



**COMMENTS OF HEARTH, PATIO & BARBECUE ASSOCIATION 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**

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## **I. INTRODUCTION**

The Hearth, Patio & Barbecue Association (“HPBA”) submits these comments on the U.S. Environmental Protection Agency’s (“EPA’s”) proposal to revise its regulation of new Residential Home Heating (“RWC”) appliances under Section 111 of the Clean Air Act that was published in the Federal Register at 79 Federal Register 6,330 (Feb. 3, 2014). That proposal consists of proposed modifications to the existing 40 C.F.R. Part 60, Subpart AAA (covering room heaters) and proposals for two new Subparts, Subparts QQQQ and RRRR (covering central heating systems and masonry heaters).

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, including woodstoves, pellet stoves, hydronic heaters, and warm air furnaces. The 2500-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 wood stove changeout 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 inside and outside. 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.

HPBA approached the review and revision of the NSPS for RWC appliances in the cooperative spirit that has guided its long track record of working cooperatively with EPA and other stakeholders. HPBA’s policy from the beginning of the review has been to support the development of technically sound and cost-effective regulations that would govern the products manufactured in our industry over the next decade. And we have done far more than pay lip service to this policy: we have invested heavily in it, both in the money we have spent to support projects to support the review (over \$1.4 million and still counting), and in many hundreds of hours of sweat equity contributions from our members. These projects include the following (the majority of which are already in the Docket for this rulemaking proceeding):

- ASSESSMENT OF THE ECONOMIC IMPACTS OF NSPS “STRAWMAN” PROPOSALS ON HEARTH PRODUCT COMPANIES (Oct. 21, 2010) [EPA-HQ-OAR-2009-0734-0134 (Attachment 4)]
- Rick Curkeet and Robert W. Ferguson, EPA WOOD HEATER TEST METHOD VARIABILITY STUDY: ANALYSIS OF UNCERTAINTY, REPEATABILITY AND REPRODUCIBILITY BASED ON THE EPA ACCREDITED LABORATORY PROFICIENCY TEST DATABASE (Oct. 6, 2010) [EPAHQ-OAR-2009-0734-0202]

- Robert W. Ferguson, AN EVALUATION OF OVERALL EFFICIENCY FOR EPA CERTIFIED NON-CATALYTIC WOOD HEATERS (July 21, 2011) [EPA-HQ-OAR-2009-0734-0318]
- Robert W. Ferguson, A REPORT ON THE PARTICULATE EMISSIONS PERFORMANCE OF MASONRY HEATERS- DEFINITION, DATA, ANALYSIS AND RECOMMENDATIONS (Feb. 13, 2008) [EPA-HQ-OAR-2009-0734-0269]
- Robert W. Ferguson, FINAL REPORT: EPA WOOD HEATER EMISSION TEST METHOD COMPARISON STUDY (Dec. 1, 2010) [EPA-HQ-OAR-2009-0734-0278]
- Robert W. Ferguson, HPBA ENHANCED CERTIFIED WOOD HEATER DATABASE (Feb. 25, 2010) [EPA-HQ-OAR-2009-0734-0150; EPA-HQ-OAR-2009-0734-0150]
- Robert W. Ferguson, NSPS FIREPLACE APPLICABILITY/DEFINITION PROPOSAL AND SUPPORTING DOCUMENTS (June 6, 2011) [EPA-HQ-OAR-2009-0734-0271]
- Robert W. Ferguson, A REPORT ON THE IMPACT OF PELLET FUEL ASH CONTENT ON PARTICULATE EMISSION PERFORMANCE OF FIVE PELLET HEATERS (Oct. 21, 2010) [EPAHQ-OAR-2009-0734-0006]
- Robert W. Ferguson & David Menotti, MASONRY HEATER NSPS APPLICABILITY/DEFINITION PROPOSAL FINAL DRAFT (Sept. 24, 2012) [EPA-HQ-OAR-2009-0734-0268]
- Robert W. Ferguson, WOOD STOVE MARKET IMPACTS INCLUDING EFFICIENCY AND EMISSIONS STANDARDS (SLIDES) (presented to the National Educational Forum on the Residential Wood Heater NSPS Nov. 8, 2012) [EPA-HQ-OAR-2009-0734-0128]
- David Harrison, Andrew Foss, and Andrew Stuntz, COST EFFECTIVENESS OF ALTERNATIVE WOOD STOVE NEW SOURCE PERFORMANCE STANDARDS (presented to EPA Feb. 2013)
- David Harrison, Andrew Foss, and Andrew Stuntz, COST EFFECTIVENESS OF ALTERNATIVE WOOD STOVE NEW SOURCE PERFORMANCE STANDARDS (presented to OMB Sept. 25, 2013) [EPA-HQ-OAR-2009-0734-0310]
- David Harrison, Andrew Foss, and Andrew Stuntz, COST EFFECTIVENESS OF ALTERNATIVE HYDRONIC HEATER NEW SOURCE PERFORMANCE STANDARDS (presented to EPA Nov. 12, 2013 and OMB on Nov. 14, 2013) [EPA-HQ-OAR-2009-0734-0204]
- PROPOSED REVISIONS TO THE NSPS FOR RESIDENTIAL WOOD HEATERS- INDUSTRY PERSPECTIVE (SLIDES) (Oct. 11, 2012) [EPA-HQ-OAR-2009-0734-0270].
- James E. Houck, 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) [EPA-HQ-OAR-2009-0734-0143]

- James E. Houck, THE FRACTION OF FREESTANDING WOOD-FUELED STOVES IN CURRENT USE THAT ARE U.S. EPA CERTIFIED CORDWOOD STOVES AND WOOD PELLET STOVES (July 23, 2011) [EPA-HQ-OAR-2009-0734-0264]
- James E. Houck, Jeremy Clark & Thomas Christensen, EVALUATION OF METHOD 28 WOOD HEATER BURN RATES (Sept. 21, 2009) [EPA-HQ-OAR-2009-0734-0261]
- NSPS REVIEW- HPBA POWERPOINT PRESENTATION PRESENTED AT WESTAR-EPAHPBAMEETING IN PORTLAND, OREGON (Nov. 17-19, 2009)
- David Menotti & Robert W. Ferguson, NSPS REGULATED PRODUCT APPLICABILITY/DEFINITION PROPOSAL (June 6, 2011) [EPA-HQ-OAR-2009-0734-0274]
- David Menotti & Robert W. Ferguson, NSPS UTILITY HEATER APPLICABILITY/DEFINITION PROPOSAL (Aug. 10, 2011) [EPA-HQ-OAR-2009-0734-0275]
- THE IMPACT OF PELLET FUEL ASH CONTENT ON PARTICULATE EMISSION PERFORMANCE OF PELLET HEATERS (SLIDES) (Oct. 21, 2010) [EPA-HQ-OAR-2009-0734-0134 (Attachment 3)]
- WOOD HEATER EMISSION TEST METHOD COMPARISON (SLIDES) (Oct. 21, 2010) [EPAHQ-OAR-2009-0734-0134 (Attachment 2)]

In addition, over the past seven years, HPBA has supported the development of modern, state of the art test methods by voluntary consensus standard development organizations for use in the revised NSPS program. That effort has resulted in the establishment of the following test methods:

- ASTM E2515-11 (PM Emissions Measurement in Dilution Tunnels).
- ASTM E2780-10 (Woodstove Emissions)
- ASTM E2618-13 (Hydronic Heater Emissions, including cycling, partial thermal storage and full thermal storage methods)
- ASTM E2779-10 (Pellet and Bio-Fuel Heater Emissions)
- ASTM E2817-11 (Masonry Heater Emissions)
- CSA B415.1-10 (e.g., RWC efficiency, Warm Air Furnace Emissions)

In general, HPBA is very disappointed that EPA has largely ignored or attempted to minimize the implications of many of the submissions that we have made to provide a solid foundation for the revised NSPS for residential wood heating appliances. We are hopeful that EPA will cure this

problem in responding to comments on the proposal. HPBA's overall policy position remains the same: we support revisions to the NSPS, including expanding it to cover more appliance categories. But the revised standards must reflect a rigorous application of the Clean Air Act Section 111 decision criteria and, with regard to test methods, compliance with the National Technology Transfer and Advancement Act of 1995. Unfortunately, that is not the case for most of EPA's proposals.

## **II. SUMMARY OF KEY HPBA COMMENTS**

We have organized our comments by subject matter. Each of the sections of the comments presents a comprehensive review of EPA's proposals in the subject area, and HPBA's positions on those proposals. These comments consist of ten parts, followed by attachments. After the Introduction (Part I) and this Summary (Part II), in Part III, HPBA provides an overview of some of the key legal principles that govern this rulemaking and frame HPBA's comments. Part IV focuses on EPA's changes to the administrative, compliance, and transition provisions in the proposed rule. In Part V, HPBA comments on EPA's proposed test methods. Part VI addresses EPA's proposed changes to the existing hearth appliance NSPS for woodstoves, found at existing Subpart AAA. In Part VII, HPBA comments on the regulation of hydronic heaters for the first time in proposed Subpart QQQQ. Part VIII addresses EPA's proposed regulation of warm air furnaces (again for the first time) in proposed Subpart QQQQ. In Part IX, HPBA comments on EPA's proposed labeling and consumer support provisions. Finally, in Part X, HPBA responds to EPA's explicit requests for comments on issues that were not addressed in the other parts of these comments.

Summaries of the highlights of the HPBA positions are contained in each of the comment sections, with the major points summarized below.

### **A. ADMINISTRATIVE, COMPLIANCE, AND TRANSITION PROVISIONS**

A distinguished group of industry experts provided EPA a series of definitions of hearth appliance categories. Those definitions were intended to draw "bright lines" that would facilitate smooth implementation of the revised program, yet EPA has ignored them. EPA's failure to incorporate the recommended definition for fireplaces is particularly troublesome given that fireplaces are not being regulated, and a clear definition is therefore needed to draw the line between what is regulated and what is not. The independent third party laboratory certification system that EPA has proposed is barely recognizable as a program bearing that title. The record is clear that independent third party laboratory certification systems work in a variety of contexts—most tellingly for hearth appliances themselves, which are already regulated this way for compliance with safety standards. But that is not the scheme that EPA proposes here. For example, EPA insists on second guessing every decision made by accredited independent third party laboratories. This adds expense and delay to the process without yielding any value. EPA needs to recognize that independent third party certification systems work, and revise the proposed rule accordingly. EPA's proposed modifications to the emissions audit program are far too modest. EPA continues to believe that emissions retesting is an appropriate quality assurance/control tool, even though the quality assurance/control requirements of the independent third party laboratory certification system that EPA has proposed are the far superior option. Moreover, the funding mechanism in the current Random Compliance Audit program, which EPA proposes to continue, has never worked and could never work—a

conclusion made even more obvious in light of the implications of EPA-proposed changes to the audit program. Finally, EPA refuses to appropriately address (in this area and generally) the implications of the poor precision of the woodstove test methods, as well as the nearly total lack of an understanding of the precision of the test methods for the other appliance categories. No emissions audit program can legally proceed without taking precision into account.

EPA has long acknowledged the critical necessity for lead time for manufacturers to respond to new regulatory requirements. Regrettably, however, it has addressed this issue (albeit inadequately) only for woodstoves and pellet stoves that are currently certified. It is imperative that EPA also address transition issues for other appliance categories using the three tools it has available to facilitate smooth transitions—delays in effective dates, “grandfathering,” and sell through relief. HPBA’s comments for each of the appliance categories set forth specific transition proposals that are appropriately tailored to the needs of each category.

## **B. TEST METHODS**

EPA has failed to meet its obligations under NTTAA to use consensus-based test methods, absent findings that use of such methods, or parts thereof, would be illegal or impractical. None of EPA’s proposals to use test methods other than consensus-based methods, or to substitute EPA’s proposed provisions for those set forth in consensus-based methods, are supported by the findings required under NTTAA, nor is it conceivable that they could be in all but one instance. EPA’s proposed substitutes (in whole or in part) for consensus-based test methods are also unsound technically, as persuasively demonstrated by the comments of the EPA Accredited Wood Burning Appliance Emissions Testing Laboratory Coalition, an *ad hoc* group organized to review and submit comments on the proposed rule. HPBA supports those comments.

EPA’s proposed new compliance algorithm reflects a fundamental departure from the foundational principle that performance standards and test methods are an indivisible whole, and EPA cannot lawfully use a database generated with one method to set standards that will be enforced with a radically different method. The implications of EPA’s attempt to do so are persuasively and dramatically demonstrated in a paper sponsored by HPBA (Attachment 1 to these comments), using Monte Carlo analysis, a sophisticated modeling tool recommended for use in such situations by EPA guidance.

## **C. WOODSTOVE STANDARDS**

HPBA supports EPA’s Step 1 proposal as appropriately reflecting the Best System of Emission Reduction (“BSER”). HPBA, however, objects to EPA’s proposed test methods for Step 1, for the reasons detailed in HPBA’s comments to those methods (Part VI.A).

By contrast, EPA’s Step 2/3 proposals fail to reflect BSER for several reasons, and accordingly must be abandoned. *First*, EPA cannot support a finding that the proposed standards are adequately demonstrated, because it is arbitrary and capricious for the Agency to set standards that are within the range of uncertainty of the test methods, and because EPA cannot show that the proposed standards will achieve real-world reductions in emissions, when appliances are installed in homes and consumers burn cordwood. *Second*, EPA cannot show that its proposal is the best “system” of emission reduction, because it will slow change outs of the six million uncontrolled woodstoves still in American homes—an environmental consequence of its proposal that it has also failed to take into account.

EPA has also failed to adequately consider costs in developing the Step 2/3 standards. Its attempt at considering costs is hopelessly flawed, as demonstrated by NERA, a renowned economic

consulting firm retained by HPBA to address these issues. NERA's independent cost effectiveness analysis (Attachment 2 to these comments) shows that EPA's Step 2/3 proposals are not cost effective, by large margins.

HPBA strongly opposes EPA's proposal for Step 1 testing of woodstoves with *both* crib wood and cordwood. However, HPBA supports a move toward more "real world" relevant certification testing that would per force include testing with cordwood. In this regard, HPBA is strongly supporting a broad stakeholder effort to develop such a test method under ASTM auspices, which is well underway. To incentivize a move toward cordwood, while acknowledging the data deficiencies that preclude setting standards that require cordwood testing at this time, HPBA recommends an "off ramp" approach utilizing EPA's authority to grant innovative technology waivers under Section 111(j) of the Clean Air Act.

#### **D. HYDRONIC HEATER STANDARDS**

EPA's proposed Step 1 emission limit of 0.32 lb/MMBtu is appropriate and achievable. That limit has been adequately demonstrated as achievable by manufacturers, taking into account its cost effectiveness and other relevant Clean Air Act Section 111 factors. EPA should not, however, impose a 7.5 g/hr cap for individual test runs, as EPA has not justified imposition of that cap in any way, nor does it make any sense. Finally, EPA cannot require testing with two fuel types during Step 1 for the reasons set forth above.

HPBA strongly opposes EPA's proposed Step 2/3 standards. They are not BSER for a number of reasons. EPA lacks sufficient data derived using the required test methods to support a finding of adequate demonstration. EPA has no cordwood data whatsoever for cycling models. And, upon elimination of data derived using flawed, outdated test methods, as well as data derived using a fundamentally different test method that cannot be converted to compliance method equivalents, EPA is left with just three data points, none of which meet the proposed Step 2/3 standard. EPA cannot establish the Step 2/3 standards based on that limited data, particularly where it has not evaluated the precision of the hydronic heater test methods and lacks knowledge of whether test results derived from burning cribs are representative of real world emissions performance.

Not only are EPA's proposed Step 2/3 standards not adequately demonstrated, they are far from cost effective. EPA's attempt to assess costs for hydronic heaters is flawed, as NERA explains in detail. And NERA's independent analysis (Attachment 3 to these comments), using inputs developed by a rigorous process involving industry experts, demonstrates that the proposed Step 2/3 standards for hydronic heaters would be extremely cost ineffective.

EPA must address transition issues for hydronic heaters. As currently drafted, the proposed rule does not contain any grandfathering or sell-through provisions for these appliances. EPA should grandfather all Phase 2 models qualified under EPA's Voluntary Program until either the expiration of their qualification period or two years after the effective date, whichever is later. Moreover, EPA must provide sell-through relief to hydronic heater manufacturers as they transition to NSPS regulation. Given EPA's longstanding acknowledgment of the need to allow manufacturers, distributors, and retailers to recoup their investment in inventory in the channels of trade (including pre-NSPS models), it is arbitrary not to afford sell-through relief to hydronic

heater manufacturers.

#### **E. WARM AIR FURNACE STANDARDS**

HPBA supports EPA's proposal to use the consensus-based CSA B415.1-10 as the test method for warm air furnaces and to set the Step 1 emissions limit at the "passing grade" embedded in that standard, *i.e.*, 0.93 lb/MMBtu. However, EPA must provide significant additional lead time to manufacturers of larger furnaces (<65,000 Btu/hr delivered heat output) to comply with Step 1. EPA clearly recognizes that reasonable lead time for R&D, product development, and certification of complying models is an important element of the BSER determination.

Additional lead time is warranted here given that, among other things, there are very few, if any, larger furnaces listed to the CSA B415.1-10 "passing grade" and very few laboratories have any experience testing with CSA B415.1-10.

HPBA strongly opposes EPA's proposed Step 2/3 standard because EPA cannot support an adequate demonstration finding under Clean Air Act Section 111. EPA lacks sufficient data from testing with CSA B415.1-10. In fact, EPA's proposal is so opaque as to what data the Agency is relying upon that EPA must disclose that data and allow for additional comment. Transparency and adequate notice aside, the data that EPA appears to be relying upon are too thin a reed to support an adequate demonstration finding, particularly given that EPA has not considered the precision of CSA B415.1-10. EPA also wrongly assumes that BSER for warm air furnaces may be demonstrated at the same levels as hydronic heaters. In so assuming, EPA has overlooked key engineering and safety considerations that likely preclude the transfer of technology from hydronic heaters to warm air furnaces, which an HPBA consultant with decades of experience in hearth appliance product development explains in detail (Attachment 4 to these comments).

Although NERA did not prepare an independent cost effectiveness analysis for warm air furnaces, the many flaws that it has identified in EPA's economic impacts assessment apply to warm air furnaces as well. Moreover, EPA's flawed assumption that it is possible to transfer technology from hydronic heaters to warm air furnaces dooms not only the Agency's adequate demonstration finding, but also its conclusion that the costs of compliance for the two appliance categories will be the same.

EPA must use all three of its transition tools to facilitate a smooth transition to regulation for warm air furnace manufacturers. Manufacturers need effective date extensions for the reasons developed previously. In addition, unlike other appliance categories, warm air furnaces are virtually unregulated in the U.S., there is no voluntary program, and test laboratories have almost no experience with CSA B415.1-10 testing. EPA must also add sell-through provisions to the final rule to avoid stranding inventory—something that could cripple this industry. There is no justification for withholding such relief from warm air furnace manufacturers, particularly where EPA provided sell-through provisions for woodstoves both back in 1988 and in the proposed rule. Finally, EPA should grandfather whatever limited number of furnaces is listed by accredited laboratories to the CSA B415.1-10 "passing grade."