Alliance for Green Heat

Comments on

EPA's Proposed Standards of Performance for New Residential Wood Heaters, New Residential Hydronic Heaters and Forced-Air Furnaces, and New Residential Masonry Heaters

Docket ID No. EPA-HQ-OAR-2009-0734

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SUMMARY OF COMMENTS

The Alliance for Green Heat (Alliance), appreciates the opportunity to comment on EPA's proposed New Source Performance Standards (NSPS) for wood heating devices.[1] The Alliance is an independent non-profit organization that works with environmental and forestry organizations, air quality experts, the wood and pellet stove industry, and others in the wood burning community to promote high-efficiency wood combustion as a low-carbon, sustainable, local and affordable heating solution. The Clean Air Act requires EPA to review and revise, if appropriate, the NSPS at least every eight years. The Alliance strongly supports EPA's decision to update the standards for wood stoves and to require a number of previously unregulated wood heating devices to reduce their emissions. We also believe that the new standards, which reflect significant improvements in wood heating technology, are both appropriate and long-overdue.

We have several suggestions for improving the proposed NSPS, which we outline below.

In our comments on the NSPS, we make the following points:

- First, it is important to recognize that wood heating is renewable heating and should be acknowledged as such by EPA.
- Second, the Alliance strongly supports EPA's decision to issue revised performance standards for wood stoves and other wood and pellet heating appliances.
    - The Alliance supports EPA's decision to close existing loopholes and to include all major categories of wood-fired heating devices in the new performance standards. Previously exempted devices (such as non-qualified outdoor boilers and single burn-rate stoves) and devices above the new Step One emission limits should not be "grandfathered."

[1] Standards of Performance for New Residential Wood Heaters, New Residential Hydronic Heaters and Forced-Air Furnaces, and New Residential Masonry Heaters, 79 Fed. Reg. 6,329 (Feb. 3, 2014) [hereinafter "Proposed Rule"].

- The Alliance supports a six-month sell through for certified stoves with emissions that are greater than the Step One emission standards, and a two-year sell through for boilers or furnaces that are EN303-5 (Class 3, 4 or 5) certified or EPA qualified.
- In the agency's next revision to the wood heater NSPS, EPA should regulate uncertified, pre-1988 stoves as new sources if they are installed in a new location. Doing so will help to hasten the removal of the oldest, most polluting stoves from our airsheds.
- In the agency's next revision to the wood heater NSPS, EPA should also regulate fireplaces.

- Third, the Alliance believes that the proposed emission limits, though reasonable, could be more stringent for certain devices:
  - Data from currently certified stoves appear to justify a more technology-forcing, lower Step One performance standard for wood stoves.
  - Pellet stoves are clearly capable of meeting a lower limit for Step One. The majority of pellet stoves certified by EPA are already emitting less than 2.5 grams per hour (g/hr). We call on the EPA to set a 2.5 g/hr standard for pellet stoves in Step One.
  - Forced air furnaces could achieve a Step One emission limit of 0.48 pounds per million BTUs (lbs/MMBTU), instead of the proposed 0.93 lbs/MMBTU. A 0.48 lbs/MMBTU standard corresponds to the pound/MMBTU of a typical Washington State-approved wood stove, and some furnaces are already meeting that standard already.
  - In addition, although we believe a .06 lbs/MMBTU Step Two standard for pellet boilers is justifiable, this limit may not be appropriate for cord wood boilers, particularly for test methods that include start-up emissions. A 0.15 lbs/MMBTU standard appears to be a reasonable Step Two standard, assuming that start-up emissions are part of the test.
- Fourth, the Alliance strongly supports a shorter, five-year implementation period for the NSPS. This deadline is both achievable and reasonable given the state of wood heating technology today.
- Fifth, the Alliance believes that credible testing and enforcement are essential components of any New Source Performance Standard under the Clean Air Act (CAA).
  - The Alliance supports the proposed transition to cord wood testing, and calls on EPA to continue its cord wood testing to obtain additional information on the

performance of existing wood stove models using cord wood prior to promulgation of the final rule. While we believe that EPA has sufficient data to justify EPA's Step Two standards, it is important to show that the emission limits contained in the standards can be achieved using the best systems of emission reduction available for several types of wood heaters. To that end, if EPA believes that it lacks sufficient data to determine that the Step Two limits are achievable with cord wood, we recommend that the agency commit to re-examining the achievability of the Step Two standards for stoves that must be certified on cord wood before those standards become effective.

- The Alliance urges EPA to establish a clearer path to certification for advanced technologies like automated stoves. The Alliance is also encouraged by ClearStak's comments and urges EPA to consider some of the forward-thinking ideas put forth in those comments.
- The Alliance supports EPA's proposal to delegate some oversight and enforcement authority to the states, and urges EPA to improve the capacity of the Office of Enforcement and Compliance Assurance (OECA) to help ensure that enforcement programs are effective, that the list of EPA certified stoves is updated in a more consistently expeditious fashion, and that manufacturers and retailers comply with the NSPS.

- Sixth, the Alliance believes that mandatory efficiency standards are needed. Greater efficiency is particularly import to low-income wood stove users because it can lower their heating bills by requiring less fuel to heat their homes. Nevertheless, the Alliance supports EPA's decision to delay imposing a mandatory efficiency standard as long as manufacturers are required to quickly post their efficiency numbers, and with the understanding that future NSPS would set mandatory efficiency standards.
  - The Alliance strongly supports a requirement to post B415.1 HHV efficiency numbers on all wood heating appliances on the market within six months of the rule's promulgation. Models that are EN 303-5 certified or qualified by an EPA voluntary program should be allowed to use HHV numbers from existing test data until they become EPA certified.
  - The Alliance opposes the elimination of the hangtag requirement and urges EPA to consider additional consumer information resources such as a Green Label and state incentives for changing out old stoves and installing the most efficient new stoves.
  - The Alliance agrees that both particulate matter (PM) and carbon monoxide (CO) emissions data, as well as efficiency data, should not be considered Confidential

Business Information (CBI), and urges EPA to make emissions and efficiency data about all four burn rates public on its website.

  - The Alliance urges EPA to immediately begin requiring manufacturers and labs to scan and electronically submit all paper data submissions, even as the agency works to develop a more streamlined Electronic Reporting Tool (ERT).
  - To avoid misleading consumers further, EPA should remove the "default" emission factor column from its posted list of certified wood stoves, and require manufacturers and retailers to stop using these default factors in their advertising materials by the time this NSPS goes into effect.

- Finally, while EPA's Environmental Justice (EJ) analysis for this round of revisions to the wood heater NSPS appears to be sufficient, a full, comprehensive EJ analysis would better account for the importance of reducing PM and other emissions from wood heating devices as a key step in eliminating the disproportionate impact that wood heater emissions can have on low-income and minority communities. Therefore, we urge EPA to perform a more comprehensive EJ analysis in the next revision to the wood heater NSPS that looks at the full range of wood smoke impacts on tribal, low-income, and minority communities.

We appreciate your attention to our comments and look forward to working with EPA to successfully implement this important rule. The full text of our comments is below.

COMMENTS

I. Wood Heating Is Renewable Heating.

On June 25, 2013, President Obama announced a bold new commitment to addressing climate change by cutting American fossil fuel emissions and promoting the increased use of renewable energy. The Alliance strongly supports this commitment and urges EPA to recognize the important role that wood heating can play in meeting the goal of reducing greenhouse gas emissions and slowing the process of climate change.

Although the industrial, commercial, and agricultural sectors are important sources of greenhouse gas emissions, the residential sector—where most home heating devices are installed—contributes over a billion metric tons of CO_2-equivalents each year.[2] Many of these emissions are the result of homeowners using natural gas, fuel oil, or fossil-fuel generated electricity to provide heat in cold weather. In contrast to these heating options, which accelerate the movement of carbon from under the earth (where it is harmless) to our atmosphere (where it leads to climate change), wood heating is effectively carbon neutral. This is because the greenhouse gases released when wood is burned are the same greenhouse gases that were absorbed and sequestered while the fuel source was growing. In addition, by using wood instead of fossil fuels to heat their homes, Americans are reducing the rate at which we deplete our stores of non-renewable fossil fuels. **In other words, wood heating is renewable heating, and it is good for the climate.**

We urge EPA to recognize the important contribution that wood heating can make to reducing residential fossil fuel use, and to ensure that EPA's updated wood heating regulations support continued innovation in the wood heating industry that will lead to more efficient, cleaner, and more customer-friendly wood heating options in the future. With the right regulations, wood heating can become an important renewable, environmentally sound, and home-grown substitute for fossil fuels. The Alliance urges the EPA to acknowledge this in the preamble to the NSPS, and to reflect the contribution that wood heating can make to reducing GHG emissions in other EPA publications and materials.

II. The Alliance Strongly Supports EPA's Decision to Issue Revised Performance Standards for Wood Stoves and Related Devices.

The Alliance strongly supports EPA's decision to issue performance standards for wood stoves, pellet stoves, hydronic heaters, forced air furnaces, and masonry stoves. The Alliance firmly believes that technology developed since 1988 is capable of dramatically more efficient,

[2] EPA GHG Inventory (Updated 2014), ES-23, Table ES-8, http://www.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2014-Main-Text.pdf.

cleaner-burning performance, and that new renewable wood heaters can and should be operated without making particulate matter or other local pollution problems worse.

Although many in the wood heater industry have continued to innovate, EPA's wood heater regulations have not been updated since 1988. Moreover, hydronic heaters, forced air furnaces, masonry heaters, and some pellet and wood stoves are not currently regulated by EPA. It is past time that EPA revise its original 1988 wood heater NSPS to close these significant loopholes. Regulating these devices will help to promote the innovation that will continue to reduce emissions, increase fuel efficiency, and allow the wood heat industry to better contribute to reducing Americans' reliance on fossil fuels.

In addition to closing these loopholes, the Alliance urges EPA to consider another loophole in the new source performance standards—residential fireplaces—in a future rulemaking under section 111. Like the other home heating products EPA proposes to regulate in this NSPS, residential fireplaces can be either prefabricated or custom-built. Moreover, even though fireplaces are not often used to provide the primary source of heat in most homes, they can contribute to local air pollution problems. We believe that regulating residential fireplaces would help to encourage innovation in the fireplace industry while ensuring that fireplaces are as clean and efficient as possible. We also applaud the EPA for initiating a voluntary qualification program for fireplaces[3] to build capacity for the industry to adopt cleaner designs.

Finally, we note that the Proposed Rule would not address the significant issue of old, uncertified second-hand wood stoves being resold and installed in new locations. The market for these uncertified stoves is typically composed of devices that are far more polluting than new stoves. The Alliance believes that these new installations of existing wood stoves brings these stoves within the definition of "new sources" that can be regulated under CAA section 111(b).[4] If EPA were to clarify that new installations of second-hand stoves are "new sources" subject to regulation under section 111(b), it would level the playing field between the cleaner, newly manufactured stoves and the dirtier second-hand stoves that are currently being sold and installed in many residences in the U.S. Consequently, regulating these second-hand stoves would help to hasten the removal of the oldest, most polluting stoves from our air sheds. We recommend that EPA consider regulating new installations of old and uncertified wood stoves during the agency's next eight-year review of wood heater new source performance standards, if not sooner.

III. Stringency of the Proposed Standards.

[3] EPA, *Consumers - Choosing Appliances - Choosing the Right Fireplace*, http://www.epa.gov/burnwise/fireplaces.html.

[4] The CAA defines a new source as "any stationary source, the construction of modification of which is commenced after the publication of regulations (or, if earlier, proposed regulations) prescribing a standard of performance under this section which will be applicable to such source." 42 U.S.C. § 7411(a)(2). Because second-hand stoves must be installed anew when moved from one location to another, each new installation of a second-hand stove constitutes a new "construction" that brings that second-hand stove within the definition of "new source."

Although EPA's proposed standards for wood heaters, hydronic heaters, forced air furnaces, and masonry heaters are well within the capability of manufacturers to achieve, we believe that data from the hundreds of catalytic, non-catalytic, and pellet stoves that EPA has certified over the years can support a more stringent standard for both wood stoves and pellet stoves. We also suggest that EPA modify the proposed standards for forced air furnaces, and urge EPA to clarify whether its proposed NSPS for hydronic heaters and forced air furnaces will include a binding upper limit on emissions per hour after 2015.

a. Wood Stove Data Indicates that EPA's Proposed Step One Standard for Wood Stoves is Too Lenient.

Although we appreciate EPA's proposal to lower the existing wood stove performance standard from 7.5 g PM/hr (for non-catalytic stoves) to 4.5 g/hr (for all stoves) in "Step One" of the new NSPS,[5] we believe that data in EPA's possession could support the establishment of an even lower Step One emission limit for wood stoves. For example, our analysis of EPA's wood heater certification data[6] indicates that the median emission rate for EPA-certified non-catalytic wood heaters is 4.1 g/hr.[7] The medians for certified catalytic and pellet stoves are even lower: According to our analysis, the median emission rate for catalytic stoves is 3.0 g/hr, while the median for pellet stoves is only 1.88 g/hr. The median for the entire wood stove category (including catalytic, non-catalytic, and pellet stoves), meanwhile, is 3.6 g/hr, while the average across all stoves is approximately 3.7 g/hr. Moreover, as Washington State's comments point out, a review of the HPBA database indicates that the top 20 percent of stoves (a cross-section that includes both catalytic and non-catalytic stoves) are already able to meet a 2.5 g/hr emission limit when the data is converted to 5G equivalents.

The fact that the majority of catalytic and non-catalytic stoves are already meeting (indeed, beating) the proposed Step One emission limits indicates that these limits could be more stringent. As EPA has correctly stated in other recent rulemakings, EPA's performance standards under section 111 of the CAA are meant to be technology-forcing, rather than simply continuing the status quo.[8] Although EPA's proposed Step Two limits for wood stoves will force some technological innovation, we believe that EPA could further promote this innovation by setting a reasonable, achievable, and more stringent near-term standard in Step One of the

[5] Proposed Rule, 79 Fed. Reg. at 6339.
[6] We analyzed data from all certified stoves listed on EPA's website as of March 2014. The list is available at http://www.epa.gov/Compliance/resources/publications/monitoring/caa/woodstoves/certifiedwood.pdf.
[7] Three hundred and fifteen (315) listed, non-catalytic wood stove models are currently certified with emission limits at or below 4.1 g/hr.
[8] *See, e.g.*, Standards of Performance for Greenhouse Gas Emissions From New Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 1430, 1465 (Jan. 8, 2014) (citing Sierra Club v. Costle, 657 F.2d 298, 347 (D.C. Cir. 1981) and various Congressional Reports interpreting the CAA amendments of 1970).

proposed NSPS.[9] Moreover, in light of the current state of wood stove technology, we believe that if the Step Two limits remain at the levels proposed, allowing manufacturers five years to meet the stricter standards with cord wood is reasonable.

b. EPA Should Establish a Separate, Lower Performance Standard for Pellet Stoves.

Under section 111(b), EPA is permitted to "distinguish among classes, types, and sizes" of regulated sources in establishing NSPS.[10] The Alliance urges EPA to use this authority to establish a separate, more ambitious performance standard for stoves that burn wood pellets. As we explain below, we believe that such a decision would comport with the intent of section 111(b) and is supported by data on existing pellet stove emissions.

Section 111 provides that EPA's NSPS must be based on the "emission limitation achievable through the application of the *best* system of emission reduction . . . adequately demonstrated."[11] Furthermore, under the Clean Air Act, EPA is required to evaluate whether "emission limitations and percent reductions beyond those required by [existing NSPS standards] are achieved in practice," and to "consider the emission limitations and percent reductions achieved in practice" when setting revised new source performance standards.[12] Nearly every model of pellet stove manufactured today is capable of achieving a 2.5 g/hr emission limit—an emission rate that is already far below EPA's proposed Step One (4.5 g/hr) limit for other wood stoves. In other words, these stoves are already achieving, in practice, an emission rate that is far below both the current NSPS performance standard for pellet stoves and the standard that EPA proposes to establish for Step One of the NSPS. The Alliance believes that the CAA requires EPA to take into account this information by setting an emission limit for pellet stoves that reflects the emission reductions that these devices achieve in practice. Moreover, we believe that this information demonstrates that the "best" system of emission reduction for pellet stoves is capable of achieving emission rates that are much lower than the limits proposed by EPA.

In addition, pellet stoves are easily distinguishable from other wood stoves because pellet stoves use a different fuel, different pollution control systems, and different mechanics (e.g., mechanical feed) than do traditional wood stoves. Therefore, the Alliance believes that the better environmental performance of pellet stoves should be recognized and incorporated into the final rule in the form of a separate performance standard with more stringent emission limits for these devices. Consequently, we urge EPA to consider treating pellet stoves as a separate subcategory of wood stove. EPA could set lower Step One and Step Two emission limits for the pellet stove

[9] The Alliance supports EPA's proposal to set a single standard for both catalytic and non-catalytic stoves, and does not believe that setting a single standard will lead to backsliding among catalytic stove (especially in light of EPA's proposal that wood stoves meet a more stringent Step Two emission limit within 5 years of the effective date).
[10] 42 U.S.C. § 7411(b)(2).
[11] 42 U.S.C. § 7411(a)(1) (emphasis added).
[12] 42 U.S.C. § 7411(b)(1)(B).

subcategory, set an earlier pellet stove compliance deadline for the lower Step Two emission limit, or both.

c. Additional Changes and Clarifications for the Hydronic Heater and Forced Air Furnace Category.

Although the Alliance generally supports the proposed performance standards for hydronic heaters and forced air furnaces, we believe that the final rule should reflect the following changes.

First, the proposed Step One standards for forced air furnaces is too lenient. These devices can and should be required to meet the same standards that wood stoves must meet. For most devices, a Step One limit of 0.48 lbs/MMBTU would be equivalent to EPA's proposed 4.5 g/hr limit for wood stoves. Therefore, forced air furnaces should be required to meet a 0.48 lbs/MMBTU standard rather than the proposed Step One limit of 0.93 lbs/MMBTU. The Step Two standard for forced air furnaces should be the same as the standard for boilers.

Second, although a 0.06 lbs/MMBTU Step Two standard is justifiable for pellet boilers, this limit may not be appropriate for cord wood boilers, depending on the test method. For example, although we think the BNL method should be used for boilers with thermal storage, it is not clear that EPA's proposed Step Two limit of 0.6 lbs/MMBTU would be achievable for cord wood boilers because the BNL method includes startup emissions. We think that a 0.15 lbs/MMBTU, which EPA has proposed as an "alternative" Step Two limit, would be a reasonable limit for two-step, five-year emission limit for cord wood boilers.

Third, we agree that the NSPS for hydronic heaters and forced air furnaces (proposed as new subcategory QQQQ) should include both a lbs/MMBTU heat output emission limit and a g/hr PM limit. As proposed, these sources would be subject to a 7.5 g/hr limit during the first phase of the NSPS (effective 2015).[13] However, it is not clear whether sources in subcategory QQQQ would continue to be required to meet both a lbs/MMBTU limit, and the 7.5 g/hr limit *after* 2015. We urge the EPA to require the 7.5 g/hr after 2015. If these devices will not be subject to this requirement after Step One, we request that EPA explain its reasoning.

IV. Implementation Deadlines.

a. EPA Should Require All Devices to Meet the Final Emission Limits Within Five Years.

The Alliance strongly supports an approach that requires manufacturers to meet the final emission limits as soon as practicable. The proposed two-step implementation period for wood stoves, hydronic heaters, and forced air furnaces is clearly achievable. Indeed, some manufacturers are already meeting the *lower* emission limits that EPA proposes for five years

[13] *See* 79 Fed. Reg. at 6385.

from the effective date of the rule, even with cord wood.[14] Most others will be able to meet those standards within five years at reasonable cost.

Further, although the Alliance supports the *intent* behind EPA's three-step "Alternative Approach,"[15] we do not support the proposed eight-year deadline for meeting emission limits. There are aspects of the Alternative Approach that make sense. For example, a three-step approach would require manufacturers to demonstrate reasonable interim progress toward meeting the final emission limit targets. Requiring manufacturers to meet an interim goal ensures that progress is being made toward reaching the end target. Including such an interim target would also ensure that emissions from wood stoves are reduced sooner. That said, the Alliance does not support the Alternative Approach for the NSPS, because we strongly believe that manufacturers do not need eight full years to reach the final emission rate targets (indeed, several commercial models are likely already able to meet these targets today). Delaying implementation of the more technology-forcing final performance standards in the manner proposed for the Alternative Approach would allow existing, less efficient technologies to remain in use for longer while failing to provide manufacturers and retailers with a near-term incentive to offer better, cleaner, more sustainable options for wood stove users. In addition, because NSPS must be reviewed at least every eight years,[16] the Alternative Approach would effectively require manufacturers to meet the most stringent performance standard just as EPA would be initiating its eight-year review (during which the agency could decide to revise the standards further). Therefore, we recommend that EPA retain its proposed five-year compliance deadline for the final, Step Two emission limits for all devices.

b. Recommendations for Grandfathering of Existing Stove Lines and Other Devices.

The Proposed Rule would allow a "transition period" for stove models certified prior to the effective date of the final rule. Under this transition period, stoves that were certified under the 1988 NSPS would be "grandfathered in" and could continue to be manufactured and sold for up to 5 years from the date of certification (which could occur at any time before the Proposed Rule's "effective date").[17] Although we agree that a transition period is appropriate, we support a transition period only for appliances that already meet the Step One standards. As EPA's

[14] Although we do not believe it is possible to convert between existing crib wood data and the cord wood-based emission limits EPA proposes for Step Two, it is worth noting that fourteen non-catalytic, twenty-one catalytic, and twenty-eight pellet stoves are already EPA-certified at the proposed Step Two emission limit of 1.3 g/hr or less, using a weighted average of all four burn rates. *See* EPA, *List of EPA Certified Wood Heaters* (Mar. 2014), http://www.epa.gov/Compliance/resources/publications/monitoring/caa/woodstoves/certifiedwood.pdf. (Note that if they were retested using just the high and low burns as proposed by EPA for this NSPS, it is possible that fewer of the existing models would meet the 1.3 g/hr standard.) In addition, Tom Morrissey of the Woodstock Soapstone Company has tested at least one of this stoves using cord wood and found that it can meet the lower, Step Two limits proposed by EPA. We understand that this data will be submitted to the rulemaking docket.
[15] *See* 79 Fed. Reg. at 6339.
[16] 42 U.S.C. § 7411(b)(1)(B).
[17] 79 Fed. Reg. at 6338-39.

certification database demonstrates, there are already numerous catalytic, non-catalytic, and pellet stove models on the market today that are certified at 4.5 g/hr or below. Allowing existing stove lines with emissions greater than the Step One emission limits to continue to be sold would allow too many high-emitting, inefficient stoves to stay on the market far longer than is appropriate given the state of the technology and the importance of reducing emissions from wood stoves. In addition, because manufacturers could continue to certify new models up until the effective date of the final rule, we believe the Proposed Rule's approach to grandfathering provides manufacturers with an incentive to quickly certify all of their high-emitting stoves before the deadline, rather than discontinuing production of less clean devices and transitioning toward a cleaner wood stove fleet. We note that section 111 appears to anticipate and preempt such a perverse incentive, in that it defines new sources as those sources for which "construction or modification . . . is commenced after the publication of regulations (*or, if earlier, proposed regulations*) prescribing [an NSPS]."[18]

In keeping with the intent of section 111, the Alliance recommends that all heaters, regardless of whether they were certified before or after the date of the *Proposed Rule*—should be required to meet the initial Step One standards for wood stoves and pellet stoves. Manufacturers and retailers selling heater models certified prior to the Proposed Rule whose emissions are *higher* than the Step One standards should be given a reasonable, six-month grace period to sell these certified but non-compliant stoves, beginning with the date when EPA issues the final rule. Following the six-month sell-through period, certifications for any stove that does not meet the Step One standards should be rescinded by EPA—regardless of whether the certificate expiration date extends beyond the six-month sell-through period. Stoves with emissions lower than the Step One standards that were certified before the Proposed Rule (i.e., under the existing crib wood test methods) should be allowed to be manufactured and sold until their certificate expires or the Step Two standards take effect (by which time those stove models should be required to either be re-certified under the revised test methods or removed from the market). Currently exempted wood stoves—sometimes referred to as single burn rate stoves, or 35- to-1 stoves —and unqualified wood boilers should not be grandfathered or given any sell-through period.

In addition, we support a two-year sell through period for boilers and furnaces certified under the EN303-5 standards that are Class 3, 4 or 5, or qualified by the EPA. With the exception of these models, EPA should not allow devices that are currently exempt from the regulation to be grandfathered. As required by CAA section 111, any currently unregulated devices (e.g., hydronic heaters, forced air furnaces, and some wood and pellet stoves) manufactured after the date of the *Proposed Rule* should be required to meet the Step One emission limit immediately.

[18] 42 U.S.C. § 7411(a)(2) (emphasis added).

Finally, we do not believe that a small volume manufacturer compliance extension is necessary for either boilers or furnaces. Even small volume manufacturers currently market their products on a regional or nationwide basis. Allowing potentially high emitting hydronic heaters or furnaces from small volume manufacturers into areas that are already at risk is not advisable. However, we do support the proposed five-year small volume manufacturer compliance extension for masonry heaters, because these devices are already sufficiently clean-burning. In addition, we recommend that EPA carefully consider the comments submitted by the Masonry Heater Association and Norbert Serf regarding how EPA should set performance standards for masonry heaters.

V. Proposed Test Methods and Enforcement.

a. The Alliance Supports the Transition to Cord Wood Testing.

Credible testing and enforcement are essential components of any New Source Performance Standard under the CAA. In this regard, the Alliance strongly supports the Proposed Rule's requirement to transition from the crib wood test to the cord wood test for certifying wood heaters and other devices, because the cord wood test more accurately represents "real world" emissions. EPA has proposed that wood stoves certified during Step One of the revised NSPS would be tested using both crib wood and cord wood and could be certified using either test.[19] For Step Two, EPA proposes that stoves would be certified using only the cord wood test.[20] The Alliance believes this approach will allow a reasonable transition period for manufacturers to test and, if necessary, adjust their stove offerings so that they can meet the Step Two emission limits using a cord wood test alone.

However, the Alliance notes that the vast majority of emissions data that EPA has gathered to date appears to be crib wood data and little cord wood test data exists.[21] Furthermore, the Alliance is not aware of any simple or technically defensible method of estimating the emissions that a stove tested on crib wood would emit when tested on cord wood. We understand that EPA will be testing additional stoves using cord wood over the next several months. If EPA can obtain sufficient cord wood test data to adequately support its proposed Step Two standards before issuing a final rule, we would support the emission limits as proposed.

If EPA cannot obtain sufficient data to make a reasoned determination as to the achievability of its proposed Step Two standards using a cord wood test, we suggest that EPA consider conducting a mid-term review of the Step Two cord wood-based emission limit at least

[19] Proposed Rule, 79 Fed. Reg. at 6340.
[20] *Id.*
[21] We note that Tom Morrissey of Woodstock Soapstone has successfully demonstrated that at least one of his stoves can consistently meet the proposed Step Two emission limits when tested on cord wood. However, our review of EPA's supporting documentation does not appear to reveal any additional test data from cord wood testing.

12 months before the effective date of the Step Two limits. During this mid-term review, EPA would be able to examine additional cord wood test data obtained from stoves that are certified during the first phase of the new NSPS. This data would either reinforce EPA's determination that the Step Two limits are achievable using a cord wood test, or indicate that these limits should be adjusted (either upward or downward). Following this mid-term review, EPA could amend the NSPS (if necessary) to account for the new cord wood test data the agency receives. Such a mid-term review is authorized by the Clean Air Act,[22] and would be in line with the approach that EPA has taken for regulating emissions from mobile sources[23] (which, like wood heaters, are typically mass-produced devices that are certified and then sold into commerce).

b. EPA Has Ample Data Showing that Step Two Emission Limits Are Achievable for Pellet Stoves.

In contrast to other types of wood stoves, EPA has not proposed to change the test method for pellet stoves.[24] These stoves are currently tested using pellet fuel, and the fuel that pellet stoves will use for certification will not change significantly (as it will for cord wood stoves). EPA has clarified that new pellet stoves would be required to be tested using Pellet Fuels Institute (PFI) approved pellets[25]—a proposal that we support.[26] We do not believe that using fuel certified under the PFI program will substantially affect the emissions of these devices. Therefore, as discussed above, EPA already has ample data in its possession showing that the Step Two pellet stove limits are achievable. (Indeed, as we point out above, EPA's certification data shows that these limits could be even lower for pellet stoves.) As a result, no mid-term review would be necessary for pellet stoves. We believe this distinction in test methods between traditional wood stoves and pellet stoves is yet another good reason for treating pellet stoves as a separate subcategory.

c. EPA Should Establish a Clear Pathway for Certification of Automated Stoves.

New sensing and automation technologies could be vitally important to improving wood stove efficiency, lowering emissions, and making wood stoves a viable option for more consumers in the future. For example, automated stoves that employ this kind of technology can

[22] Section 111(b)(1)(B) provides that EPA "shall, at least every 8 years, review and, if appropriate, revise" NSPS standards, unless EPA "determines that such review is not appropriate in light of readily available information on the efficacy of such standard." 42 U.S.C. § 7411(b)(1)(B). Therefore, EPA may issue the current NSPS with the intention of conducting a mid-term review once it has gathered additional cord wood test data.
[23] *See, e.g.*, EPA and NHTSA, 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards, 77 Fed. Reg. 62,624, 62,633 (Oct. 15, 2012).
[24] EPA has proposed that owners and operators would be required to use the grade of pellet stove used in the certification test of the stove, or better. *See* 79 Fed. Reg. at 6332. However, this requirement on the user will not implicate the representativeness of the *test data* on which EPA bases its proposed standards for pellet stoves.
[25] 79 Fed. Reg. at 6341.
[26] We also recommend that the PFI program be expanded to require pellets used in new stoves to comply with the requirements of EN Plus.

achieve greater emission reductions in practice because they significantly reduce or eliminate the possibility that some users would misoperate their stoves, which leads to less efficient heating and higher emissions. Several automated stoves were included in the Wood Stove Decathlon,[27] which is sponsored by the Alliance and more will be tested in November 2014 as we develop a test method for them. These automated stoves represent the exciting, cutting edge of wood stove technology, and EPA should design the new NSPS so as to eliminate all unnecessary barriers to the introduction and use of these stoves in the U.S. market. Furthermore, automated stoves could be tested on a cold-to-cold basis, as automation can be designed to reduce start up emissions. This capability to reduce start-up emissions should be built into future test methods, because the current hot-to-hot approach may overlook the significant amounts of PM that can be emitted when a stove is first warming up or cooling down.

We are concerned that the Proposed Rule's testing protocols do not provide a clear procedure for certifying automated stoves. We therefore recommend that EPA provide a clearer path to certification for new technologies such as automated stoves. For example, EPA could clarify that automated stoves (which cannot be manually adjusted by the user) may be tested and certified according to the single burn rate heater testing procedure, adjusted as EPA believes appropriate. EPA should consult with stakeholders and issue a supplemental notice of data availability that explains how the agency would test and certify an automated stove under the final rule.

d. Additional Comments on Testing and Certification.

Transition to Bimodal Test Method. The Alliance supports the change in the variable burn-rate wood stove test method from an average of four operational modes to a focus on the two modes most likely to emit high levels of particulate matter—Category 1 (the lowest burn rate) and Category 4 (highest burn rate).[28] This modification will help to ensure that low emissions during the optimal stove operational mode do not hide the potentially higher emissions occurring during very low or high burn rates.

Filter Pulls. The requirement for one-hour filter pull should be applied only to hydronic heaters and furnaces, and no further than the first five hours of testing. Requiring additional filter catches from room heaters and other small devices would be overly costly, and would not yield significant amounts of additional information.

Moisture Sampling Techniques for Method 28. The alliance supports Washington State's comments on EPA's proposed changes to the moisture sampling techniques, and urges EPA to ensure that the test method is workable for test labs.

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[27] *See* Alliance for Green Heat, *Overview and Results of Decathlon*, http://www.forgreenheat.org/stovedesign/media.html.
[28] *See* 79 Fed. Reg. at 6367.

Certification for Multi-fuel Stoves. Certain pellet stoves are capable of using either wood pellet fuel or corn. EPA should clarify whether such multi-fuel stoves can or must be certified using corn as well as wood pellet fuel. If these stoves must be certified using corn, EPA should allow manufacturers to use the Method 28 test with corn to demonstrate compliance with the NSPS.

Potential Issues for Small Test Labs. Although we generally support EPA's proposal to require test labs to be accredited under ISO protocols,[29] we are concerned that this requirement could be too costly for small labs, and might lead some of these labs to go out of business or to stop performing wood heating device certification tests. The elimination of these labs could lead to a testing bottleneck, especially in the first few years of the NSPS, as manufacturers begin to recertify and retest their existing lines using EPA's revised test protocols. It could also increase the rule's impact on small businesses. Therefore, we suggest that EPA consider allowing laboratories with five or fewer employees that have been accredited under appropriate state laboratory accreditation programs (where they exist) to qualify as certifying laboratories under the NSPS without having to become ISO-accredited. EPA can and should continue to monitor these and other labs to ensure that they continue to provide accurate certification data.

Public Availability of Test Data. We urge EPA to make summary data from certification testing available to the public via a central, web-accessible database on the EPA website. Under section 114 of the CAA, certification test data must be made available to the public unless the manufacturer demonstrates, to the satisfaction of EPA, that making the test data public would "divulge methods or processes entitled to protection as trade secrets."[30] We have no reason to believe that posting the results of the required wood heater emissions and efficiency tests would compromise any manufacturer's confidential trade secrets. We support EPA's proposed clarification that all certification test data (including PM, CO, and efficiency data) under the NSPS are public data.[31] We urge the agency to post this data—including disaggregated information from all burn rates tested for each device—on the EPA website in a timely fashion, and in a format that consumers and others can easily access. The European Josephinum website provides a good example of how this can be accomplished.[32]

Electronic Submittal of Test Data. In the past, manufacturers have been allowed to submit their certification test data on paper, a procedure that makes it difficult, if not impossible, for the public to view or access this data. Although we are encouraged by EPA's proposal to require manufacturers to use electronic reporting in the future, we note that as proposed, this requirement will apply *only* if the test data is "collected using test methods compatible with [the

[29] 79 Fed. Reg. at 6374.
[30] *See* 42 U.S.C. § 7414(c).
[31] *See* 79 Fed. Reg. at 6376.
[32] Josephinum, *Pellet Boilers*, http://www.josephinum.at/en/blt/pruefung/pruefberichte/feuerungen/pelletsfeuerungen.html.

Electronic Reporting Tool (ERT)]" and *only* if the ERT is operational.[33] These two exceptions raise the distinct possibility that test data will continue to be submitted on paper for some time, notwithstanding EPA's intention of requiring electronic submission. Therefore, while we urge EPA to continue working toward the timely implementation of mandatory, industry-wide ERT reporting, we recommend that EPA immediately begin requiring manufacturers and labs to scan and electronically submit any paper data they currently submit (e.g., in Portable Document Format (PDF) or similar format). EPA should make these PDFs available on its website within a reasonable amount of time (less than 60 days), so that the public can access this data, as required by CAA section 114.

Enforcement. Effective enforcement of EPA's proposed NSPS is critical to ensuring a fair market for wood stove manufacturers and retailers. In the past, compliance with the NSPS has been hampered due to the small number of staff and the limited resources the agency has devoted to enforcement. EPA proposes to address these issues by delegating some of the agency's monitoring and enforcement responsibilities to states,[34] as permitted by section 111(c) of the CAA.[35] The Alliance supports this proposal as one means of improving monitoring and enforcement of these important performance standards, especially where state agencies demonstrate a willingness and an ability to ensure that the federal NSPS is being followed. However, we urge EPA to further clarify the following elements of this proposal: 1) what specific authorities will states have to monitor, enforce, and remedy potential violations; 2) how will the agency determine whether to delegate these functions to states; 2) how will EPA monitor and respond to allegations that delegated states are not carrying out their enforcement responsibilities; and 4) how will the standards be enforced in cases where EPA does not delegate monitoring and enforcement authority. In addition to delegating appropriate authority to the states, EPA should also separately commit to improving OECA's capacity, and the capacity of enforcement staff in EPA's regional offices, to ensure that manufacturers and retailers comply with the NSPS. Furthermore, the Alliance supports Washington State's recommendation that OECA redirect its resources to examine retailers' and manufacturers' sales claims and provide a mechanism for online reporting of false advertising. Also, because wood stoves are analogous to motor vehicles (in that they are tested, certified, mass-produced, and then sold into commerce), EPA should consider adopting and adapting elements of its vehicle and engine compliance programs for the wood stove context, as appropriate. For example, the Alliance would support a rigorous EPA spot-check program to ensure that all market participants are complying with the rule.

[33] 79 Fed. Reg. at 6382.
[34] *See* 79 Fed. Reg. at 6367. EPA has appropriately clarified that it will retain authority to monitor and enforce the NSPS even in delegated states.
[35] 42 U.S.C. § 7411(c).

Finally, we also support Washington State's suggestion that EPA create a mechanism for online reporting of false advertising. A link to this reporting form can be placed in various locations within the EPA domain (*e.g.*, Burn Wise, Wood Smoke Education, Report a Violation, etc.) allowing the public, industry, and regulators to participate in the elimination of false claims.

VI. The Alliance Supports EPA's Decision to Gather More Data on Stove Efficiency, with the Understanding that Future NSPS Would Set an Efficiency Standard in Addition to Emission Standards.

Although the Alliance strongly recommends that EPA require new wood stoves to meet minimum efficiency requirements at some point, we support the Proposed Rule's approach of requiring that data on efficiency be gathered from all new appliances, as long as manufacturers are required to submit their efficiency data within 6 months of publishing the final rule. Having actual efficiency data posted for the duration of the proposed NSPS is reasonable, with the understanding that efficiency requirements could be set in 8 years during when EPA re-evaluates the NSPS for room heaters. We suggest that EPA clarify in the final rule that it is gathering data *with the goal of establishing mandatory efficiency standards* in a future rulemaking, so that manufacturers are put on notice that such standards will eventually be promulgated. Improved efficiency is particularly important to low-income wood stove users because the greater the efficiency of the wood stove, the less fuel the heater must consume to heat a home, and the lower the user's fuel costs. Lower income families are more likely to be impacted by fuel costs because they typically use the heaters far more than higher income families.

In addition, the Alliance believes that transparency and customer information are critical to maintaining a vibrant, successful, and environmentally sustainable wood stove industry. Just as car buyers are entitled to know the fuel efficiency of the car they are buying, so too, consumers of wood stoves should be able to compare the efficiencies of different stove models when deciding whether to purchase a new stove. Therefore, we urge EPA to require that all wood stove manufacturers publicly report the HHV, CSA B415.1 efficiency numbers based on test data from their current certification test within six months of the promulgation of the final rule. Any stoves certified under the new NSPS should likewise be required to post their efficiency numbers no later than six months after receiving their certification. Manufacturers should be required to display the efficiency of their stoves in a uniform manner on a permanent tag that is affixed to the stove.

Furthermore, manufacturers and retailers also should be required to immediately stop displaying "default" efficiency numbers on tags or other advertising materials. These default factors are often grossly inaccurate, and are misleading to consumers. Where actual efficiency numbers are not available for a stove based on data from a their previous certification tests, manufacturers and retailers should be required to state that the efficiency of the stove has not been tested and is not known. This requirement will provide more accurate information to consumers who are searching for a more efficient stove and will lead to more purchases of less

polluting, more efficient devices. To avoid misleading consumers further, EPA should also remove the "default" emission factor column from its posted list of certified wood stoves.[36]

Finally, the Alliance urges the EPA to clarify how efficiency will be measured now that certification tests will be required to be based only on the high and low burn rates, rather than on data from all four burn rates.

The Alliance Opposes Elimination of the Hang-Tag, and Supports Development of Additional Incentives for the Most Efficient Stoves. The Alliance does not support EPA's proposed elimination of the temporary label or "hangtag."[37] Hangtags provide key information on the efficiency and environmental attributes of different devices at the point of sale and play a critical role in incentivizing consumers to purchase the cleanest, most efficient stoves. The requirement to include a hangtag is generally an almost insignificant expense, and yet the information it provides to customers can lead to greater deployment of more efficient, low-emitting stoves. Requiring that hangtags include these items, as well as the device's maximum BTU output as reported by the test lab (not merely as reported by manufacturer), would also assist consumers. While EPA's proposal to place efficiency and emissions information on a website is helpful, it is not a suitable replacement for the hangtag. Most customers are likely unaware that EPA even maintains a website with efficiency and other relevant information, and we do not believe that replacing the hangtag with the EPA's website will serve the same, important purpose of informing wood stove buyers of the relative efficiency and emissions impact of the stoves they are considering at the time they visit the retailer to make their purchase.

We oppose requiring permanent labels containing language requiring homeowners to cease using a woodstove certified to the Step One standard when Step Two comes into force.

In addition to maintaining the hangtag requirement, the Alliance would also support the development of a voluntary "Green Label" for the "cleanest of the clean." Such a label would give customers who value environmental attributes and efficiency an additional, valuable signal in the marketplace, similar to "Energy Star" label. Such a signal would encourage consumer decisions that would further reduce emissions and would spur manufacturers to innovate by reducing emissions in order to improve the competitiveness of their stoves.

Furthermore, owner's manuals for wood stoves and other room heaters should be required to include the actual efficiency and emissions numbers at which the device was certified. Owner's manuals should also be required to include information about optimum operating temperatures, thermometer location, proper air control regulation, wood moisture testing and proper annual maintenance.

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[36] *See* EPA, *List of EPA Certified Wood Heaters* (Mar. 2014), http://www.epa.gov/Compliance/resources/publications/monitoring/caa/woodstoves/certifiedwood.pdf.
[37] *See* 79 Fed. Reg. 6340-41.

Next, OECA should begin planning now to provide adequate staffing to conduct periodic (no less than yearly) reviews of manufacturer web sites. All decisions to revoke EPA certificates should be posted online for easy access by state and local regulators as well as the general public.

Finally, EPA should consider additional incentives to promote clean stoves. These incentives could include: allowing entities to obtain SIP credits for changing out old stoves with new technology; allowing states to incorporate programs in state SIPs that provide additional incentives for using clean wood stove technology; and continuing to allow change-out programs to qualify as supplemental environmental projects in EPA settlements. Moreover, because waste and PM emissions can be dramatically reduced if outdoor wood boilers are professionally sized and installed, EPA should encourage states to establish certification and professional sizing programs for these devices (where such programs do not currently exist).

VII. Environmental Justice.

One of the core themes of state regulators during EPA's February public hearing in Boston on the NSPS was a concern about the impact of the regulations on low-income households who rely on wood heat. Additionally, a core theme from industry is a concern that even moderately higher stove prices will put them out of reach of low and middle-income households, resulting in continued reliance on the existing stock of more-polluting, uncertified stoves in these communities.

While people of all ethnicities and economic classes own wood stoves, low-income households burn far more wood and are more likely to use them as their primary source of heat, whereas wealthier homes use wood stoves as a supplementary heating source.[38] Greater use of wood and wood heating is also likely to lead to greater exposure of $PM_{2.5}$ air pollution among non-white populations. For example, a recent NYSERDA report found that "increased non-white population . . . [was] associated with higher downslope woodsmoke $PM_{2.5}$."[39]

EPA defines Environmental Justice (EJ) as the "fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic group should bear a disproportionate share of the negative environmental consequences resulting from

[38] Nianfu Song, *et al.*, *Factors Affecting Wood Energy Consumption by U.S. Households*, 34 Energy Economics 389 (2012).
[39] NYSERDA, Spatial Modeling and Monitoring of Residential Wood Smoke Across a Non-Urban Upstate New York Region xxii (Feb. 2010), *available at* http://www.nyserda.ny.gov/-/media/Files/EIBD/Economic-Development/spatial-modeling-monitoring-residential-woodsmoke.pdf.

industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies."[40]

Although we applaud EPA for commissioning the "Analysis of Exposure to Residential Wood Combustion Emissions for Different Socio-Economic Groups" prepared by EC/R Incorporated in 2010, we do not believe that report considered the full range of potential impacts on low-income and minority communities from wood heater emissions. For example, the EC/R analysis focused primarily on cancer correlations, while failing to fully examine many other considerations that could and should be part of an EJ analysis.

While we believe the EJ analysis for this round of revisions to the NSPS is sufficient, we think that it is important for EPA to recognize that some low-income and minority communities are more likely to rely on wood as a primary heating fuel, and that these groups may be forced to rely on older, uncertified heaters which are more polluting and less efficient. For these reasons, we believe that a full, comprehensive EJ analysis would better account for the significance of reducing PM and other emissions from wood heating devices as a key step in eliminating the disproportionate impact that wood heater emissions can have on low-income and minority communities. Therefore, we urge EPA to undertake a more comprehensive EJ analysis in the context of any future revisions to these wood heater performance standards.

VIII. Conclusion

The Alliance appreciates the opportunity to provide input on this important rule and looks forward to working with EPA to implement the points we highlight above.

Sincerely,

John Ackerly

Alliance for Green Heat

[40] EPA Region 1, *Environmental Justice Program and Civil Rights*, http://www.epa.gov/region1/ej/ (retrieved May 2, 2014).