 83 Fed. Reg. 61,585 (Nov. 30, 2018).

<sup>42</sup> 83 Fed. Reg. at 61,578.

<sup>43</sup> See Charles Page, “HPBA Retailer Survey Results – Inventory and Retail Sell-Through Trends,” at 22 (May 1, 2014) (Attachment B to these comments; *previously docketed as* EPA-HQ-OAR-2009-0734-1643, “HPBA Attachment 7”) (hereinafter, the “Page Report”); *see also id.* at 24 (“Retailers will stop buying products so that they don’t get stuck with unsellable inventory at a time when the manufacturers need the revenue to support the substantial product

It is well known in this industry that “many retailers have unsold inventory at the end of the season” even though there is variation among how retailers do business, *e.g.*, some keep substantial inventories at any given time while others only buy product when they need it.<sup>44</sup> As noted in EPA’s current proposal, many retailers have begun to take measures to try to ensure that they will have little or no Step 1 inventory stranded after May 2020 so that they can minimize or eliminate their financial losses. Consequently, manufacturers are already losing out on much needed revenue in the final two years of the Step 1 compliance period—revenue that they must have to fund the development, testing, and certification of new model lines. Most manufacturers in the hearth appliance industry are small businesses. The capital to develop Step 2-compliance appliances typically comes from sales of Step 1-compliant products, and most manufacturers do not have access to, for instance, revolving lines of credit to fund R&D, testing, and other costs related to developing Step 2-compliant products. For these companies, the downturn in Step 1 sales can be crippling.

EPA’s proposal rightly recognizes that the decrease in revenue from Step 1 sales threatens to deprive manufacturers of the full five-year lead time that underpins EPA’s BSER determinations for the Step 2 standards. This is because manufacturers are experiencing reductions in revenue in the final two years that they have to try to comply with the Step 2 standards.<sup>45</sup> To further complicate matters, EPA notes that “the price differential between the Step 2 models and Step 1 models may dampen demand for these heaters and could result in consumers declining to purchase new heaters altogether[.]”<sup>46</sup>

Under these circumstances, a two-year sell-through period is essential to ensuring that manufacturers, who are still in the process of trying to bring their model lines into compliance with the Step 2 standards and field evaluating such models rather than rushing to bring them to market, have the entirety of the five-year lead time to do so. EPA’s proposed sell-through provision and the supporting rationale account for the realities of the hearth appliance industry—namely, that manufacturers depend on sales revenue in any given year to fund the development, testing, field evaluation, and certification of new model lines. And for manufacturers to make meaningful use of the five-year compliance lead time for the Step 2 standards, they need a dependable stream of revenue from sales of Step 1-compliant products in the months and years leading up to the May 2020 deadline.

EPA’s sell-through proposal would go a long way toward remedying what is happening in the marketplace. That is, if retailers know they can continue to sell Step 1-compliant products until May 15, 2022, they are likely to continue (or to resume) buying such products during the remainder of the 2018-2019 heating season and during the 2019-2020 heating season at levels comparable to prior years. With an additional two years to sell Step 1 products, retailers would not need to ramp down or eliminate purchases of those products during the 2018-2019 or 2019-

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development effort needed to bring their product lines into compliance with the much more stringent standards EPA has proposed.”).

<sup>44</sup> *See id.* at 17.

<sup>45</sup> *See* 83 Fed. Reg. at 61,578-79.

<sup>46</sup> *Id.* at 61,579.

2020 seasons out of fear that they would be stranded with unsellable inventory come May 15, 2020. As manufacturers certify more Step 2 products in the remaining months between now and the Step 2 compliance deadline, the market for wood heaters will naturally shift away from Step 1-compliant products and towards Step 2-compliant products even before the Step 2 standards become applicable. For that transition to happen, however, something must be done to combat the chilling effect that the lack of sell-through provisions in the Step 2 standards is having on Step 1 sales (and hence, on manufacturers' ability to bring product lines into compliance with Step 2).

C. Sell-Through Is Equally Important to Subpart AAA Manufacturers as it is to Subpart QQQQ Manufacturers.

It bears emphasis that EPA's proposed sell-through is necessary not only for central heater manufacturers subject to Subpart QQQQ, but also for room heater manufacturers subject to Subpart AAA. Manufacturers of wood and pellet stoves are also missing out on the full five-year lead time to bring product lines into compliance with Step 2 and thus, they are in need of sell-through relief for all of the reasons mentioned in EPA's proposal. Tellingly, two of the manufacturer emails quoted in EPA's preamble to support its sell-through proposal come from wood stove manufacturers (Kuma Stoves and Blaze King).<sup>47</sup> And those manufacturers' experiences are not unique. As described in other manufacturers' comments submitted on this proposal, there are many other wood and pellet stove manufacturers who are currently experiencing a considerable downturn in revenue due to the lack of a sell-through provision in the Step 2 standards, which jeopardizes their ability to bring a sufficient number of Step 2 models to market to turn a profit. For the many wood and pellet stove manufacturers who have very few or even zero Step 2-compliant products at this time, a two-year sell-through provision is just as vital to their survival as it is to central heater manufacturers.

The current proposal does not explicitly say why EPA is differentiating between central heaters and room heaters when it comes to the need for sell-through. It appears that the reason EPA has proposed to add a sell-through provision for central heaters, but *not* room heaters, is that there are far fewer Step 2-certified hydronic heaters and forced-air furnaces than Step 2-certified wood and pellet stoves at this time. While that is true in terms of the raw number of models, those numbers do not tell the full story and do not justify withholding sell-through from Subpart AAA. Wood and pellet stoves have always represented a far greater share of sales the hearth appliance industry, and there have always been far more wood and pellet stove manufacturers offering several hundred more model lines for sale than there are in either the hydronic heater or forced-air furnace segments of the industry. Thus, it is not surprising that there are more Step 2-certified wood and pellet stoves at this time. As discussed in more detail in the following paragraphs, the key point is that those Step 2-certified stoves still represent a small fraction of the stoves normally available for homeowners to purchase. Thus, sell-through is just as important to Subpart AAA manufacturers and to ensuring that consumers will continue to have a wide range of room heaters to choose from at a variety of different price points and specifications. As described in the current proposal, EPA identified the percentage of wood heaters that were estimated to be meeting the Step 2 standards back in 2015 to 70% of pellet

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<sup>47</sup> See *id.* n. 3 (quoting emails from HPBA and several manufacturers).

**Docket ID No. EPA-HQ-OAR-2018-0195**

Comments – Hearth, Patio & Barbecue Association, January 14, 2019

stoves, 26% of wood stoves,<sup>48</sup> 18% of hydronic heaters, and zero forced-air furnaces.<sup>49</sup> Based on those percentages, EPA determined that it could not impose the Step 2 emission limits in 2015. Instead, after weighing all of the requisite factors under CAA Section 111, EPA determined that it would not require compliance with the Step 2 limits until May 2020, *i.e.*, after giving manufacturers five years of lead time to bring models into compliance with those limits. Now, three-and-a-half years later, the percentages are not materially different:

- Of the 526 currently certified wood and pellet stoves, only 100 (19%) are Step 2-certified. Specifically, 53 pellet stoves, 27 non-catalytic wood stoves, and 20 catalytic/hybrid wood stoves are currently Step 2-certified.
- Of the 129 currently certified hydronic heaters, only 10 (8%) are Step 2-certified.
- Of the 18 currently certified forced-air furnaces, only 1 (6%) is Step 2-certified.<sup>50</sup>

To this day, a very small percentage of either Subpart AAA or Subpart QQQQ appliances are currently Step 2-certified. Notably, 53 out of the 88 wood and pellet stove manufacturers who currently have one or more Step 1-certified appliances still do not have a single Step 2-certified appliance at this time.<sup>51</sup> Of those 53, six manufacturers currently offer eight or more Step 1-certified appliances, yet they face a real risk that they will have nothing to offer for sale by May 2020.<sup>52</sup> Finally, many of the manufacturers who currently have Step 2-certified stoves have not come close to certifying a full range of products to comply with the Step 2 standards, and some of the Step 2-certified stoves are not even ready for production yet.<sup>53</sup>

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<sup>48</sup> This number includes both catalytic and non-catalytic woodstoves, though it is not clear how EPA arrived at that percentage. Curiously, EPA’s estimates from late 2014 suggest there were only about 150 wood and pellet stoves available for sale that year. *See* Memorandum from Jill Mozier, EC/R Inc. to David Cole, et al., EPA/OAQPS, “Derivation of wood heater model percentages meeting Step 2 standards” (Nov. 10, 2014) (Attachment C to these comments; *previously docketed as* EPA-HQ-OAR-2009-0734-1768). An archived list of certified woodstoves from February 2015 (before the Step 1 standards took effect) reflects that there were, in fact, well over 500 wood and pellet stoves that were certified under the 1988 NSPS and still in production in early 2015. *See* US EPA, “List of EPA Certified Wood Heaters (Heaters certified as meeting the 1988 Standards of Performance for New Residential Wood Heaters)” (Jan. 2015) (Attachment D to these comments).

<sup>49</sup> *See* 83 Fed. Reg. at 61,578.

<sup>50</sup> These numbers come from the most recent lists of EPA certified wood stoves, hydronic heaters, and forced air furnaces that are available on EPA’s website. HPBA is providing those lists with these comments as Attachment E (wood stoves, dated October 2018), Attachment F (hydronic heaters, dated June 2018), and Attachment G (forced-air furnaces, dated June 2018).

<sup>51</sup> *See* Attachment E (Oct. 2018 EPA certified wood stoves list).

<sup>52</sup> *See id.*

<sup>53</sup> *See id.*

Manufacturers now have less than one-and-a-half years to try to bring a full range of model lines into compliance with the Step 2 standards, including field evaluating models to ensure they will hold up in homes before introducing them into commerce. And based on the information quoted in EPA’s preamble (and in numerous comments on this proposal submitted by manufacturers and retailers subject to Subpart AAA), wood and pellet stove manufacturers are now in a position where they must try to develop Step 2-compliant products with smaller budgets because their revenues from sales of Step 1-compliant products will continue to decrease or disappear altogether between now and May 2020. The numbers speak for themselves. The vast majority of wood and pellet stove manufacturers still need the balance of the five-year lead time to bring their product lines into compliance with the Step 2 emission limit—a process that can take a substantial amount of time and money, particularly for those manufacturers who have a dozen (or several dozen) product lines to certify.<sup>54</sup> Those manufacturers need EPA to revise Subpart AAA by adding a sell-through provision to the Step 2 standards so that retailers will resume buying Step 1 appliances, which will in turn fund manufacturers’ efforts to meet Step 2.

If things continue on the current trajectory, within the next couple of years, many manufacturers may need to exit the industry (just as hundreds did after EPA originally promulgated Subpart AAA in 1988), and consumers will have far fewer stove models to choose from. In particular, the number of noncatalytic stoves available for purchase, which historically have represented the lion’s share of the Subpart AAA market, will plummet.<sup>55</sup> Moreover, what products are ultimately available are likely to be more expensive—and in some cases, significantly more expensive—than Step 1 appliances. To use an example, one HPBA member took a Step 1 noncatalytic stove (certified at 3.4 g/hr) and equipped it with a “hybrid catalytic system” to successfully meet the Step 2 standards (certified at 1.8 g/hr). The difference in the laboratory emission test scores is only 1.6 g/hr, but the price increase to the consumer was over \$1,000 (from \$2,770 to \$3,800). This could have a chilling effect on homeowners’ willingness and ability to change out higher-emitting stoves to the detriment of the environment, which would be a truly perverse outcome. Homeowners in the market for wood or pellet stoves are often looking to save money and are expecting a particular price point. A 40% price increase poses a significant barrier to the purchase of a new appliance. By way of comparison, the price increases in Step 1 hydronic heaters and furnaces (compared to previously uncontrolled products) has had a significant, negative impact on sales of those appliances, as manufacturers have explained in their comments to this proposal.

The potential combined effect of selling fewer (and more expensive) stoves and companies exiting the industry could be very detrimental. Fewer older stoves will be replaced

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<sup>54</sup> In terms of time, manufacturers may encounter significant delays due to bottlenecks at test laboratories and/or due to delays in EPA’s issuance of certificates of compliance, which adds yet another barrier to a smooth transition to more stringent standards.

<sup>55</sup> In 2015, EPA determined that 89% of catalytic/hybrid stoves were capable of meeting the Step 2 limit, whereas only 18% of noncatalytic stoves were capable of meeting that limit. *See* 2015 Response to Comments at 447 (Attachment A to these comments; *previously docketed as* EPA-HQ-OAR-2009-0734-1775). Elsewhere in that document, EPA found that noncatalytic stoves “represent over 80 percent of the market.” *Id.* at 90.

with new, cleaner burning stoves due to reduced consumer choice. Moreover, the loss of manufacturers threatens to lead to decreased innovation. As a result, the emissions reductions that the NSPS rules are designed to achieve may not materialize as expected.

One final aspect of the 2015 Rule is worth mentioning: nothing in that rule or the supporting record suggested that the need to allow for sell-through would be any less important in 2020 than it was in 1988 and 2015. Again, EPA provided sell-through on two different occasions—in 1988 and in 2015—because it plainly recognized that it needed to give retailers additional time to clear out non-compliant inventory after a new emission limit applies. 2020 is no different: retailers will still need some time to sell Step 1 products after the Step 2 deadline becomes applicable. At the time EPA finalized the 2015 Rule, it gave no indication that it expected that retailers would plan ahead to protect themselves against stranded inventory in 2020 by, for instance, reducing or eliminating Step 1 purchases in 2018 or 2019, well in advance of the Step 2 deadline. Had it done so, that would have called into question EPA’s Step 2 BSER determinations, because an important component of those determinations was the assumption that manufacturers would have five years to bring a full range of Step 2-compliant products (or multiple model lines) to the market.<sup>56</sup> Simply put, EPA assumed that five years of lead time actually meant five years of lead time. Now that EPA has evidence to the contrary, EPA must revise Subparts AAA and QQQQ to ensure that manufacturers actually have the benefit of a full five-year lead time to comply with Step 2. Providing two-year sell-through periods for all covered appliances would help to ensure that manufacturers have the amount of lead time that EPA assumed they would when it made its Step 2 BSER determinations.

D. Lead Time Aside, a Sell-Through Period in 2020 Is Necessary to Avoid Stranding Substantial Amounts of Inventory in Commerce.

Apart from the need to ensure that all manufacturers subject to Subparts AAA and QQQQ actually have the full amount of lead time that EPA assumed they would have when it finalized the Step 2 standards, there is another reason for revising the 2015 Rule to include a sell-through period starting in May 2020: to avoid the substantial economic harm that results from stranding inventory in commerce. Allowing sell-through for this reason would be consistent with what EPA did in the 2006 CI ICE NSPS, when it provided for a two-year installation period for

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<sup>56</sup> Interestingly, two months after the rule was published in the *Federal Register*, EPA attempted to justify the lack of sell-through in 2020 by stating that “[f]ive years is a sufficient period for manufacturers, retailers, wholesalers, importers and distributors to plan appropriately to avoid stranded inventory costs of non-compliant models.” See U.S. EPA, Small Entity Compliance Guide for ‘Standards of Performance for New Residential Wood Heaters, New Residential Hydronic Heaters and Forced-Air Furnaces’, at 44 (May 2015), available at <https://www.epa.gov/sites/production/files/2015-05/documents/2015-small-entity-compliance-guide.pdf>. EPA did not explain how exactly these entities would plan ahead. Nor did it reconcile that justification with the statements throughout the rulemaking record about how manufacturers would have five years to develop and certify multiple model lines to the Step 2 standards.

engines of a previous, less stringent emission tier to, among other things, avoid “prevent[ing] engine manufacturers from using up existing inventories of engines.”<sup>57</sup>

EPA has long recognized the importance of allowing manufacturers, retailers, and distributors to sell previously manufactured products for a limited amount of time after a new standard takes effect—even though those products do not meet the new standard—because it allows “manufacturers to recoup their investment in their stock on hand.”<sup>58</sup> The need to avoid stranding inventory in commerce is especially important in an industry like this one that is composed almost entirely of small businesses (manufacturers, retailers, and distributors). In promulgating both the original Subpart AAA and the 2015 Rule’s Step 1 standards, EPA acknowledged the importance of allowing the sell-through of inventory. The 1988 rule required units manufactured on or after July 1, 1990 to comply with new emissions standards, but EPA permitted units that did not meet the new standards to be “sold at retail” until on or after July 1, 1992.<sup>59</sup> Similarly, under the Rule’s 2015 standards, units manufactured on or after May 15, 2015 must comply with the 2015 emission limits, but units that did not meet those limits could continue to be “sold at retail on or before December 31, 2015.”<sup>60</sup> These regulatory provisions reflect EPA’s recognition that the ability to “sell-through” inventory was needed to avoid undue harm to the many small business manufacturers and small business retailers subject to the standards.<sup>61</sup>

Although EPA appropriately included sell-through provisions as part of the Step 1 standards that took effect in 2015, the seven-and-a-half month sell-through period was too short,<sup>62</sup> particularly in light of the findings in the Page Report, which HPBA commissioned to

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<sup>57</sup> 71 Fed. Reg. at 39,162.

<sup>58</sup> See 79 Fed. Reg. at 6,365.

<sup>59</sup> See 40 C.F.R. § 60.532(b) (1988).

<sup>60</sup> See 40 C.F.R. §§ 60.532(a), 60.5474(a)(1).

<sup>61</sup> In describing the 2015 sell-through provisions, the current proposal explains that EPA included sell-through provisions in the Step 1 standards “to allow retailers additional time after the effective date of the rule to sell the non-compliant wood heaters and hydronic heaters remaining inventory.” 83 Fed. Reg. at 61,578.

<sup>62</sup> From the manufacturers’ standpoint, the sell-through period in 2015 is considerably different than the proposed sell-through period in 2020 because most manufacturers (particularly wood and pellet stove manufacturers) were able to offer full, or close to full, Step 1-compliant product lines for sale beginning in May 15, 2015. They did not depend on revenue from non-Step-1-compliant products to fund efforts to bring products into compliance with Step 1, which became applicable on the effective date of the 2015 Rule. Viewed in context, the 2015 sell-through period was about avoiding the significant economic harm to small businesses that would result from stranding previously manufactured inventory in commerce. The industry is in a far different position now as the Step 2 deadline approaches, because most manufacturers have few or no Step 2-compliant products available for sale at this time.

evaluate retailer inventory and sales trends.<sup>63</sup> That report demonstrated that a sell-through period of at least two heating seasons would strike a more appropriate balance between the potential environmental impacts of allowing for the continued sale of non-compliant products for a period of time after a new emission limit applies and the potential harm to the hearth appliance industry from stranding unsellable inventory. In this industry, retailers and distributors face substantial uncertainty in determining inventory levels and must do business in an inherently unpredictable marketplace. Moreover, retailers and distributors are at risk of suffering significant financial impacts if they do not have a sufficient amount of time to sell off unsold inventory whenever a new emission standard takes effect. The report also explains why uncertainty at the retailer/distributor level about their ability to sell previously certified models translates to reluctance to purchase them while they are certified, which in turn can result in significant economic injury to manufacturers – including having less capital for research and development, testing, and certification.

To use a snapshot, in 2013, retailers were left with approximately 17% of stranded wood and pellet stoves, which equated to approximately 24,000 units. If around 65% of that unsold inventory was made up of stick wood units with an average estimated retail value of \$2,120, the unsold inventory in 2013 was worth over \$30 million at retail. If the remaining 35% of that unsold inventory was made up of unsold pellet stoves, which typically sold at a higher average retail price of \$2,500, retailers would have been left with \$21 million of unsold inventory. In total, the combined estimated value of unsold distributor/retailer inventory in 2013 was \$50 million and that represents just wood and pellet stoves.<sup>64</sup> If past is prologue, retailers could suffer millions of dollars in losses without an adequate sell-through period to try to sell existing inventory in 2020. That loss will echo throughout the supply chain up to manufacturers, harming the industry.

While it is true that many retailers have already begun taking measures to try to protect themselves against having significant amounts of unsellable products on May 15, 2020, even those retailers are likely to still have some stranded inventory in 2020. To illustrate, 27% of the retailers surveyed in connection with the Page Report indicated that they had 12 or more old stoves in stores after two years.<sup>65</sup> Thus, even if a particular retailer refuses to purchase any new Step 1 products in 2018 or 2019, there is still a significant chance that it will still have some Step 1 products in stores when the Step 2 deadline becomes applicable.

In addition, there are still some retailers that cannot afford to stop ordering Step 1 appliances altogether. This could be due to a number of reasons:

*First*, to the extent Step 1 models are popular and in high demand by consumers between now and May 2020, many retailers will not want to miss out on such sales. Indeed, several

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<sup>63</sup> See Attachment B to these comments. To prepare that report, the author surveyed 26 retailers of residential wood heaters throughout each of the major selling regions of the country.

<sup>64</sup> See Page Report (Attachment B to these comments) at 16.

<sup>65</sup> See *id.* at 21.

retailers surveyed in the Page Report indicated they would still be willing to buy appliances even if those appliances could no longer be manufactured by a date certain.<sup>66</sup>

*Second*, there simply are not enough Step 2 products available for sale at this time. Retailers want to show a variety of appliances in their stores in hopes of having at least one product to cover every segment of the market. This means they will want to carry a variety of models (both pellet and stick wood models) across a range of prices and offer both catalytic and non-catalytic models. As noted above, there are few or no Step 2 models available for certain segments of the market. To further complicate matters, retailers typically have relationships with only a limited number of manufacturers. This means that some retailers may not be able to order exclusively Step 2 appliances even if they wanted to, because some manufacturers do not have *any* Step 2-compliant products at this time.

*Third*, most consumers of residential wood burning appliances are price sensitive and may not be willing to pay for Step 2 appliances. As discussed above, Step 2 appliances tend to cost significantly more than Step 1 appliances. Price sensitive customers might look for another retailer that has Step 1 products available for sale; switch to alternative sources of heat (*e.g.*, gas); or forego changing out their older wood-burning appliance and instead continue to use their existing, higher emitting stoves, boilers, or furnaces.

These are just a few of the reasons why some retailers nationwide may not be able to reduce or eliminate their purchases of Step 1 appliances and thus, they are at risk of having a lot of unsellable Step 1 appliances come May 2020 unless EPA revises the rule to add sell-through provisions.

### **III. EPA’s Proposed Sell-Through Would Not Result in Significantly Increased Emissions.**

EPA’s supplemental regulatory impact analysis sets forth estimated annual averages of foregone PM emission reductions from hydronic heaters, forced-air furnaces, and wood stoves for the 2019-2022 period. These estimates, however, are called into question by existing data that demonstrate that certified appliances’ certification values do not provide a reliable indication of how such appliances will perform in the field relative to other certified appliances. This comes as no surprise given that certification testing in laboratories is conducted under carefully controlled conditions that correlate poorly with how homeowners use appliances in the real world. Given this poor correlation, HPBA has long supported a cordwood-based test method that is more representative of in-home use.

EPA has long known that stoves that perform well during laboratory testing do not necessarily perform well in homes. For instance, when EPA proposed the original Subpart AAA standards decades ago, it observed that “[e]missions from a wood heater depend as much upon how the owner operates it as upon its design.”<sup>67</sup> Similarly, in the recent Advanced Notice of Proposed Rulemaking issued on the same day as the sell-through proposal, EPA once again said

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<sup>66</sup> *See id.* at 23.

<sup>67</sup> 52 Fed. Reg. at 5,007.

“EPA-specified test methods may not reflect how a typical consumer uses the device. Some test methods require the use of crib wood, which is air-dried dimensional lumber, rather than typical cord wood, or firewood. Additionally, the EPA-specified test methods direct the certification laboratory to target specific burn-rate categories for performance assessment purposes.”<sup>68</sup>

That there can be a significant difference in performance between laboratory testing and in-home use is predictable considering the many differences between laboratory testing conditions and in-home use. For example, the test method specified by rule (for wood stoves) requires use of Douglas fir cribs, whereas homeowners burn a variety of species of cordwood, (e.g., oak, hickory, maple, birch, pine). Moreover, during laboratory tests, considerable attention is paid to start-up conditions at the fuel loading stage, including size and character of an established coal bed and timing of setting air controls and closing the firebox door. These conditions are highly unlikely to be regularly reproduced by consumers in homes, but they can make a substantial difference in emissions performance in the laboratory.

The reason for these differences lies in the overall approach to testing and certification taken in the current NSPS. The existing regulatory framework relies on a laboratory testing scheme to differentiate between appliances that employ BSER and those that do not—not to predict their field performance, and only to rank certified appliances *after* trying to take variability into account. Ironically, the decision to use Douglas fir cribs back in 1988 as part of that framework was to improve the reproducibility of the test method results. It was recognized that this and other components of the required test methods were departures from real world conditions, and that the results from certification testing would not correlate with real world performance.<sup>69</sup> But because the purpose of testing under the current NSPS was to index BSER, not to replicate real world performance, these differences were ignored.

The record from the original NSPS rule also reflects the understanding at the time that using certification tests as a tool for predicting field performance (or making close determinations of compliance) would be an unrealistic and fruitless endeavor. A report on variability at the time explained that “use and natural aging” of stoves in the field might affect emissions “by at least a factor of two[,]” while inherent and largely uncontrollable woodstove performance variability might be responsible for some 20% of variability in results from test to test.<sup>70</sup> Those concerns remain relevant today. In fact, recent analysis suggests that the differential between laboratory and in-home performance may be greater than what was expected at the time.

More recently, in 2012, HPBA commissioned a review of available studies to provide additional insights into the relationship between lab testing and in-home performance of certified appliances, as well as the in-home performance of certified appliances compared to uncertified

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<sup>68</sup> See 83 Fed. Reg. at 61,588.

<sup>69</sup> See, e.g., 52 Fed. Reg. at 5,001 (“Although no standardized wood load configuration and procedure is representative of individual consumer cordwood burning practices, the Oregon loading density falls within the range shown by the studies.”).

<sup>70</sup> Shelton Research, Inc., “Sources of Variability in Emissions Test Results” (Undated), at 2-3 (Attachment H to these comments; previously docketed as EPA-HQ-OAR-2009-0734-0263).

(conventional) appliances.<sup>71</sup> That study relied on emissions data from in-home sampling programs and laboratory studies designed to reflect homeowner use patterns more closely than EPA Method 28.<sup>72</sup> These emissions data were compared to published certification scores for the woodstove models in question.<sup>73</sup> The author of that study also compiled field emissions data for uncertified models. In total, 618 emissions measurements were analyzed, including 409 tests from 85 certified woodstoves representing 41 different models.<sup>74</sup>

That analysis revealed that rank orders of woodstoves based on their certification scores did not predict rank orders for the same woodstoves based on their in-home performance: woodstoves with low certification scores sometimes performed more poorly in the field than woodstoves with higher certification scores, and vice versa. In an attempt to “mitigate” (smooth) the impact of the factors influencing emissions variability (e.g., wood moisture, chimney draft conditions, stove condition), the study grouped appliances in categories determined by their certification results and developed emissions means and medians for the field and field simulation data for each category.<sup>75</sup> This analysis revealed *no* significant correlation between emissions levels in the field and certification ranking. In fact, certified woodstoves with the lowest certification values (< 3 g/hr) reviewed in the study yielded the highest field mean emissions rates and emission factors of the three categories of certified woodstoves, including those with the highest certification values (> 5 g/hr).<sup>76</sup> Based on these data, the study yielded a conclusion that “EPA certification values are not good predictors of the relative ranking of emissions from individual models or the actual magnitude of their emissions.”<sup>77</sup>

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<sup>71</sup> See James E. Houck, Ph.D., “A Comparison of Particulate Emission Rates from the In Home Use of Certified Wood Stove Models with USEPA Certification Emission Values and A Comparison Between In Home Uncertified and Certified Wood Stove Particulate Emissions” (Feb. 1, 2012) (Attachment I to these comments; *previously docketed as* EPA-HQ-OAR-2009-0734-0143). Dr. Houck has more than 30 years of experience as a consultant and scientist, with over 20 years of specialized experience in biomass combustion and residential heating research and consulting. He has worked for a broad range of stakeholders, including manufacturers, trade organizations, air quality regulatory agencies (including EPA), and energy agencies. He is also the author of more than 130 reports and publications on residential heating issues.

<sup>72</sup> *Id.* at ii.

<sup>73</sup> *Id.*

<sup>74</sup> *Id.*

<sup>75</sup> *Id.* at 3.

<sup>76</sup> *Id.* at 3, 19-20.

<sup>77</sup> *Id.* at 2. As part of the rulemaking process, the Puget Sound Clean Air Agency (“PSCAA”) attempted to critique the Houck study in a December 5, 2012 letter to EPA. See Attachment J to these comments; *previously docketed as* EPA-HQ-OAR-2009-0734-0249. Among other things, PSCAA alleged that the Houck study reflects industry bias. As explained in Dr. Houck’s rebuttal, PSCAA’s claim of bias conveniently overlooks the fact that the underlying data came from research funded or co-funded by EPA, came from EPA’s own database, or were in the public domain and available to EPA staff. See James E. Houck, Ph.D., “Review of the Puget

The key takeaway from all of this is that certification test scores, whether they are below 2.0 g/hr or fall somewhere between 2.1 g/hr and 4.5 g/hr, are not reliable predictors of how much PM any given appliance is likely to emit when operated by the average homeowner. Indeed, the available data all point to the conclusion that the rank order of certification test scores simply will not hold up when it comes to in-home performance. Thus, it simply cannot be said with any level of confidence that allowing the sale of Step 1 appliances for an additional two years will negatively impact the environment due to increased PM emissions. In any event, as noted above, the more manufacturers can certify additional products to the Step 2 standards in the coming months, the more wood heater sales can be expected to shift from Step 1 products to Step 2 products, even before the May 15, 2020 compliance deadline.

Finally, to put things in perspective, a two-year sell-through period is identical to what EPA included in the original 1988 NSPS (Subpart AAA) when it allowed for the continued sale of previously *unregulated* wood stoves, which EPA estimated emitted about 60 to 70 g/hr of PM.<sup>78</sup> A two-year sell-through period for Step 1-compliant wood stoves would have a dramatically lower environmental impact than what EPA allowed back in 1988. This is especially true considering that most Step 1 wood and pellet stoves are certified between 2.0 and 4.0 g/hr, *i.e.*, well below the 4.5 g/hr Step 1 emission limit.

Similarly, in 2015, EPA allowed for the sale of previously *unregulated* hydronic heaters until the end of 2015. By comparison, a two-year sell-through period for Step 1 hydronic heaters (which, by EPA’s estimate, are 90% cleaner than conventional hydronic heaters)<sup>79</sup> would have far lesser environmental impacts than what EPA allowed in 2015.<sup>80</sup> As is the case with wood stoves, a significant number of Step 1-compliant hydronic heaters (and forced-air furnaces) are certified at levels well below the Step 1 emission limits for those two categories of appliances.

### CONCLUSION

HPBA appreciates the opportunity to provide these comments on EPA’s proposal. HPBA strongly supports EPA’s proposal to revise Subpart QQQQ to provide a two-year sell through period for hydronic heaters and forced-air furnaces. HPBA further urges EPA to revise Subpart AAA to provide the same two-year sell-through period for wood and pellet stoves.

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Sound Clean Air Agency December 5, 2012 letter to Mr. Stephan D. Page of the Office of Air Quality Planning and Standards U.S. Environmental Protection Agency” (Apr. 3, 2013) (Attachment K to these comments; *previously docketed as* EPA-HQ-OAR-2009-0734-1643, “HPBA Attachment 10”).

<sup>78</sup> See 52 Fed. Reg. at 4,996.

<sup>79</sup> See U.S. EPA, Regulatory Impact Analysis (RIA) for Residential Wood Heaters NSPS Revision, at 4-8 (Feb. 2015), *available at* <https://www.epa.gov/residential-wood-heaters/regulatory-impact-analysis-standards-performance-new-residential-wood>.

<sup>80</sup> EPA estimates that Step 1 forced-air furnaces are 75% cleaner than conventional furnaces. Allowing the continued sale of Step 1 furnaces for two years after the Step 2 manufacturing deadline becomes applicable would have a far smaller environmental impact than either of the sell-through periods in 1988 or 2015.

**ATTACHMENTS TO HPBA COMMENTS**

<b>Attachment</b>	<b>Title</b>
A	U.S. EPA, “Response to Comment on Proposed Rule, ‘Standards of Performance for New Residential Wood Heaters, New Residential Hydronic Heaters and Forced-Air Furnaces, and New Residential Masonry Heaters’” (Feb. 4, 2015), <i>previously docketed as</i> EPA-HQ-OAR-2009-0734-1775
B	Charles Page, “HPBA Retailer Survey Results – Inventory and Retail Sell-Through Trends” (May 1, 2014), <i>previously docketed as</i> EPA-HQ-OAR-2009-0734-1643, “HPBA Attachment 7”
C	Memorandum from Jill Mozier, EC/R Inc. to David Cole, et al., EPA/OAQPS, “Derivation of wood heater model percentages meeting Step 2 standards” (Nov. 10, 2004), <i>previously docketed as</i> EPA-HQ-OAR-2009-0734-1768
D	U.S. EPA, “List of EPA Certified Wood Heaters” (Jan. 2015)
E	U.S. EPA, “Certified Wood Heater List” (Oct. 2018), <i>available at</i> <a href="https://www.epa.gov/compliance/list-epa-certified-wood-stoves">https://www.epa.gov/compliance/list-epa-certified-wood-stoves</a> (last visited Jan. 10, 2019)
F	U.S. EPA, “Certified Hydronic Heater List” (June 2018), <i>available at</i> <a href="https://www.epa.gov/compliance/list-epa-certified-hydronic-heaters">https://www.epa.gov/compliance/list-epa-certified-hydronic-heaters</a> (last visited Jan. 10, 2019)
G	U.S. EPA, “Certified Forced-Air Furnaces” (June 2018), <i>available at</i> <a href="https://www.epa.gov/compliance/list-epa-certified-forced-air-furnaces">https://www.epa.gov/compliance/list-epa-certified-forced-air-furnaces</a> (last visited Jan. 10, 2019)
H	Shelton Research, Inc. “Sources of Variability in Emissions Test Results” (undated), <i>previously docketed as</i> EPA-HQ-OAR-2009-0734-0263
I	James E. Houck, Ph.D., “A Comparison of Particulate Emission Rates from the In Home Use of Certified Wood Stove Models with USEPA Certification Emission Values and A Comparison Between In Home Uncertified and Certified Wood Stove Particulate Emissions” (Feb. 1, 2012), <i>previously docketed as</i> EPA-HQ-OAR-2009-0734-0143
J	Letter to Stephen D. Page, Director, OAQPS/USEPA from Craig T. Kenworthy, Executive Director, Puget Sound Clean Air Agency with attached “Preliminary Review and Critique of Analyses of NSPS Test Method Variability (Curkeet, 2010) and the Relationship of EPA Certified Values to ‘In-Home Use’ (Houck, 2012)” (December 5, 2012), <i>previously docketed as</i> EPA-HQ-OAR-2009-0734-0249
K	James E. Houck, Ph.D., “Review of the Puget Sound Clean Air Agency December 5, 2012 letter to Mr. Stephan D. Page of the Office of Air Quality Planning and Standards U.S. Environmental Protection Agency” (April 3, 2013), <i>previously docketed as</i> EPA-HQ-OAR-2009-0734-1643, “HPBA Attachment 10”